The University of Sydney 2002 Templeton Lecture
Introduction by Dr Michael Thomas, Director of CHAST

Professor Beryl Hesketh, Dean of Science, Emeritus Professor Charles Birch, members of CHAST, ladies and gentlemen, friends all. I’m Michael Thomas, Director of the Centre for Human Aspects of Science and Technology, and on behalf of the Council of CHAST I’d like to welcome you here this evening.

CHAST was formed for the interdisciplinary study of the wider implications of the study of science and technology. It was formed in 1986 as a Study Centre within the Faculty of Science within the University of Sydney as an initiative of the Science Centenary Celebrations. At the moment, of course, the University as a whole is celebrating its sesquicentenary.

The creation of CHAST recognised the need to promote interdisciplinary integration of scientific knowledge and its impact on humans, our societies and the wider environment. Membership is open to scholars both within and outside the University of Sydney. Membership forms are available here this evening and we would be delighted to receive new members. Many of the members were foundation members and were mature when they started so we would certainly welcome more members.

A highlight of our year is the Templeton Lecture, which was founded in 1990 from a gift by Emeritus Professor Charles Birch. The gift allows us to sponsor an annual lecture by a distinguished scholar and we are tremendously grateful to Professor Birch for his generosity. This year we are fortunate and honoured to have as our distinguished speaker, Ambassador Richard Butler.

Richard Butler is an alumnus in economics of this University and he has an honorary doctorate from three other universities. He has had a long and distinguished career, in international relations serving both Australia and the United Nations. He has held four Ambassadorships for Australia: in Disarmament, in Thailand, Cambodia and Ambassador as permanent representative of Australia to the United Nations for six years. Then he was invited to become the Executive Chair of the UN Special Commission on Iraq. And during that time he gained knowledge of that country and a respect for its people.

For the last 3 years he has been a diplomat in residence to the Council on Foreign Relations, an independent research centre in New York. Richard Butler has had a long commitment to disarmament, being the Australian Ambassador for Disarmament for five years in the 80s and the Chairman of the Canberra Commission on the Elimination of Nuclear Weapons in 1995. He is also an author, having written numerous articles and two recent books.

So it is with great pleasure indeed that I now invite Ambassador Richard Butler to deliver the 2002 Templeton Lecture entitled ‘Science, Weapons, Politics: The Ethics, The Hard Choices‘.
I owe this university a great deal. When I came here for the first time, a little over 40 years ago, I wanted to learn a lot and perhaps more importantly, I needed to learn a lot.

In those first four years here I was given the tools and the skills that proved to be amongst the most important determinants of whatever I achieved in my subsequent career. But, vastly more important than those practical things, I was taught the importance of thinking and of fundamental values.

The university was also a place of culture and fun. That also meant a lot. I studied economics, politics and psychology but of course, there was so much more. Perhaps the most important of my extra curricula ventures was the some three months I spent, deep in the stacks of the Fisher library, reading the transcripts of the Nuremberg trials.

Earlier, as a primary school student at Bondi Beach Public School, I had heard stories of war and oppression from the considerable number of students there who were the children of refugees from Hitler’s Europe. When I have been asked, all these years later, why I pursued a career in international relations and arms control, I have replied that it was because of those stories I heard at Bondi Beach. That is the true answer.

My decision to read the Nuremberg transcripts and indeed to choose German as my foreign language at Randwick High School reflected the deep puzzlement I had felt as a young man about those events, mainly in Europe, during the Second World War. In particular I wanted to know how it could be that the country of Beethoven could have become so uncivilized. Fine music was something to which my older brother, who also attended this university, had introduced me at an early age, an action for which I will be eternally grateful.

As a student of politics I had also wanted to know how the structures of government, of bureaucracy, of public information and political communication had functioned, or not, in Hitler’s Germany. Perhaps above all I had wanted to know what had happened to personal responsibility for individual action. I discovered, in the Nuremberg transcripts, that, at that trial, the concept of a crime against humanity had been articulated and chief amongst the findings was that no person could avoid personal responsibility, blame others in higher authority, for their actions.

These ideas and those of Hannah Arendt, among others, have been important to me through the years. It was easy to validate her concept of the “banality of evil” while dealing with the dictators of Baghdad.

As my undergraduate studies at the university drew to a close I looked for a job, preferably in public service, because this accorded with my personal political views. I saw advertised, in the Sydney Morning Herald, a job that struck me as potentially perfect—Graduate Assistant in the International Relations Section of the Australian Atomic Energy Commission at Coogee. Possibly the only thing wrong with it was that the Commission was at Coogee, not Bondi.

I applied and, in spite of an embarrassingly loquacious application, they gave me the job. I had no idea when I started work at the Commission that what would happen there would shape the subsequent four decades of my life. I could give so very many examples of this but one will suffice to illustrate the point—that I would find myself in Baghdad thirty five years later negotiating with the government of Saddam Hussein about its clandestine nuclear weapons program was indivisible from my starting my working life at the Australian Atomic Energy Commission.

If I can be forgiven a domestic political aside, given current political neglect of public education in Australia, I would point out that all of mine was provided through the public system. Some in politics may, of course, take that as a reason for continuing to starve the system.

Within a few months, at the atomic energy commission, some basic concerns and facts flooded in upon me.

First, the fundamental inquiry into the nature of matter that had taken place throughout the first half of the twentieth century, leading to modern nuclear
physics, was profoundly exciting. It had been a journey as momentous as that of Columbus.

Second, while it was not the intention of the men and women who conducted that inquiry; they were armed with nothing more dangerous than pencil and paper, blackboard and chalk; their work opened up the possibility of the creation of nuclear weapons, the weapons which continue today to constitute the greatest threat to the survival of humanity, and its planetary environment.

Third, the invention of the bomb had been pursued, first, by Hitler. Ironically one of the key factors which had slowed down his program was his anti-Semitism—he actually viewed theoretical physics as ‘Jewish physics’ because many of the leading scientists were Jewish. He therefore discouraged it for this reason, as well as because of apprehensions of the coming holocaust, many of those scientists left Germany and went to England and America where they subsequently worked in the Manhattan Project, the project to design the allied bomb. I might mention that one of those scientists, the 1995 Noble peace prize recipient, Sir Joseph Rotblat, subsequently worked as a member of the Canberra Commission on the elimination of nuclear weapons, which I chaired.

Fourth, I discovered the existence of the International Atomic Energy Agency in Vienna. It had been created ten years earlier in an attempt to limit the diversion of nuclear science to military purposes. I also learned that a negotiation was underway, following the Cuban missile crisis and pursuant to a proposal made by Frank Aiken, then Foreign Minister of Ireland, to create a nuclear non-proliferation treaty.

I resolved to go back to university on a part time basis, to begin a Masters degree, and to make my research topic—preventing the spread of nuclear weapons. It is a sign of the times that I decided upon that topic because of the paucity of research and written information on it. I recall there were, in fact, only four main authors. If any of you were to go to a good library today or the great library of the Internet and look up the subject, non-proliferation of nuclear weapons, you would find that that four has become at least four thousand.

There is a simple reason for this and it is shocking. When the age of nuclear weapons began there were three of them—the weapon tested at Alamogordo, New Mexico, in July 1945 and then the two used by the United States over Japan a month later. Forty years later, at the height of the cold war and the nuclear arms race, that number had become 80,000. It was the reason why one of bill Hayden’s first actions when he became Foreign Minister of Australia, in 1983, was to create the role of Australian Ambassador for Disarmament. He thought Australia should speak up against the madness of nuclear weapons. He appointed me to that job and his first action was to go to Moscow and to Washington to ask both of them to stop and reverse the nuclear arms race. I will not forget those discussions. Bill Hayden’s advocacy, especially in the Kremlin, was outstanding.

Nuclear weapons are not the only weapons of mass destruction. That category now also includes, at least, chemical and biological weapons. But the peculiar history of nuclear weapons and the hideous shadow they have cast over humanity makes their development and the political and ethical issues they have raised, the paradigm case of the fundamental issues I want to address in this lecture. There are at least four such issues.

The ethical connector

First and foremost, the question of the relationship between our ability to apply the products of research practically and any given decision to do so.

It is often asserted that if something is possible then it should be done or, at the very least, there is no reason why it should not. I want to state that I robustly disagree. If an automatic connection is drawn between the potentiality revealed by a given piece of research and it being then applied to the invention of a process or an object, we will by that automaticity, have rendered ethical judgment of human action irrelevant.

This ethical connector between what is possible and what it is decided to be done has always been with us, in medicine, in industry, and perhaps above all, in the field of science under the umbrella of which this lecture is being given—biology.

In my view the other field in which it must be asserted that the fact that something can be done is not a sufficient reason to justify it being done, is that of weaponry.

The originators of nuclear physics were aware of the possibility that fission could be deployed to make a massive explosion. As is vividly shown in Michael Frayn’s superb play ‘Copenhagen’, key participants in the journey of discovery of the atom and its behaviour, agonised about the military applications of their work. Albert Einstein was an apolitical person yet he wrote to president Roosevelt warning of the danger of fission.

Immediately after Hiroshima and Nagasaki the United States government proposed that the new explosive technology be placed under international control, essentially to ensure that it was not developed or used further. The Soviet Union rejected this and embarked on its own nuclear weapons program.

Perhaps even more important than the astronomical heights reached by the nuclear arms race, which then ensued, was the fact that repeatedly during the forty years of that desperate competition both sides indicated that they recognised that the quantity of
nuclear weapons in existence was enough. Yet they
couldn’t stop.

It was only when the burden of this arms race became
economically crippling, particularly for the soviet
union, and recognition that, as the Canberra
Commission observed in 1995 that as long as nuclear
weapons existed it was inevitable that they would be
used, by accident or design, that steps were taken to
reduce the number of them in existence. There have
been significant reductions so that, today, the number
of deployed nuclear missile systems held by the
United States and Russia is between six and seven
thousand each. This number, together with the some
ten thousand held by each in storage, still
constitutes enough explosive capacity to destroy the
earth several times over. Thankfully, further
reductions are planned.

So what are we to make of this on the level of
principles?
The scientists knew that what they were researching
could be deployed to a truly destructive purpose.
Some of them warned against it. Clearly others did
not and indeed worked in the various atomic weapons
programs and continue to do so today. This has
always raised large questions of conscience and many
in the scientific community have sought to deal with
that uncomfortable problem by arguing that science is
morally neutral. The individual scientist, it is said, is
only responsible for the scientific integrity of his or
her work. The decision on what to do with it lies
elsewhere, with politicians or indeed with ethicists.
But not them.

I mentioned earlier my friend, Joseph Rotblat. His
case is interesting. Joseph is of Polish—Jewish
origin, now a citizen of the United Kingdom. At
eighteen years of age, a brilliant physicist, having
escaped the Nazis, he joined the allied bomb
program. He was aware of Hitler’s program and he
believed that Hitler was a truly evil man. When
Hitler was defeated he believed that the western
bomb program would then not proceed because in his
understanding it had been aimed at Hitler. When he
learned that it was to continue and be used on the
Japanese he resigned from the program. He then
spent a lifetime in conjunction with the Pugwash
Movement on science and social responsibility,
agitating for the abolition of nuclear weapons. It was
for this work that he received the Nobel peace prize.

Another Polish émigré scientist, Jacob Bronowski,
has inspired me, always, with his vibrant history of
science and human progress and his insistence on the
centrality of the notion of tolerance, both in scientific
measurement and in human relations.

**Individual responsibility**
The history of the development of nuclear weapons
seems to me to support a second principle alongside
the one that I have called the ethical connector—just
because something can be done does not mean it
should be done. An ethical judgment is essential.

This second principle is that individual scientists
should be expected to exercise an ethical judgment
upon their own work. To do otherwise, to accept the
notion that scientists have no such responsibility,
would be to assert, absurdly, that scientists are
somehow a separate branch of the human race. More
practically, it would place them outside the concept
of individual responsibility for actions. I have a
problem with that, because after all, I have read the
transcripts from Nuremberg.

**Distributive justice**
Science and technological development have,
perhaps properly, always had to compete for
resources. The resource allocation aspect of nuclear
weapons is simply astonishing. It is probably
impossible to know exactly how much has been spent
on nuclear weapons over the years, especially with
respect to expenditures within centrally planned
economies. The best estimate of United States
expenditures gives us a guide. Since nuclear
weapons were first developed the United States has
spent $5.5 trillion on nuclear weapons. This has
worked out to be more than $96 million a day.

Questions of values, of the most fundamental and
pervasive kind, are raised by these expenditures. It
beggars the imagination to think of the opportunity
costs—of what could have been achieved and created
had even a relatively small portion of this money been
devoted elsewhere.

I do not believe that I am a naïve or starry-eyed
person when it comes to the world’s affairs. But, I
sometimes feel despair at the value system that can
permit this level of resource allocation to persist
when poverty and other forms of dreadful distress so
abound in the world and are growing. I find it
particularly hard to accept the words of justification
for these expenditures that one sometimes hears from
people who style themselves as both the champions
of liberty and the rights of individuals and the
inheritors of a Christian culture.

If there is a third principle to be derived, at this point,
it is surely that our resource allocation decisions
should reflect as far as possible a fundamental
judgment that each human life is valuable and that a
basic human right is justice, including distributive
justice.

John Rawl’s treatise on justice is deeply persuasive in
this context as is Ronald Dworkins on the thorny
problem of reconciling equality and liberty.

**The axioms of proliferation**
One of the key concepts that flows directly from the
notion of justice, in the context of nuclear weapons
and their peculiar history, is what I call the axiom of
proliferation. This asserts that as long as any state
possesses nuclear weapons others will seek to acquire them. The basic reason for this is that justice, which most human beings interpret essentially as fairness, is demonstrably a concept of the deepest importance to people all over the world. Relating this to the axiom of proliferation, it is manifestly the case that the attempts over the years of those who own nuclear weapons to assert that their security justifies having those nuclear weapons while the security of others does not, has been an abject failure.

I have worked on the Nuclear Non-Proliferation Treaty all my adult life, that is, since its inception. I have discussed the efforts to restrain the spread of nuclear weapons in the four corners of this globe—from Beijing to Bombay, from Moscow to Baghdad. The problem of nuclear weapon have and have nots is the central, perennial one. Amongst my toughest moments in Baghdad were when the Iraqi’s demanded that I explain why they should be hounded for their weapons of mass destruction when, just down the road, Israel was not, even though it was known to possess some 200 nuclear weapons.

I confess too that I flinch when I hear American, British, and French, fulminations against weapons of mass destruction, ignoring the fact that they are the proud owners of massive quantities of those weapons, unapologetically insisting that they are essential for their national security, and will remain so.

The principle I would derive from this is that manifest unfairness, double standards, no matter what power would appear at a given moment to support them, produces a situation that is deeply, inherently, unstable. This is because human beings will not swallow such unfairness. This principle is as certain as the basic laws of physics itself.

I will pause now, for a moment, to pull together what I think we should know or have learnt from the half-century-old phenomenon of nuclear weapons and the century old journey of modern nuclear science.

What leaps off the page, first and foremost, is that nuclear weapons are at least history’s greatest accident or unintended consequence of science but, more likely, history’s greatest failure—a failure of understanding of the values that are inevitably at issue in any scientific research and its potential practical applications.

If we are to learn from the nuclear paradigm it is that our values should be ever present in what we do and should shape our work. All are responsible—scientists, policy makers and individuals. If such responsibility is not engaged we will fantastically misallocate our resources, failing to attend to the things that are truly the business of the human family, and finally, all of this will come to naught, because we will have created an inherently unstable system. If I may be allowed the obvious remark, it will explode.

While nuclear weapons have occupied the first rank amongst weapons of mass destruction, they are not actually the original type of such weapons. In the relatively modern period that dubious distinction goes to chemical weapons.

The history of chemical weapons differs somewhat from that of nuclear weapons. An attempt was made at the end of the nineteenth century to outlaw them but this did not acquire practical significance until they were used with devastating consequences on the battlefields during the First World War.

The world recoiled and the Geneva Protocol of 1925 was done, outlawing noxious and asphyxiating gases. The norm it established was substantially observed although there were notable exceptions: the use of gas by Italy in Abyssinia; the Nazi gas chambers; the Vietnam war; the Iraq/Iran war and Saddam’s use of chemical weapons against Kurdish Iraqis. It is likely that there are other instances of chemical weapons use.

The 1925 protocol was substantially replaced by the 1972 Chemical Weapons Convention, the construction of which was greatly shaped by Australia. It outlaws chemical weapons in all aspects, from manufacture to use. A chemical weapons organisation has been created and it has powers of inspection.

Biological weapons have been developed and deployed by a number of countries for at least the past half century. It is not clear that they have been used in anything approximating the scale in which chemical weapons have. Biological weapons are manifestly a murky and unrespectable application of science and, indeed, military tactics.

A Biological Weapons Convention came into existence in 1962 under which all parties to the convention eschew biological weapons. The norm expressed in the convention is clear enough, but it is a weak instrument because states have never been able to agree on a mechanism to verify compliance with the convention.

While the exact facts of the current status of arsenals of biological weapons cannot be ascertained, it seems to be the case that the major biological weapons states of the past have stopped making those weapons and have set about destroying those stocks. The state with the largest commitment to biological weapons was the Soviet Union and the details of the size and scope of its past program are alarming to the point of implying a pathological interest in the possibility of killing people with germs.

It should be pointed out that modern developments in both chemical and biological science, able to be applied to weapons, has led many experts to hold that in some instances, a significant use of chemical weapons or biological warfare could cause as much damage as the use of nuclear weapons.
Chemical and biological weapons raise virtually the same issues although in slightly different ways to those raised by nuclear weapons. Clearly this is true of the ethical, personal responsibility and resource allocation issues.

The particular difficulties they raise in ways different from or sharper than those raised by nuclear weapons and nuclear science derive from the dual use aspect of the science and technologies involved. Simply, it is very often the case that the materials and technologies employed in making a chemical or biological weapon are identical to those used to make a range of benign products for medical, industrial or agricultural use. All that is different is the process.

We were acutely aware of this when conducting arms inspections in Iraq. It was clear to us, for example, that a given factory could be manufacturing insecticides while we visited it, in the morning hours, but could readily switch to the production of chemical weapons agents in the afternoon.

The decision by the United Nations Security Council, in 1991, that all of Iraq’s weapons of mass destruction should be “destroyed, removed, or rendered harmless” was a unique and far reaching decision. There had been attempts in the past to disarm defeated countries, most recently Germany and Japan. But there was little to compare with what the Security Council established in the case of Iraq, including the heaviest possible sanctions until Iraq was disarmed and, the establishment of a special body, as a sub organ of the council itself, to carry out the disarmament work. This body, UNSCOM, was the one I came to head.

The working methodology established by the Council had four parts: declaration by Iraq of all its legal weapons; verification by UNSCOM of those declarations; destruction by UNSCOM of all illegal weapons and the means to make them; the establishment of a monitoring system to ensure that Iraq did not reconstitute the offending weapons in the future.

This work of removing Iraq’s weapons of mass destruction was expected to take from a year to a year and a half. After seven years it was not completed and Iraq shut UNSCOM down.

On three occasions during those seven years military action was taken against Iraq in response to the resistance to UNSCOM and its work mounted by Iraq. During my term as head of UNSCOM I had to evacuate all staff, on an emergency basis, also on three occasions, for reasons of breakdown and conflict but essentially for the safety of the staff.

If anything is understood about this experience with Iraq, and indeed it continues today, it is that from the beginning Saddam Hussein refused to hand over the weapons and withheld cooperation with UNSCOM. The very first declaration furnished to UNSCOM in 1991 was false. Iraq stated for five years, including at the United Nations, at the Security Council, that it had no biological warfare program. When UNSCOM demonstrated that this was not true Iraq then furnished a declaration on its previously non-existent program, which transparently was false. It had moved from denial to deception.

A recitation of the means employed by Iraq to avoid its obligations would be long, very tedious, but relieved occasionally by the thigh slappingly funny explanations it sometimes sought to give for the disappearance of documents. On one occasion they actually tried the classic teenage explanation for homework not done—the dog ate the documents.

In August 1998 when Iraq rejected a list of final disarmament priorities I had handed it and shut down our work in Iraq, it did so because that final list included items that Saddam desperately wanted to keep. Those items continue to exist today and have possibly been aggrandised by work undertaken in the subsequent four years without inspection.

Iraq was able to take that step because it knew the Security Council was divided and knew that my political base had essentially dissolved. Very specifically Russia and France wanted UNSCOM’s work ended while the United States and the United Kingdom did not. The resolve of the United States to insist to its colleagues on the Security Council that Iraq had to be brought back under the law and to credibly seek to enforce that law, was weakened by the domestic preoccupations of the president of the United States in 1998.

The unfinished business of Iraq and weapons of mass destruction is not only posing intrinsic danger; continuing to inflame the situation in the middle east and relations between the united states and the Arab world; but is challenging gravely the authority of the Security Council. It is by no means clear that the Security Council will survive this challenge, especially if it fails to enforce its own laws with respect to Iraq and the current us administration then decides to mount a unilateral attack upon Iraq with a view to removing Saddam Hussein.

At the end of the second of the two world wars of the twentieth century, which together killed some 70 million people, the United Nations was created in order to “save succeeding generations from the scourge of war”. The task of maintaining international peace and security was given to the Security Council. It was given the power to both make and enforce international law.

There was logic in this. The twentieth century had been bloody in the extreme. The death toll had been horrendous war had become such a frequently used instrument that a major effort had to be made to remove it from human life and relations between nations. The Security Council’s performance of this task has been mixed at best but it has served humanity well on occasions, of which the Cuban missile crisis was the leading example.
The major impediment to its truly effective performance has been the veto power put in the hands of its five permanent members and their repeated decisions to abuse that power. In the case of both the United States and the Soviet Union that abuse was flagrant. The more recent veto abuser has been China.

If war has been the legacy of the first half of the twentieth century, the Cold War which followed in the second half had as its legacy the nuclear arms race and the proliferation of weapons of mass destruction.

The UN was brought into existence at the charter conference in San Francisco as the Second World War drew to an end. It is now a dozen years since the cold war ended but there has been no such conference and therefore no action taken on its legacy.

What is required is that a council, comparable to the Security Council, be established to deal with the issue of weapons of mass destruction. This council—the Council on Weapons of Mass Destruction—would be the place to which all matters pertaining to the maintenance of the non-proliferation treaties—nuclear, chemical and biological—would be referred. Infractions by states such as Iraq would be considered, discussed with that state and instructions given. Those instructions would be binding in international law and the council would have the ability to mount inspections as required and enforce the law as necessary. This is not a council on which any state should have the power of veto.

I make this proposal because I am convinced that weapons of mass destruction are different. This proposal involves making an exception from politics as usual. That exception is justifiable because of the exceptional character of weapons of mass destruction. They are able to kill us all and poison the earth.

It is for this reason that in the particular case of biological weapons I have proposed elsewhere, that their manufacture or possession should be declared, intrinsically, a crime against humanity. The use of biological materials and germs to cause death, as a weapon, is utterly contrary to humanity. Were biological weapons to be the subject of such an understanding under international law, action against them could be taken more easily and more widely.

The normal test of the viability of a proposal such as that for the establishment of a Council on Weapons of Mass Destruction is will it be seen by nations to be in their interest. I believe most will although I do not minimise the problem that will almost certainly arise from the fundamental unfairness that exists today between those who have, and those who do not have, weapons of mass destruction. But, a deal could be done, if every state could come to believe that the game was up for weapons of mass destruction everywhere and that no state would have them in the future. The main reason for this deal would be recognition that everyone would be safer.

Perhaps the most usual or tried generator of historical change is catastrophe. The cost of creation of the United Nations and the rule of law in international relations was 70 million dead.

We should not have to await a catastrophe caused by the use of weapons of mass destruction. We know all we need to know about them. We can address the threat they pose now and refuse to wait for the catastrophe.

For this to occur, we must keep our grip on and assert underlying values: the need to incorporate the ethical dimension of human life into the choices we make on the applications of science; acceptance of individual responsibility; and, resource allocation that is just.

These choices are hard. But, if something is right, the fact that it is hard matters little.

Sydney, September 2002.

References


Transcript for the Question and Answer Session following Richard Butler’s 2002 Templeton Lecture

Dr Michael Thomas: Well thank you very much indeed. That was a thought provoking and challenging and magnificent presentation. We have an opportunity now as Mr Butler has agreed to answer questions.

Question from Robert Hunter of CHAST: We are aware that with the collapse of the Soviet Union there is a huge reservoir of nuclear weapons there which we understand they would like to get rid of and there was at one stage a proposal that the US would assist that process by supplying the necessary money. Given the amount of money that is spent on nuclear weaponry is, as you say, $100m per day, it seems hard to understand why it is so hard to get that finance to clear up the Russian mess. Does the UN have anything to do with that program?

Richard Butler’s reply: The answer to the last part of your question is No, it doesn’t (except in a marginal way). The agency of the UN which is responsible for nuclear science and for ensuring that peaceful uses are not diverted to military purposes is the one I referred to in my talk: the International Atomic Energy Agency. It has an inspection and verification role under the Nuclear Non-Proliferation Treaty (NPT) in nuclear weapons states and non-weapons states alike and it looks at stock piles of relevant fissile materials BUT NOT WEAPONS (weapons are a military matter) including those in Russia. There is no UN central program to deal with the arms control programs that you referred to. One of the developments shortly after the Cold War was the Nunn-Lugar Act of the US Congress, which sought to address the problem that you referred to. It set aside money to be made available to Russia for securing its nuclear materials and weapons.

It’s been successful in destroying warheads and removing special fissionable materials for either storage or recycling in electricity generation. In other words taking them out of the weapons cycle. But the amount of money made available to it has not been adequate, although at $500m a year it is a sizeable amount of money. The Clinton Administration was seeking to increase it. The initial reaction of the Bush Administration was to walk away from it, and to say it didn’t matter. They are now reversing that. They are now seeking to increase the amount of money involved. I don’t know to what figure but I’m not sure it will be anything like it should be, especially given the $100m per day.

I think your question touches on precisely an area where much more needs to be done. Both sides have very significant stockpiles of useless nuclear weapons that are very dangerous as well as useless. And the main threat they pose derives from the physical security that is or isn’t maintained over them. And I’ll come straight to the point. There is a credible report that 12 small fully fabricated nuclear weapons have gone missing from Russia and it is feared somewhere towards the Islamic world. That’s not a verified fact but there are serious anxieties about it. And secondly, under the command economy system the Russians continually made excess plutonium which they didn’t need, but just because the way the system worked the factory managers were given production targets which they were reviewed each year and they kept making the stuff. Plutonium is a transuranic element which doesn’t occur in nature. It’s a first class material for the core of a nuclear weapon and the sorry fact is that I don’t think Russia knows exactly how much of the stuff it’s got.

And I put it to you, as a now defunct Arms Control Inspector that its pretty hard to know what the size of your problem is if you don’t have an accurate baseline figure. That’s a pretty glum thing to say to you but I would endorse the implications of your question that this is a field of activity: stock pile control, getting rid of excess weapons, to which much more money and effort needs to be devoted.

Question from John Hallam, Anti-nuclear weapons campaigner with Friends of the Earth: I want to congratulate you on a fantastic speech and also on the Canberra Commission, which very much influenced the thinking of myself and a lot of NGOs around the world. Couple of things: Why is it that on the 29th August this year when the United States conducted a subcritical nuclear test and a month or so earlier when it conducted a missile test that there were no calls for regime change in Washington in view of the fact that the US has got some 12000 warheads, of which 3000 are on launch-on-warning status. With similar numbers across in Russia, 400 with Britain and France and going down to Israel, do you see any movement whatsoever towards removal of those strategic weapons on launch-on-warning status which was an absolutely key recommendation of the Canberra Commission and on which I ran a global campaign on Y2K compliance?

Richard Butler’s reply: Let me start by saying that I think that people should be grateful to organisations like yours for what you have tried to do. One of the things I learned through being Ambassador for Disarmament and being involved with Australian national nuclear policy was that while sometimes the discussion between non-Government organisations and the Government was less than courteous and seemed to be at loggerheads, the truth is that if you look back at that period that I referred to when Bill Hayden went to Moscow and there was real stasis between the US and the Soviet Union on nuclear weapons. This was the time when the film ‘The Day After’ was made. And people were genuinely worried that nuclear catastrophe was not far away.
If you look back at that period and then ten years further on to the period of the intermediate range nuclear force treaty and then the Strategic Arms Reduction Treaties and then the latest one that’s been done between Bush and Putin something has happened. 80000 has become something vastly less. You and I would agree it’s still far too many. And I think what happened is not separable from the actions of non-Governmental groups.

I think of key instances where governments were reluctant to do adequate measures of nuclear arms control and community agitation for it changed that. So I think what you have done over the years has been very positive. That doesn’t mean that I didn’t sometimes find myself in rather sterile arguments with guys like you but, on the whole, it has been positive. The same is true with respect to racism, sexism and environmentalism.

This whole global phenomenon of non-governmental groups participating in the decisions that really affect the human family, I think is a remarkable one. It started with women then moved on to arms control, then the environment and so on.

Now, the sub-critical test doesn’t contravene the nuclear test ban treaty, to which the US is not a party in any case. (The US has, however, said that it intends to adhere to the provisions of the nuclear test ban treaty without signing it.) I don’t think that the missile test is surprising given the policy of the Bush government to seek to dominate space. Now, is that Richard Butler speaking empathetically? No. Go to the website! This is what is hilarious about today’s world. If you go to the web and look at the US Space Authority website, they tell you that: ‘Our mission is full spectrum dominance of space’! It is out there on the web. I’m not making it up!!

My real answer to your question is that the world of international relations is not fair and it never has been. You remember when I emphasized justice and fairness as a really fundamental human concept and Jacob Bronowski’s ideas of tolerance. These are the things that we have got to grow and make stronger within our world. And those states that have nuclear weapons and that conduct these tests and do not join in agreements that we are all generally in, but spend a lot of time bullying and criticising others who want to emulate them, is an example of how international politics and relationships are not fair. They never have been and one of our constant tasks is to make them fairer if we can.

Finally, launch-on-warning (LOW) is the part of your question that worries me most deeply. And that’s not to say that the other things are not important. But I guess most people know what LOW is. It is a status of alert of a nuclear armed missile which will see it launched when a warning is received that the other side is about to launch. This is hair trigger mutually assured destruction. And the Canberra Commission pointed out that now that the Cold War has ended (for that and for other reasons) LOW was a status that no longer needed to be maintained. It was deeply dangerous and it should be shut down. And if both sides agreed to do it and verifiably did it, we would be in a much safer world. But I don’t see any inclination on the part of either the Bush or the Putin administration to implement that and I think it’s a great pity. Keep up the fight for it. I think it’s very important.

**Question:** Is there a possibility that Iran has a nuclear weapon? (Concerning the possibility of them passing on weapons to Al Qaeda.)

**Richard Butler’s reply:** Yes. Iran is working on acquiring nuclear weapons and missile capability too. My main comment on that as I said in my talk is (and I believe this passionately) there is an axiom of proliferation which says that as long as any state has these weapons systems other states will seek to acquire them. And I’ll tell you quite specifically, that the day that India detonated its nuclear explosive device three years ago and I was asked to comment about this in New York I included the comment that no one should be surprised. They had been saying for 25 years that they weren’t prepared to live this way any longer in such an unfair world. But the day that that happened one of my first thoughts was well, of course Pakistan will follow. That’s an adversarial pair arrangement so that’s bound to happen. (With a bit of Chinese assistance I might say).

My first though was, well Iran’s next. Absolutely! That’s the axiom of proliferation. How in the name of God, if you look at that part of the world: the proximity of these states to one another, the problems they are dealing with, add history, culture and pride and all that stuff, how can you insist to Iran, that somehow it’s OK for India to have nuclear weapons, as well as China, but Iran may not?

The only way to deal with this problem is for the promise that all have made in the NPT to be kept. And it’s a promise on both sides: that those who do not have these weapons must never acquire them but those who have them must progressively get rid of them. And it’s the slowness and failure to do the latter that keeps the axiom of proliferation alive.

Will they give them to Al Qaeda? Absolutely not! No, No! One of the things we know about the possessors of nuclear weapons is that they feel very, very attached to them. And they don’t go around giving them to anyone else.

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*Q & A, 2002 Templeton Lecture, University of Sydney*
**Question from Peter Pockley:** When did you first start working for the Australian Atomic Energy Commission?

**Richard Butler’s reply:** Next you’ll be asking me my age! I think it was 1963-64. Round there.

**Question from Peter Pockley:** Were you or other officers of the same kind as yourself in the Atomic Energy Commission aware at the time of the development of a clandestine nuclear weapons program in Australia?

**Richard Butler’s reply:** I became aware of it but a bit later. Actually, I wrote an article that I submitted to the Bulletin magazine in 1968 or 69. You remember John Gorton had an election in 1968 or 69 where he promised he’d take Australia into the nuclear age. I wrote an article which compared Sir Philip Baxter to Dr Strangelove, because he was Chairman of the Atomic Energy Commission (as well as being Vice Chancellor of that other place.) And he was driving this. I took a risk as I sought to expose some of this. I was really angry that the Gorton government wouldn’t sign the nuclear non-proliferation treaty and I got away with it for some reason. (In the by-line it said this man is a government official but this is written in his personal capacity.)

Actually did you see the documentary film recently? In that film you saw Baxter saying what he was doing. They were thinking of building a plutonium-generating reactor at Jervis Bay that would make it possible for Australia to make nuclear weapons.

**Question from Peter Pockley:** I can add a rider to that. The document which Peter Buckley(?) did not have access to at the time he finished the film shows that Baxter presented his proposal to Gorton in February 1968. The document was a fully costed plan to produce 30 nuclear bombs a year as a result of that reactor.

**Richard Butler’s reply:** That’s a hell of a lot of plutonium.

**Question from Peter Pockley:** Yes, it is. The follow up question is: Once that was purged from the Australian system Australia became a bit more innocent as a negotiator. Had that material become readily available publicly at the time you were working in the Canberra Commission would Australia’s political, social, ethical position have been almost as pure as you were able to present?

**Richard Butler’ reply:** Well I must say I found the selection of William MacMahon as Prime Minister of Australia one of the curiosities of my life but what he did do was sign the nuclear non-proliferation treaty. I don’t know if anyone in this room can think of anything else he did, but he did sign the NPT. Although with slight reservations. (Australians accession to NPT has, if you look in the treaty documents you’ll find, it has a slight reservation attached to it). That put an end to what was Gorton’s clear interest in Australia becoming a nuclear weapons state. And of course it also put an end to the clearly misleading activities of Sir Philip Baxter with respect to this matter.

Now, thereafter, Australia developed on a bi-partisan basis an extraordinary record in then pursuing nuclear arms control: both sides of politics. Andrew Peacock was very, very dedicated to this. It wasn’t just Bill Hayden and those people on that side. And by the time the Conference on Disarmament was established we became an original member. We played a leading role in the continuing development of the NPT. We have always been a permanent member of the Board of Governors of the International Atomic Energy Agency and we helped generate and improve the safeguard system of that agency for the protection of nuclear materials.

We established I think a reputation proportionately far higher than a population of this size (and being a non nuclear weapons state) would suggest. I’ve never quite found why we Australians did that, why we were so attached to the business of nuclear safety. We then had the uranium debate of the 80s, which was very serious and very vigorous and I got embroiled in that in all sorts of ways. It caused Peter Garrett and me to become friends, which was interesting. People around the world asked me: Where does this come? What is happening in Australia that you have this extraordinarily vigorous debate about whether or not to make a buck out of selling uranium? It was really an extraordinary phenomenon. But we solved that problem (not to everyone’s satisfaction) by limiting our uranium exports and tying them at all stages to a nuclear non-proliferation treaty.

Now I don’t honestly know where that comes from but by the time Paul Keating decided that we should have another shot at trying to get sensible procedures underway for the ultimate elimination of nuclear weapons in the Canberra Commission, people around the world gave ready assent to Australia in that role. I received many messages from people saying ‘You are exactly the kind of country that can credibly do this’. Do you know where that comes from? I mean you’re saying that if Gorton’s policy had become exposed would we have been there? Maybe not. Maybe we would have had to do a bit of explaining I think. But from that time—remember NPT was 1968—Gorton won the election in 69 but MacMahon followed shortly thereafter. The Canberra Commission was 1995. So there was about a thirty-year period of bipartisan popular commitment in Australia to nuclear arms control that gave Australia a very credible reputation globally in that field.
**Question:** Should Iraq be given a second chance with weapons inspectors? And what will the inspectors face when they get in there?

**Richard Butler’s reply:** I think the numbers wrong. It should be the fourth or fifth chance. But anyway should they be given a further chance. Well, this is today’s question in a way because of the passage of events since last Thursday, a week ago, when George 43 (I love that—the other one was George 41) went to the UN. His showing up at the UN was the first truly remarkable phenomenon that we saw in the last week because he did that against his own personal inclinations and against the strong advice of some of the heavy hitters in his government that this was a waste of time. That the job ahead was getting rid of Saddam and just go straight to it. But a lot of people around the world said that this was the wrong approach and the President of the US went to the UN to say:

1. Iraq is in violation of the law in several areas.
2. It’s your law, your UN law, and you should enforce it and
3. We’re prepared to work with you in doing that but
4. If you don’t we’ll do it alone.

And amazingly, within 48 hours a great number of countries said: ‘Good. We can work with this’. A great number, including the Arab world. Because this restores an approach through the system of international law and avoids US unilateralism that most states had come to think was deeply dangerous.

Now the Iraqis sat down with the Secretary-General of the UN and the Secretary-General of the Arab League over the weekend and tried to figure out what they should do about this. And a letter emerged in which the Iraqis said: ‘We’re prepared to have weapons inspectors come back to Iraq without conditions’.

Now I said that George 43’s visit to the UN was fairly remarkable. I put it to you that the second most truly remarkable thing in this period of a week was the failure of the Iraqis to include in that letter a commitment to unfettered, unhindered inspection. This is a terrible failure. If you look hard at that letter you can see that is says ‘You can come back here’ but it doesn’t actually give the one central undertaking that everyone required, that the inspections would be able to be done without the sort of blockage that we encountered in the past. And I can’t fathom what they think that will achieve because, within a few hours, I think inevitably, the Secretary of State of the US, who is the most committed internationalist in the Bush government, (he’s the one who had Bush there over the opinions of Rumsfeld and the others) he had to say I’m sorry. This letter doesn’t cut it. This letter is not what we expect.

There was an attitude in the letter in which Iraq was picking and choosing which of its legal obligations it would like to see fulfilled for it. It was not in a position to do that. The sensible approach would have been to say: ‘Come back in. You can go wherever you want, look for whatever you want because we don’t have weapons of mass destruction’. And Powell had to say: ‘This won’t wash’. But Iraq’s letter did have the effect of breaking down that unity that emerged in the Security Council over the first few days following the President’s appearance at the UN. I think that’s a very serious problem. Secretary of State Powell in the course of the coming week is going to try to get this back on track with the Security Council adopting a new resolution that takes account of the Iraqi letter. That says ‘Thanks, that’s nice but we need this real stuff, otherwise we’ll have to come in and enforce the law’.

The key question now is whether the Russians will close ranks with the US and agree to such a resolution. I actually think it comes to this. The most important point of decision in the next few days is actually in President Putin’s office. He has to decide whether he is going to avoid a US unilateral strike upon Iraq, which they say they don’t want, by joining with the US in trying to do it through the UN. Or prefers to keep their bilateral relationship with Iraq intact. It’s Putin’s call. I think this is a deeply serious moment. I think that if there is failure at the Security Council two things will occur. The Council’s credibility as an institution will be basically trashed. (I don’t know that it will recover from it.)

And secondly it will then become inevitable that the US will go to war unilaterally with Iraq within a matter of weeks. It will do that because those in the US administration who don’t like the UN and don’t believe in international law (and I’m not fictionalising them. I’ve met them and I know them. They say quite plainly It doesn’t apply to us. We are the exceptional country.) Those people will say ‘We told you so’. ‘It was a waste of time going to the UN. Look what happened’. ‘We’ve just got to fix this ourselves’. And then the combination of the rejection of the authority of the Security Council and the exercise of this profound unilateral power in the world—I think that will open up a world that will be very dangerous. And one that at almost any cost we should do what we can to avoid.

Now, what will the inspectors face? They will face great difficulty if they get in there. Because of Saddam’s choice. Saddam has a choice. He has weapons of mass destruction. He says he doesn’t but don’t you believe him. He has. If he lets the inspectors go anywhere any time they’ll find them and he’ll be exposed as having lied to the world. The consequences of that are not easy to work out. But he is probably toast. If he does the opposite and refuses to allow them to go anywhere any time because he doesn’t want them to find the weapons and expose him, then that
will be taken as a sign that he is hiding serious stuff and then he’ll probably be toast. So he’s got a very serious problem.

Dr Michael Thomas: Time is up and I must draw proceedings to a close. I’d like to call on Professor Stuart Rees of the Centre for Peace and Conflict Studies to offer a vote of thanks.

Professor Stuart Rees: Thank you Michael. First of all I must congratulate you and your colleagues in CHAST for producing what I regard as a great University occasion. Not only for your wisdom in choosing Ambassador Butler as your speaker, but for facilitating a dialogue across discipline boundaries. The spirit of the University exists as an interdisciplinary phenomenon. Not, despite the claims of managerialism, to protect departments and faculties. So thank you for facilitating this (aspect of the University.)

May I also express the gratitude of all of us to Ambassador Butler first of all for continuing to stress throughout your lecture the principle that no decision about the allocation of resources should be made without considering the value of every human life. It was almost inevitable, I think, that you moved on from that to create this proposal about the Council on Weapons of Mass Destruction over which no state would have the power of veto. You are correct to say that would require a very new brand of politics or rather, no politics at all as you pointed out. At the very least it would require each country to resuscitate ...(inaudible)... So thank you for the rich content of your lecture. Thank you for delivering technical knowledge with great clarity. Most of all thank you for insisting that every decision about science and weapons of mass destruction should be made with humanitarian considerations paramount.