Mr. du PLESSIS (Union of South Africa): I avail myself of the opportunity to extend my delegation's congratulations to the representative of Czechoslovakia on his election as Vice-President of the Conference. Our best wishes go out to him in the fulfilment of his task.

Allow me also to express, on behalf of my delegation, our extreme satisfaction at the election of Mr. Muniz as President of this important international Conference. Endowed with the wisdom and experience which the years in which he has served his Country in a position of high responsibility have given him, and sustained by the confidence which all his fellow representatives have reposed in him, he is indeed eminently qualified to guide and to guard over the deliberations in which we are now engaged. The South African delegation was happy to join in the honour thus accorded to him and, through him, to that great Latin American country, the United States of Brazil.

Many speakers have referred to the debt of gratitude which we owe to the President and to the Government of the United States of America for initiating the steps which have led us to this Conference, and I am happy to join in these tributes. We would not be here today without the lead given by President Eisenhower on that historic occasion in 1953 and the unremitting hard work over a period of more than three years of several organs of the United States Government. Many other Governments have made important contributions to the drafting of the statute but the inspirational source has been that to which so many representatives have made eloquent reference. Acknowledging that the continued support of the United States of America is vital to the success of the Agency, it is nonetheless also true that the Agency will, and indeed must, represent the co-operative effort of the other major Powers, other countries and groups of countries. The draft statute takes account of these factors and we should never lose sight of them in our deliberations.

My own country has been associated with the development of atomic energy for many years. The history of uranium mining in South Africa is itself an example of what can be achieved by international co-operation between willing partners. This story of the opening and development of our great sources of uranium ores has been told before, and I shall merely recall the bare outline. Some six years ago the production of uranium was quite insufficient for the rapidly growing demands of the great industrial nations. The Western countries were faced with something approaching a famine in this vital mineral. It was known that the
gold-bearing ores of South Africa contained workable quantities of uranium, and in 1950 the United States, United Kingdom and South African Governments devised and launched an emergency programme for the development of South African ores. After a year and a half of intensive preparations, the first South African uranium plant began its operations on 8 October 1952. The importance of those developments was graphically described by a leading official of the United States Atomic Energy Commission; in his words, South Africa was the largest known source of uranium and the South African programme was one of critical importance.

Since 1952 South African uranium production has steadily and rapidly grown. In 1955 the value of the South African exports of source materials was approximately $84 million. This year it is estimated that uranium production will surpass $100 million, and in its actual production as well as in its potential capacity South Africa can claim to rank as one of the world's major producers of uranium. According to present plans, twenty-nine mines will eventually be brought into operation as uranium producers; when they are in full production the rate of out-put will be much increased.

I may add in passing that South Africa also has significant deposits and a fairly large production of thorium ores.

The development of uranium mining and the problems associated with it have, of course, given a great spur to fundamental and industrial research in my country. The national laboratories and the leading South African universities are well equipped to conduct research in most of the important fields of science, and extensive programmes are at present under way. The first problems concerned the separation of uranium from gold-bearing ores; considerable research was undertaken in this direction, and this research is continuing.

In other fields related to atomic energy the South African National Physics Laboratory has built a cyclotron which went into operation last year. Amongst the many projects for which it is now being used there is one which, if successful, should open up a completely new field in the study of short-lived radioactive isotopes. With a generous grant from the gold-mining industry, one of the leading South African universities has established a new school of nuclear physics. Other fields of experiment at the National Physics Laboratory and National Mechanical Research Institute include metal physics, metallurgy and heat transfer, which are subjects of direct importance in the field of atomic energy. These
laboratories and the universities are providing the basic training for physicists and engineers for the atomic energy programme of South Africa, as well as the facilities required for research and for post-graduate study.

Much work has also been done in using radio-isotopes for radiographic and industrial purposes, such as thickness gauging, determination of blockages in pipes, leak detection, and so forth. The now widely used scheme of transporting radioactive isotopes in the wing tips of aircraft was developed by the South African Council for Scientific and Industrial Research. A Biophysics Laboratory was completed in 1955 and research already done includes work on medical physics, on the up-take of fertilizers by plants, tracer studies on insecticides and the effects of radiation on living tissue. South Africa has also been co-operating for some nineteen months in the United Nations programme for a systematic observation and recording of radioactive fall-out and a first report has already been forwarded to the United Nations Scientific Committee. Studies are being made in South African mines on the effects of radioactive dust and radon on the health of mine workers.

South Africa is also taking a lead in encouraging regional co-operation in the use and application of radio-isotopes in the area of Africa South of the Sahara. A meeting of regional specialists is to be held in the South African capital next year under the aegis of the Scientific Council for Africa. The meeting will consider the production of radio-isotopes, methods of making them available in the region, control of health and safety measures, application of radio-isotopes within the region, and the training of scientists in the use of radio-isotopes.

In the industrial field the South African Atomic Energy Board is considering the possibility of heavy water production. The South African Government has also appointed a commission to make recommendations regarding nuclear power production in the Cape of Good Hope. According to United Nations statistics, South Africa was in 1954 the eleventh largest producer of electricity in the world and after Japan the largest producer outside Europe and North America. The significance of the production of electricity to our economy is therefore apparent.
From what I have said, it will be clear that the peaceful uses of atomic energy is a matter of vital and continuing national interest to my country, and that South Africa has a most important stake in the successful functioning of the Agency. It is for this reason that my Government has collaborated closely in the drafting of the statute of the Agency from the very beginning.

As you know, these negotiations have been going on in Washington for three years. South Africa was one of the eight original countries which formulated the first draft statute. In the early days of 1954 and 1955 the future was indeed uncertain. Atomic science in many of its aspects was still shrouded in secrecy. There were numerous unanswered questions about the size, form and powers of the Agency. Most important, there was doubt and uncertainty about the extent to which international collaboration could be obtained in a world divided by tension and distrust. It was in this atmosphere that the preparatory work had to proceed, and in these circumstances the original draft could be regarded as a considerable achievement. In many ways it has stood the test of time. It provided the framework on which the present draft could be built.

The test of two years' work came with the Washington discussions. The first draft had been open to the comment and criticism of all members of the United Nations and the specialized agencies. The delegations at Washington had assembled there with the unanimous approval of the General Assembly, and they represented as closely as was possible the divergent political and economic interests of the modern world. History records that for ten years the major political Powers had clashed constantly at international meetings of this kind, and in no field had agreement between them seemed more remote than in that of atomic energy. Political realism gave little ground for optimism, and there was the possibility that the meeting would lead nowhere, or would drag on in the manner which has been our unhappy experience in the closely related field of disarmament.

As the Washington talks progressed, there were indeed occasions when it seemed that the delegations might have to disperse with their task unfulfilled. On almost every major point, however, it was found possible to reach a substantial measure of agreement. This agreement was, of course, bought at the cost of concessions by each country represented, my own no less than any other. In the
end -- and I will frankly admit it was to our surprise -- it was possible to secure unanimous agreement on the draft statute. In the words of the representative of the Union of Soviet Socialist Republics, for example, the draft statute of the Atomic Agency prepared at Washington was "basically acceptable" and his delegation would therefore "vote in favour of the draft statute as a whole".

Many speakers have pointed out that this achievement can have profound importance. It was the first significant step towards agreement on a subject of major importance between the great Powers after many years of dissension. It was the fruit of more than two years of delicate negotiations. Nevertheless the concessions on which it is built were painfully made and affect the vital interests of all countries represented. In certain important clauses almost each sentence and in some cases an individual word represents a compromise and the structure as a whole is fragile. This applies in particular to the division of responsibilities between the Board and the General Conference, the composition of the Board and the Agency's relationship with the United Nations. A number of fellow African States has suggested that in the geographical division of seats on the Board there should be a separate region for Africa. My delegation is of course in sympathy with this concept, but we feel that it would be unwise to disturb the delicate balance which the Board represents.

This Conference of eighty-one nations is now master of the situation and has the full power to reject or to modify, if it so wishes, the work that has been done in the last three years. The coming weeks will be a severe test of the understanding and of the sense of responsibility of every nation represented here. My delegation is convinced that with the past record of achievement the Conference will measure up to these demands and in fulfilling its important task will justify the idealism in which the concept of such an Agency had its origin.

At this point I should like to say something about my Government's concept of the Agency. In the first place it should be clear that South Africa has a special interest in the rapid development of the peaceful uses of atomic energy. We must not, however, underestimate the magnitude of our task. Atomic technology is complex and difficult and the materials which it uses are dangerous to life and property. Only the most industrialized countries know as yet how to employ it and even they are only just beginning to use it for peaceful ends. Possibly its
greatest promise is as an alternative source of electric power. For the present it is an expensive and complicated source, and in many situations it will doubtless continue to be less suitable than coal, oil or water power. In most circumstances it would clearly be economically wasteful and unsound to encourage the use of one particular type of fuel or power if another type is more suitable and is available.

It is for this reason, amongst others, that my delegation believes a line should be drawn between the financial and technical aspects of the application of atomic energy for peaceful purposes. In its initial stage the prime, although not the only, function of this Agency must be to disseminate information, to give guidance and to promote the technology of atomic science. It would be to the detriment of the Agency's real interests if it sought to overlap or duplicate the work of other national and international bodies concerned with the financing of economic development.

My delegation believes that the present provisions of the statute concerning its functions and their financing will make it possible for the Agency to fulfill its primary technological role without becoming directly involved in the financial problems of economic development outside its sphere. We therefore attach considerable importance to the separation of Agency expenditure into administrative and operational budgets. We should like to pay tribute to the clear-sightedness of the Canadian delegation, whose representatives at Washington played the major role in framing the financial clauses.

It had often been said that atomic science offers at the same time the starkest threat and the greatest opportunity that man has known. From this duality emerges the second function of the Agency. We must ensure that in spreading and disseminating the technology of atomic energy we do not, by that very process increase and broadcast the threat of atomic war. We must ensure, in other words, that every activity of the Agency contributes and contributes only to the peaceful uses of atomic science. For this reason my delegation endorses the existing control provisions in article XII. We are pleased to know that a number of fellow African countries find these provisions generally acceptable.

Turning for a moment to the Preparatory Commission, I should like to endorse the remarks of the representative of Australia. Neither this Conference nor the Commission must seek to arrogate to itself the proper functions or anticipate the decisions of the General Conference, the Board and the Director-General.
My Government warmly appreciates the offer of the Austrian Government to place a suitable site at the disposal of the Agency. It believes that the advantages of Vienna may well commend themselves to the Preparatory Commission, but the final decision belongs, of course, to the Agency.

In conclusion, if at times I have advocated caution, this is far from implying any pessimism on the part of my delegation. My country's pride in its long association with the statute stems from the conviction that the new Agency can be of great importance in the service of mankind in all the countries of the world.
The fossil fuels on which man has depended since he first built a fire threaten to approach exhaustion by the end of this century. Even if new sources of coal and oil are found, as they doubtless will be, they could not be nearly sufficient to meet the needs of coming generations. In advanced industrial countries the production of electric power is doubling every ten years. Were it not for the discoveries of our scientists, the world could face a grim prospect of poverty, cold and hunger.

The new Agency can do much to demolish this spectre. Its role, as we conceive it, will be to assist in bringing the benefits of atomic energy in all its forms to the under-developed and developing areas of the world, and at the same time to promote fruitful exchanges of knowledge and technique. It will provide to all nations a means of acquiring guidance, materials and equipment for their needs. It will be a pool from which we can draw and to which many nations can contribute. In terms of President Eisenhower's vision, it may help to turn men's minds from the concept of atomic energy as an agent of destruction to see it instead as an instrument which can help to make a world that is free from want. I believe that we have before us at this meeting one of the great opportunities of our times. After three years of preparation we have the framework of an effective and responsible international organ. We have secured a measure of international collaboration unknown in recent years. We have progressed far towards our goal; I am confident that we shall attain it. As the distinguished representative of Sweden has so rightly said: "Our business is to create the Agency and make it a going concern. Let us do that business."

Mr. DE FREITAS-VALLÉ (Brazil): May I say to you, Sir, how happy I feel to see you presiding at this meeting of the Conference. By your merits, and by the technical advance of your country -- which I like very much -- we cannot in this Conference expect from you anything but very good co-operation in the field of the peaceful uses of atomic energy.