

This interview is from [Living Relics of Australia](#).

Sir Mark Oliphant

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Caricature of Sir Mark Oliphant, by Mick Joffe

I was born in Adelaide. My father, Harold George Oliphant, was a public servant, one of those chaps who got trapped into civil service and hated his job all his life; a very literary man. Mum was Edith Tucker. Sometimes my childhood seems long ago; sometimes it seems like yesterday. Time seems to be one when you're my age... not a succession of episodes — all jumbled up as one. 1914 and 1927 can seem the same.

I studied science at Adelaide University and then I got an 1851 scholarship — money that was left over from the 1851 Great Exhibition in the Crystal Palace in London. I studied physics in Cambridge under Sir Ernest Rutherford — a very distinguished man who unravelled the structure in the nucleus of the atom. I worked with him for 11 years. He was the father of nuclear physics. He was a New Zealander... a bluff, easy to get on with man; a wonderful man to work with. He went to Cambridge with the same scholarship as me — an 1851 scholarship, but at or just before the turn of the century. He was a generation older than me. He was very much a father figure to me — very much an icon to me also; an incredibly famous man who discovered the structure of the nucleus

of the atom. He was very good to me, and Lady Rutherford was very good to me. My wife and I spent a lot of holidays at their holiday place in North Wales. I learnt an enormous amount from him, and just being in the Cavendish Laboratory — the most famous physics laboratory in the world — was an incredible experience. It was there that the electron was discovered by J.J. Thompson in the 1890s and there that Rutherford discovered the nucleus of the atom and taught us how to study it.

I worked with James Chadwick Rutherford's offsider who discovered the neutron. I got to know him well personally and was with him when he died. Of course, to me, it's all very exciting, the discovery of the atom of which the word's made and the forces that hold them together. It's the nitty, gritty, as it were. After that, one has to deal with the structure of the atom and that's very exciting itself, and Rutherford, with whom I worked, was a remarkable man to work with — a bluff, hearty man who was really like a father to his students, for example Cockroft and Walton, who split the atom for the first time. I worked together with Rutherford and it was the time when heavy hydrogen was discovered... deuterium which was very exciting work indeed. Seeing what nuclear transformations could be produced... changing one atom into another, for example lead into gold, but it's not an economic process by any means.



When I was working in the Cavendish Lab in the 1930s, Einstein visited us several times, lecturing to us. He took a close interest in the physics of the nucleus. He was a theoretical physicist. He worked things out mathematically. Rutherford and I and the others worked the experiments out. Einstein, for the ordinary physicist, he was a bit difficult to understand — but a very brilliant man and he recognised at the time. He won recognition almost at once for his work on relativity. He showed, for example, that when an atom moved very fast it got heavier and when it moved at the speed of light it was infinitely heavy. So we spent a lot of time making particles move fast and studying their properties.

The Cavendish Lab in those days was the mecca of physicists in the world because of Rutherford's fame. A New Zealander who'd come to Cambridge in 1895 and worked with J.J. Thompson, the discoverer of the electron, and who disentangled all the processes of radium which in the end turns to lead.

After Cavendish, about 1929 or '30 I went to Birmingham

University. I was Professor of Physics and running a department from 1937 to 1950. A very fruitful time but it also included the war years which were spent on the development of radar for detecting aircraft and ships. We developed the microwave radar, using very short length wavelengths, only 10cm or less, and this was a useful addition to the whole of the technology for radar in warfare. By we, I mean I and the members of my team, for example Phillip Moon and Jim Sayers, very well-known people now.

It was so obvious that we were using radar as it couldn't be disguised so the Germans and Japanese copied it very rapidly. We had monopoly for a very short time. We were always well ahead of the others.

We were working on the atomic bomb all the time, thinking about it and doing odd experiments in Cavendish and Birmingham and in the various air force establishments up and down the country and in the laboratories of British General Electrics and other firms like B.T.H. — British Thompson Houston, who were very active in radar development.

The bomb became obvious. The question was getting the fissile material which undergoes fission and absorbs neutrons. That was difficult. The Germans were trying but there was no evidence that they were close.

During the war I was sent to America and I did what I was told to

do and tried to tell the Americans what we discovered about microwaves in England; be as helpful as I could. I worked on the Manhattan Project to develop the atom bomb. I once said I considered myself a war criminal. I think nowadays I would not work on a project like that. The trouble is when your country is at war, well, you give yourself completely to its defence.

In America, the FBI were watching me all the time. If I got on the train from Berkeley to New York, I would find a couple of FBI also on on the train. They kept a close eye on me. I got used to being spied on. There were plenty of subversives got in touch with us but they didn't get very far. They were angling for information but they were denied it. I don't know of any who passed on information. You had, all the time, the atmosphere of secrecy, having to be careful with certain people wasn't a very comfortable time. Once had to be careful even with one's own friends.

I did the best I could to help with the American effort. I had a special friend, Ernest Lawrence of Berkley, who was a very active nuclear physicist. He invented the cyclotron. It speeds particles up to high energy so they produce changes in the structure of atoms. He and I were great friends and we did our contribution amongst a large team of brilliant people who worked on the bomb. I met the scientists but not the politicians.

Menzies I knew very well. I admired him very much. A very quick-witted man, always fun to discuss things with, always a strong opinion on things. He could flatten the knockers on the audience. It's a very rare ability to be able to effectively defend oneself. A lot of people try but they don't have the wit or the language to make it effective.

'Nugget' Coombs came to England and visited me and others and got us interested in an idea of a national university in Canberra. He brought us together — like Howard Florey, the man who developed penicillin. [Penicillin was discovered by Sir Alexander Fleming.] He Persuaded me and a few others to return to Australia to found the National University. Howard Florey stands out this century... an Australian who gave the world penicillin. It started the antibiotic era. It not only saved lives, it saved distress. I knew him while I was at birmingham.

Goodness knows why I was invited to become the Governor of South Australia. I was Governor from 1971 to 1975. I enjoyed it very much. I had a wonderful wife, Rosa, who did a great job as the Governor's wife. I suppose it's ten years since she died.

I was married in 1927 before I went to England so we had a long and happy life together. She was a wonderful wife and supported me always — a wonderful help.

I have always been an advocate of peace and had a hatred of war and even the nuclear weapons that I helped to develop. The job was only done because the other side were seeking to be the first and so the alternative was unthinkable. If Hitler would have got the bomb I expect he would have made a demonstration somewhere.

I've tried to be a spokesman for conservation. We've all got to face up to keeping some of the treasures of our country and its natural history. To be alert to one's surroundings, to appreciate the beauty and the wonder of Australia as a country with a unique flora and fauna and different landscape from the watered landscapes of Europe and America. I think it's a good idea, Mick, that you get as many points of view as you can, as long as you don't colour it. I think accurate points of view are very important for the future of the country and understanding what makes it tick. I think you're an eccentric but the work needs a few eccentrics. That's why I'm an eccentric. I'm still enjoying life but aches and pains get more prevalent with age. The hearing difficulties when you're old are very real. I have a hearing aid, as you can see, and without it I'd be cut off from the world. I don't know that my longevity is anything special, whether my vegetarian habit has anything to do with it.

The desire to make a difference fades with time. Old age is an age of good intentions but it's not a time of good works. Australians are curious people, not too interested in the properties of their strange

land with its lack of moisture and beautiful scenery. I suppose it's the driest country in the world. Most people don't give much thought to Australia and its future... they just exist. And people who do something towards Australia and its future are not that common. And sometimes those who are interested in Australia and its future are cranky. I am cranky, I suppose. I know a lot of cranky people (*laughter*) but I think one has to care in order to be cranky and those who care are going to build the future of this country.

Like a plant in the garden, I just live here and grow here. It doesn't occur to me whether I'm widely known or appreciated in society. It doesn't worry me. I'm very happy happy with books. I have a field or group of people whom I appreciate and with whom I like to talk about science. I'm very glad to be alive here in Canberra and have a flat behind a loving daughter — Vivienne White — a reference librarian at the Parliamentary Library. She's been a librarian all her life.

There were many Jews in my scientific field. I found that Jews are the most interesting people in the world — their interests are wide and they are interested in knowledge for its own sake. Strange that in my own field those who were active in active physics as opposed to theoretical physics were very often Jewish. They have a gift for mathematics, for thinking of things. Quantitatively, not only money (*laughter*), but things of the mind. They are the major contributors in Mathematics from Cosmology to Physics, from

Einstein down.

My nickname at school and at home was Jumbo because of the Oliphant connection. I was the eldest of five boys and I'm the only one left. Strange, isn't it? It's not that I'm very old; I'm only 95. A lot of people are much older than that. A lot live to 100 or more these days. I can well remember when my youngest brother was born at home and the doctor coming to the home in a horse-drawn vehicle with the coachman up in the air.

The population around here is very peripatetic [walking about in connection with one's calling]. I don't know either of my neighbours and I don't know if they know me. I don't have the faintest idea who lives there. When there were children, people always mixed; it's children who are the big mixers. Life has become more anonymous. There are no children in the district who come to see me, and my own grandchildren — five or six — don't live in Canberra. No school child has ever come to me, doing a school project. If they did, I'd talk to them, of course.



Master and pupil. Ernest Rutherford and Mark Oliphant, circa 1932.

I was seventeen when World War 1 finished. It's funny, my generation felt deprived of an experience when the war finished. We'd had our uncles and brothers in it and we missed out (*laughter*). I felt deprived because the war ended before I was eighteen and involved. It's amusing when I look back but at the time it was a deprivation. I can remember an uncle coming home after being shot in the leg and he was a great hero to us boys, listening to the stories he had to tell.

One man who, I think, should be remembered as a great Australian is Herbert Evatt. He was a man of strong views who expressed them strongly in internal affairs. He put the Australian point of view strongly and concisely. So many of our Australian representatives tend to say "Yes, sir" to the Americans or British and Bert Evatt, I think, was one of the few who could speak up to any of them. There were times when he offended people but I think that's part of the game — you're bound to.

He played a key role in the foundation of the United Nations. I had a lot of time for him. I was with him as his adviser in America when he was the Australian representative in the United Nations. He was an outspoken man. Mind you, he was also a man I admired because he did his homework so thoroughly. We spent hours and hours studying material for his speeches and for his decisions. He

was a scholar as well as a politician. He wanted to be right. He wanted to know. He wasn't glib. He was a very ambitious man — like to be heard, liked to read in the paper what was recorded of him in the United Nations. He wanted adulations.

He sought to right injustices and advance Australia's interests. Mind you, his priorities — like so many politicians — was 1. Bert Evatt, 2. Australia, (*laughter*) and I think you know what I mean by that. I think you've got to be very thick-skinned and very selfish to be a successful politician. When you think of it, the active lifetime of a politician is very short; most of them fade away into non-existence. Menzies was a very nice man, too, but once again this choice between humanity and politics... well it's not always a very nice relationship.

I've been a very lucky man in many ways. Not many Australians get the opportunity to travel widely in China which I did as ex-President of the Australian Academy of Science. I feel very uncomfortable with what you call adulation although it's nice to be recognised. But if I want to be recognised for anything in Australia, it would be nice to be recognised as a founder of the Australian Academy of Science... and I had to get other people to work with me on that. It is a body which is selective, which elects its fellows and tries to elevate the status of scientific work in Australia and tries to recognise outstanding ability.

Dick Smith is a great Australia... a successful man who's remained as a person who cares. It's this caring aspect that's raised him above the general ruck of people who want to be in the limelight. I think he's a real benefactor of Australia. He doesn't keep it to himself; he tries to use his money for the benefit of Australia as a whole.

I think getting the constitution right is very important and I fully support those who think about it and want to get things right. I think the Queen is a beneficent character; on the whole the results are positive. I think everyone likes a bit of pageant, and if you haven't got it, then you invent it. In very many ways there's far more pageantry about the President of the United States than there is about the Queen of Britain. There's something to be said for having an external presence. Once we had a Head of State other than her — that is, a President — then you'd have all the squabbling and backstabbing to get King of the Castle that we don't have at present. If there is someone who is King of the Castle by birth or ancient history, then there isn't all the joggling for position all the time. As a boy, I was greatly influenced by the book 'From Log Cabin to White House' about Abraham Lincoln.

I don't think we do justice to our Aborigines; we sweep them under the mat. It's very hard to imagine what is justice for Aborigines; I don't now. Should we put them on a pedestal? Should we give them

some special standing? — 'cause they are undoubtedly the original inhabitants of this country. We've got to have tremendous sympathy for them, for those who are left. The American Indians have faded right out of the picture. In the passage of time they should get fitted into the picture. The main thing is that justice should be done. Full-blood Aborigines, I think, should be given caste status, as it were. There won't be many of them in a short while and it won't be long before we lose contact with our past through full-blooded Aborigines becoming scarcer and scarcer. Soon it will only be history books who can tell us of them so they should be taken care of. After all, they were the owners of the country and we pinched it from them; and I've never seen that indebtedness written carefully and fully. Our history begins with the coming of white man. I hope this fuller account is happening now and, best of all, it is recorded by Aborigines themselves. If not, it will soon be impossible to write because the people themselves will be gone.

It's so easy to have a slightly wrong impression of a person. Many years ago, I've been recorded but in a conventional way, mixed in with the journalist. That's happened to me very often — there is always the external influence.

I think, Mick, the way you record history is fair. I think to doctor it as you go is unfair even if the person is a doctorate! (*laughter*) I

think one has to be a very accomplished historian to make judgements 'cause one has to know so many other people. I think Keith Hancock was a very fair and objective portrayer of people, warts and all, but with a deep sensitivity. He was a very distinguished historian — I suspect, the greatest Australian historian of his time; a man of my generation.

There's something so special about caricaturists. I think caricatures are a better record of a person than drawings or paintings. I think caricaturists are the people who convey the real person. In the end the caricaturists can be the makers of history; they are the ones who convey the truth. My own nephew, Pat Oliphant, is with the Washington Post as a cartoonist. I know of [Eric Jolliffe](#). Good luck to you, Eric, I hope you live as long as I have.

It was nice to be honoured but I like 'Mark' not 'Sir Mark'. When one's young, one's brash and all-knowing; when one's old, one realises how little one knows. You asked me earlier if I believed in God and the hereafter. I would tend to say no but when one dies one could well be surprised.

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by Mick Joffe