

Interview with Piyo Rattansi¹

Interview² – Part VI (21/09/2016)³

R. Uchôa:⁴ Professor Rattansi, again, thank you very much for your time and for talking about so many interesting things concerning your life, about your work, and all the academic and personal things that you have done. And I think one aspect that we did not explore in-depth was your background back in Kenya, that is, your religious background. I mean, your father and mother, your family. Could you talk a bit more? I mean, and in which sense it affected or did not affect your personal view of the world?

P. Rattansi: My mother was very religious and very devoted. My father, well, he believed in God and God's purpose in [laughter] life. He didn't insist that we must all go to the... the Ismailis have their meeting place where you're supposed to go every evening if you can. At least, on Friday's you should go and so on. But we weren't feeling any pressure that we've got to conform to these kind of religious rituals, things of that sort. And the house was full of books about many religions, Hinduism, particularly, Islam, of course, to some extent, to Christianity, also. And we had lots of friends. I remember when younger Indian Christians used to come and talk to us about ideas in Christianity. But there is no pressure of you must confirm or you must go the seven days, you must do this, that, and the other. And I remember at around the age of 13, undergoing a kind of, I don't know, identity crisis [laughter], who am I, and out of that crisis, getting interested in Indian mystical beliefs and so on, yoga, particularly. And there was a person I had as a teacher who taught me the basic techniques. I mean, yoga, of course, includes all sorts of yoga. There's the hatha yoga, which is doing the physical exercises, breathing exercises, and then engaging in meditation. And I found it really congenial, and even now, I

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² The interview took place at Rattansi's apartment in São Paulo while working at Center Simão Mathias for Studies in the History of Science (CESIMA), at Pontifícia Universidade Católica de São Paulo (PUC-SP). The interview was performed on the occasion of his visit to CESIMA as part of an exchange program established for the Thematic Project "Revealing natural processes through the laboratory (phase 2): the search for the principles of matter in the three kingdoms until the specialization of science in the 1800s", funded by Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP).

³ The interview was designed, recorded and transcribed by Raphael Uchôa, Ph.D. candidate at Postgraduate Programme in History of Science, Pontifical Catholic University of São Paulo (PUC-SP) and supervised by Professors Ana Maria Alfonso-Goldfarb and Márcia Helena Mendes Ferraz, both researchers at PUC-SP and Honorary Research Fellows at UCL.

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practice some of the, every morning, some of the [...] ⁵ and I do some of the breathing exercises too, but not much of the meditation [laughter]. So I did go through a kind of mystical phase when I was 13, and it was at that time that I also studied things associated with this kind of mysticism, astrology, palmistry, things of that sort. I could [...] [laughter]. And for awhile, I used to get some pocket money out of writing like [all among?] what is the next [...]. What do the stars have in store for you next week? With another colleague I met at this time. But it didn't leave anything very deep behind, I think. Although it may have helped me in the kind of study I did later on when I interested in sometimes hermeticism and their beliefs in astrology and cartomancy, palmistry, and things of this sort. So just to give you an example I've met lots of historians of science who said that when they have to deal with the literature of alchemy or things about alchemy, they are completely put off. Some of these are literary historians of chemistry. But I hate having to deal through all this rubbish and so on. Maybe the sort of deeper emotion in mysticism and associated with yoga and all this kind of thing, made it possible for me not to automatically go off. Switch off every time I came across something, alchemy or astrology or things of this sort. But I still believe astrology still has to be recognized as something which was very important in the early modern age. And so the question of how alchemy—sorry, astrology declined in esteem and so on, this is still a question which I think needs to be asked. That doesn't mean I believe in astrology at all, but I do feel this is an area which needs to be explored. Maybe because it's still around with us that people are more reluctant to study it. But it's quite an important aspect of... mean astrology and astronomy were closely tied together. It's main incentive for electing such precise... the stars and their movements and planets and the moon. It was astrology too, and for calendrical purposes, you could set aside these at a kind of low-level of astronomy. But the, defining these observations and calculations so much goes with the belief in astrology. So it's to be studied as a historical discipline. But that's the only thing I can think of that in a sense that may latter on studied without be put in a rigid and rationalist approach.

R. Uchôa: And how did you get in contact with those ideas in in your youth? Was there a spiritual leader who taught you that? Or something like?

P. Rattansi: Yes. I think when I had a brother who was crippled , he got polio at a young age. And he was interested in these kind of things, astrology and so on. And he used to subscribe to English magazines at that time. It was called Prediction, I remember. All sorts of things like [...] and publication that he used to order them and when I started reading I started reading them. And so part of it came from, mind you, in a way this is, I see this like a [...] slightly colonial mentality, that when we found that the colonial masters were interested in Indian systems of Yoga and

⁵ Editor's note: During the interview transcription process there were excerpts of difficult listening. These passages were flagged in this edition by "[...]".

astrology and things like that, that somehow seemed to satisfy some kind of stance for approval to it. [...] is part of our own wisdom, and they're? accepting it. They so as kind of prestige of some sort [laughter].

R. Uchôa: So, another question: I think it's a bit late in your career. The beginning of your career in the history of science, could you talk a bit more about your institutional connections? What was the first institution that you worked at as a professor, as a researcher, and then how was the environment there, the challenge that you had by that time in the history of science?

P. Rattansi: Yes. Well, my first institutional appointment was as a Leverhulme research fellow at Leeds University. It was a marvelous experience. I was at Leeds from 1962 until, probably four years, four or five years. At first, I was a little dismayed, because I'd got used to London so much. I'd lived there for 10 years when [...] degrees. And to come to the north seemed like a kind of exile [laughter]. But Leeds was a very vibrant department, [...] Ravetz had assembled a very interesting number of people there, and his own leadership of the group and his own enthusiasm and readiness to discuss any kind of issue... and he had a great panoramic view of the entire history of science. He came from mathematics, as you know... very inspiring man, encouraging figure. That's really the talent of [...]. And he attracted people, too. People like Charles Webster, Ted McGuire, Maurice Crossland, who were able to... Maurice Crossland might have a slightly different perspective, but we all got on very well together. All of us were obviously devoted to this study. And it was a marvelous time to have spent at Leeds over five years or so.

R. Uchôa: And then, from there, you...

P. Rattansi: Yes. From...it was at Leeds that I published with McGuire this joint paper on Newton and the Pipes of Pan, which gave us a certain publicity. And after the publication of the paper, I'm afraid what happens in England... if you have been in the provinces and places like Oxbridge or London would offer you a position. After the publication of the Pipes of Pan, Cambridge asked me if I would be interested in taking up the research fellowship there and study the Newton papers with him. And so my next place was at Cambridge. Although, in between... I think I talked about this, through Dr. Pagel, I met Allen from University of Chicago, and we became very good friends. And even when I was at Leeds, he invited me to spend summer term as a visiting associate professor at University of Chicago. I had just got married about that time, 1966, so when I went there, my wife also came with me. The three months were very interesting. It was a troubled time for Chicago at that time, and we lived in the middle of the district, which is around the ghettos and so on [...] particular summer of 1966. But that was also a good experience. I taught so many graduate students and so on. So that was a good experience, and then I

came to Cambridge. I already knew a little the person who really sponsored me to King's College, which was Bob Young. He had already written to me just after I came to Cambridge, because he liked my thesis so much, and said he had learned a great deal from it. But [...], so he was a very... and then there was a very interesting group of young people whom he had assembled into [...]. They belonged to different colleges, but we all met together. I think you already asked me [crosstalk] the opportunity to meet in history of ideas, generally, history of science. So that was good.

R. Uchôa: How long did you spend at Cambridge?

P. Rattansi: It was a four-year fellowship, but the last year of the fellowship, I spent at Princeton. Because while I was at Cambridge, although I was not a member of the history of science department, the [...] give a lecture course on science, society, and religion in 17th century England, which proved very popular, so [...]. But the quite by chance, I mean, to my surprise, I got a letter from Professor Thomas Kuhn at Princeton, writing me to go there as a visiting lecturer for a year. I had a young family at that time. My son was only one year old. And that was also a very interesting time. I mean, he had made a very good arrangement for me, by which I was a member of the Institute for Advanced Study at Princeton, and we stayed at Princeton for the whole of the year. I was active with the institute with my own work for one term, and then spent the rest of the two other terms doing some lecturing, and tutoring, and talking to Professor Kuhn.

R. Uchôa: yeah, you mentioned that there was a kind of... your lecturer at Cambridge was on science and religion in the sixteenth century and people were really looking for this kind of topic... why is that? Why there was this interest in by that time?

P. Rattansi: I'm not sure why but it did seem to attract a lot of people and lots of... quite a few of them I mentioned were in the... They told me that it was... sometimes it changed their life. They decided to specialize in History and Philosophy of science at Cambridge and even after if they could get an opportunity to do so. I'm not sure that I could say anything very useful about why they were particularly interested. Yes, I did call the series: sciences and religion in seventeenth century England. Well, I even did partly the course because of my background in having come to sociology of science through reading Robert Merton's work on puritanism and science and that kind of thing. And I always felt that you have to include, you have to talk in terms of science and religion in society if you talk about seventeenth century England. There were other people around, I suppose, they did John Dunne, who was also at King's, he worked on John Locke but he was sympathetic to what I was doing because he was trying to look at Locke not just as an enlightenment figure or a obliquely secular kind of intellectual but firmly felt natural

theology was a very important component of his way of approaching problems in which I don't know what the [...] stage of play about Locke's studies but at that time it seemed that was a new angle from which to approach Locke. Rudwick who was also there at Cambridge at the same time as part of our group, he was interested in history of geology and biology so of course, the religious issues and so on were also extremely important in dealing with things he was concerned with. So I suppose all of us were interested in science and religion and I think leaning from the left-wing as most of us were, there is a social dimension all the time so hence we—

R. Uchôa: By that time, did you still considered yourself as a left-wing?

P. Rattansi: [laughter] I suppose so, although maybe the work was becoming now more influenced by Pagel, more sort of ideas rather than... the social dimension is always not quite as important for... some people say about my major work.

R. Uchôa: Do you think that the “Rattansi” that Kuhn invited to Princeton was this one, the first one? [laughter] The one who was involved with the sociology of science? Something closer to the kind of work that he was doing.

P. Rattansi: [laughter] Well, I had a student at Princeton who still quotes my work and writes in praise of my... but he always says, "Look at the early work of Rattansi." [laughs] And I think he liked it because he thought I was bringing the sociological dimension which [...] [laughter]. I don't know, maybe he is right [laughs]. [00:20:06]

R. Uchôa: Yeah. So, you spent four years at Cambridge, and then from there you moved back to London. How was that? How did you get back London, to UCL?

P. Rattansi: [...] it came me a bit of surprise. I was quite well-settled at Cambridge and carrying on with my research. I should have worked, of course much more intensely with the Newton's... because I was at Kings, really, to get the Newton's chemical papers, and religious papers and so on. And I published a paper based on a quite a deep study, I hope, off the papers, but that was the only paper I produced on all this. The rest of the time because I started lecturing for the department of history and philosophy of science, and so on. [...] regretted that I didn't continue working much more intensely on the that I was supposed to be doing at Kings. But I was continuing working on generally 17th century and then [...] this... the possibility of occupying the chair at UCL came rather out of the blue towards the end of my last year at Cambridge. I got a letter from the provost of University College saying that the professor of history of science and the head of the department had retired and they were looking for somebody to replace him, and they were writing certain people who could apply for the chair. And so I was one of

the people who was approached to apply for the chair, and I did apply for it. And [...] [laughter] to be selected to fill that position. This happened towards the... I suppose towards the end of 1960? Yes, I came to UCL in the winter of 1970. So this [...] must be happened in '69, late '69.

R. Uchôa: How long did you spend at UCL before you retire?

P. Rattansi: A very long time. I was at... I went there in '70-'71. The academic year '70-'71. And I was there until the age of... I completed my [...] retire at the age of 65. And it means that I occupied nearly 30 years at...

R. Uchôa: 30 years?

P. Rattansi: 30 years, yeah.

R. Uchôa: And what were the main challenges, in terms of... history of science, it seems to me that it was a new area if you compare with other areas of study at the university, and I think that has something to do with the university budget and other administrative things. So, how was it?

P. Rattansi: Yes. I found that the... of course, most of my life, I had not occupied this sort of position, which meant that I had to take departmental decisions or head the department or things like that [laughter]. And neither at Leeds nor at Cambridge did I occupy that sort of position. And it was quite a challenge for me to become head of a... to this tiny department that really, at one time this was the only department in the history of science in Britain. It started off in the 1930s with one professor, a man called Wolf. Some of his books, too, are reprinted from time to time. He wrote on science, and technology, and society. Something like that in the 18th century. But it was a very... I think it started off as a very tiny department. Wolf was obviously a polymath who could lecture on all different subjects. And I don't really know enough the history of the department under Wolf, but I think the first post-war head was a man called Dingle, Herbert Dingle, who had been professor of astrophysics, I think, at Imperial College. And had an interest in philosophy of science particularly, and he was appointed to the chair at UCL. So I think he was the first post-war head of the department. And it was quite a large department at that time. There was somebody working on the history of astronomy, well-known historian of astronomy, Professor Armitage. There was a professor of the history of chemistry who was, I think, Professor McKey who later became head of that department. There was also a specialist in the history of biology, I suppose. So they did [...] a couple of chairs specializing in these subjects, and on the philosophy of science, I'm not sure if there was anybody until... sorry, the name escapes me. Became quite a well-known... it was an American who became quite a well-known philosopher of science at the University of Pittsburgh at one time. Sorry. I hope the

name will come back but what I didn't completely realize when I took over the department was that the department had been losing staff and losing students for a very long time. And so the only people left in the department when I joined it, was the reader who had specialized in the history of chemistry. This was Dr. W.A. Smitten. He was an expert on 18th-century French chemistry. And there was, at that time, temporary lecturer in the philosophy of science called, a man called Maxwell. So there were already two people in the department. And it was after joining it, I was told that the department was due for demolition. Most of the department in the college felt they had very little to do with the department or its members, and they had been evoked in the [...] board, which was removed at that time, later became the academic board. It's only by one book that it was saved from being cut and surviving members [...] department. But I remember the day on which I went to the UCL to take up my post. And I met the then provost of the university college. He was a very interesting person. Actually, he had been the youngest provost of King's College Cambridge at one time. But then, he went to UCL. He was a very interesting person, very literate, humanist [laughter]. One of the things he used to write book reviews for the New York review books, which was considered very prestigious, I think. He wrote extremely well. He wrote some *memoir* of his time and so on. So I had a long interview with him on the first day when I arrived there. And what I didn't realize was that there was a welcoming party sitting in my department [laughter] waiting for me at the same time. But what he told me was that this is almost invisible department. He said this department teaches mostly teachers who had to take a one-year diploma course. It was then not called MSc. It was called diploma course in History and Social Science. And so he teaches these teachers who come in there every evenings to study. Most of the courses are given in the evenings. He said we don't see many of these staff of your department within the college. They're not very active in college committees because they come only on the evenings. And I hope that you will make it a department which is a [laughter] part of the college. I don't know how much of this was justified with what I told him. Then when I met to the department, I realized that people had been waiting [laughter] for me one hour or something?. The people waiting for me included the two members of my staff as well as people who were in the welcome unit for the history of medicine within the college. The college had a unit on the history of medicine. It was headed by... sorry. The names have gone out of my head somebody went then neurology. I think medicine and neurology - then I had become interested in the industry of neurology. There was also a very famous at that time person, a brilliant person. He later became a producer of plays, musicals, a producer on Broadway, he was an actor himself. At Cambridge, he had been part of the set of brilliant undergraduates who went on to become actors and - and their names will come back to me. But actually, then I realized that I could really put the department to be bigger than it was. They were working, of course, not in my department but in another field. So there was this sub-department - they have a sub-department of the industry of medicine - a part of the medical faculty. Which is only two people, one

was the neurologist. The other person with a sub-culture they [...]. So that's how I processed my first day there. I became aware that what I must do was, of course, to start looking at - because of the University college was a huge institution [00:32:55] . It's the biggest unit. I mean, London University is composed of so many different colleges and UC is the biggest college. Because it has faculties of Science, Engineering, it has so many departments in the Arts and Sciences, huge Chemistry Department, Physics Department, even Astronomy Department. It's really a School of Art, School of Art as well as a School of Architecture the Bartlett School of Architecture is a huge organization. In a sense, it's a great opportunity to teach so many departments and get your students from them. At that time, I think we all thought of History and Philosophy of Science as a subject which should be taught only to postgraduate. Most of the students I would expect would come from the sciences with a small trickle from somewhere else. Some likely, would come from Economics, and Sociology, or from Literature, or History. So, what you had to do was to try and go and see as many of the other departments as possible. And see if they would be interested in options offered by the department. This was my view of the subject. I felt it's my duty [...]. The department before I came had not seen its future in this kind of way. What they thought - their task was to offer this postgraduate degree in History and Philosophy of Science. And to prove people would come from all sorts of particular science specialties, and also, then supervised PhD students. They didn't teach active, they were doing no undergraduate teaching at all at that time. Now when I went to the provost to I said I will begin to teach undergraduate because it is what I have done at Leeds and I've done, of course, the same thing at Cambridge. So, I wanted to recruit... get as many students as possible in my department. That proved a very uphill task really and took a long time to realize that you would never be able to pay your own way. I mean, as the... don't forget the time when I was at Leeds and the time I was at Cambridge, which was the golden age for universities. Lots of money in the system you could put on courses for a very few number of... small number of students the questions asked. But now we would be in the age of austerity and questions that are being asked about why we get to department based on what is your staff-student ratio? I mean, how do you... when you going to ask students to pay your rate? These are the kind of questions we were asked. But of course, when those kinds of questions become very important. They affect all departments. In a department like ours, which relied on getting students from other departments, is such a greater disadvantage. As I found that... I mean, marketing should have been in the science department, and they themselves subject to cuts and things like that. They were anxious to retain their student for their own. And also things like computing was now coming in as [...] told me. That means that students... there's room here to be found for compulsory teaching of computing. So, to spare students to take other options is very difficult. In fact, in the end, I was working on my [...] teaching. So, there was this program to go and see as many departmental heads as possible to say, "Can you spare students to come take our courses? I'm going to sell you courses. I think this is the way to

advance." But the number of students we could get from other departments was never sufficient for me to be able to justify pointing more lectures. So, I often used to try and explain this to the head of the department that, "Look, until we get more lecturers who can satisfy the needs of other departments, we're going to have trouble between us. We had only teaching... teaching subjects 17th Century from ancient to 17th Century, end of the 17th Century. Then I would teach a course perhaps going on to the 19th Century or something like that. That's in my case. Dr. Smitten would teach a course on the history of chemistry from... I know that he used to teach a course on the history of the theory of elements from Newton to Boyle, but he was a specialist in 18th century chemistry. But then Mr. Maxwell taught a kind of general philosophy of science, but we didn't have specialists in the biological sciences, physics, for example, [...]. And so it was very difficult time well spent in all these things in the [...]. I did succeed in getting some student from... history students. The history system is different in many university. They can come from any college. So, I succeeded in getting quite a number of people that are interested in the option I used to teach it at Cambridge, the Sciences, Society and Religion and 17th Century England. But the numbers are never sufficient to make the department alive. Until nearly towards the end of my career at UCL when I was telling you the new head of the college, this was Dr. Roberts, who came, who was the Director of the General Electric Company - very huge company in Great Britain. It was surprising decision that somebody from the industry wanted to come in and head a college. He had asked to visit my department. "The first department" he said, "I would like to visit it even before I take over as Provost at UCL." Of course, it has my apprehensions. The famous figure in post-war British history, a man who was appointed to head the railways at that time, by the government of the time. Beeching, his name was Beeching. He closed down a lot of railways saying, "These are unprofitable branch lines." People now regret his decision. Anyway, I wondered if this was a Beeching type interview that he wanted to see my department first - only the first he wanted to go to tell me, "You're not pulling your weight. You a money-losing branch line. We're going to close it down." But to my astonishment and pleasure, this is not at all the line I got. He came and said to me, "I was delighted to discover that colleges of Department History and Philosophy of science." he said, "I myself came into physics for my first degree because I had Sir Arthur Eddington's book of *The Nature Of The Physical World*. Which I myself had read this book and gotten interested in physics in Kenya, every main edition of this one. He said, "Let me ask you about your department. Why are you so small?" So I explained all my difficulties to him. And he said, "We've got to do something about this. You should have more students." So I told him about this particular kind of dilemma that we can't more students unless we get more staff - we are able to teach more by the range of options in industrial science. At the same time, we are not allowed to appoint more member until we have enough student. So he says, "Let me think about it." He summoned a meeting of the heads of departments of Science and Engineering Departments. He told them the problems of my department. He asked them, "Do you plan to help the

department in this subject?" They said, "Oh yes, yes." "What do you think of Professor Rattansi?" "Oh, we love him!" "But would you send more students to him?" "No, it's very difficult [...]." "Well another proposal, the department needs to get more staff - so that they can attract more students. For example, from some of your departments. So would you agree to give - I forget how many percent - 5% of your departmental budget to this department for the next seven years? So they can make appointments of people who [...], that sort of thing? You teach Physics, Chemistry." They all said, "Well, we would love to but we have so many problems in our department with money." The only department which agreed was the Department of Computing Science. I said, "Yes, it is. We would be prepared to do that." Little [...] acts of friendship with the head of the department [...] [laughter] So after the meeting ended, came to me and said, "I'm sorry, you're not going to get any support from this source. I have another idea, which was this idea that... how is it other departments are viable? Other departments are viable because they have undergraduate students." He said, "You are a purely postgraduate department, but where do you recruit your postgraduates from? You haven't got an undergraduate degree. These other departments have [...] with [the?] intergroup postgraduate. You are dependent on chance factors. Somebody like some of your option and you [...] option to them. So if anybody likes your option, they will come and do it with you. But it's not a good strategy for the assured supply of graduate student." He said, "The only way if you can succeed in this is if you..." He said, "I was talking to the [...] of the science museum and we were talking about the problems of history of science. Because next door to science museum was Imperial College, which also had a small department in the history of science?. Actually there were distinguish people there. Rupert Hall and Mary Hall were there for a while. He was the professor and head of the department. [00:06:41] But they had retired suddenly, and there's nobody to take the place in the Department was diminishing. So then the then director of the [...] said, "Only thing I can see as a way out is they've got to teach an undergraduate degree." He said, "How do you feel about it?" I said, "wisdom in this field has always been you can't teach this subject at an undergraduate level." He said, "Why not? I mean you are teaching undergraduate options and you have taught yourself undergraduates at Cambridge. So why do you think it can't be taught? I said, "But who will offer them any kind of employment?" He said, "Well, I myself used to employ a lot of people as head of the General Electric company." And he said, "Of course, some of our graduates are people who are in highly specialized engineering jobs and so on and so forth. But the rest of them - you mentioned hundreds of them - are journalists. They might have done a degree in literature or whatever, but as long as they have got problem-solving abilities, numerate and be able to literate... this is what we look for in them. We look at what [...] what class or degree they got. But otherwise..." and then he said, "Have you got the confidence?" I mean, he was obviously talking about what you would now call transferable skills. That the kind of options you will be teaching them, will there be this kind of transferrable abilities if you throw any problems in the lap, then you will solve it. I said, "Yes, of course,

we can [laughter]." He said, "All right. In that case, I'll put money into a department, and you can immediately recruit a couple of lecturers." So we started the process, and at that time the department consisted of myself [...]. So myself, and we had appointed a temporary lecturer modern physics. This was Professor Arthur Miller, an American, who was in England and we thought it'd be a good idea if there was somebody like that there. So Arthur Miller and I collaborated in trying to find people who we helped to appoint. And this is when we got... we appointed some people from... people who of course had specialized in the history of science [...] come from different backgrounds, from history, from chemistry and then history of chemistry or... And we picked two people from the States and one of them was Hasok Chang who of course now is quite a famous historian of science in his own right. And chair at Cambridge. Sorry, I'm thinking of... the other person we recruited from the States was Joe Can who works on evolutionary theory. So these were the appointment we made from people from STEM field who were from the States. And we made two appointments from England. One of them is, as I said, this person who specializes in science policy issues. So we had a kind of bigger nucleus now. And I think [...] I was really nearing my retirement. I [...] retire in eight years, I would not see the fruits of these policies. That's how it happened very late in my career at UCLA and just when I was retiring. We had a provost who was prepared to do things and prepared to take action. I don't know what the model is [laughter]. Get a good head of department of college. It's hard to say. I should say by the way, the other departments in... I thought that the solution we had looked at, of going for undergraduate teaching, would be widely adopted [...] university. At Imperial King's College [...] would take it. They did not. And I'm afraid they've suffered as a result. Maybe there are more complicated reasons and I am over-simplifying it. But certainly they didn't go for that kind of way and so the department at Imperial, as far as I know, has more or less disappeared. Department at King's College London more or less disappeared. And Cambridge is a different thing, but Cambridge of course they do teach a lot of students from the science tripos who choose to specialize in. So in a sense they do have undergraduate teaching because in your third year, you can take a subject from history and philosophy of science as part of your first two years, and then you can devote the whole of the second part to history and philosophy of science and medicine. So in a sense they are halfway to that kind of system. In fact, some of the students I had recruited for my PhD students came... people I had tutored at Cambridge when I was there. So that's the kind of halfway system but I don't think you can do that. I mean I don't know whether [...] lessons for you in Brazil, but this is something that we have to face.

R. Uchôa: Interesting. So two last questions I'd like to ask you really. Really personal in a way. It's what do you think of the experience of being in an interview like this? I mean, autobiographical interview in a way. What do you think of the whole experience? What's the meaning of this for you personally?

P. Rattansi: Yes, yes. Well, I mean in a way, many of these interviews I will express to you [...] express to other people but it's a good opportunity to... and look at it. I mean, one doesn't often do this. So it affords me a good opportunity of looking at my own life in a kind of perspective of old age [laughter]. And also perhaps reflecting on it and perhaps drawing, getting new ideas out of that. I don't know how much of it is useful to other people, but it is nice to be able to look back and feel I achieved not everything I had hoped I would achieve, but some of it. And nice to see other people responding to it and being interested in it at all.

R. Uchôa: Of course. Well, yeah. Is there anything else you want to say that I did not ask or cover? Is that...

P. Rattansi: No. Last comment probably would be about my great delight and pleasure at... I mean, I thought I had finished with the field and I was kind of cast off [laughter]. But it's been great to work with... I mean, it was great to see how much interest in the history of science is present in what we used to think of as third world country like Brazil, which is of course [...] world leaders and with China and India. But also the quality of the scholarship and so on. I mean, I work with two professors from here, Ana Maria Goldfarb and Marcia Ferraz. I mean, their capacity for work, their insight, their enthusiasm, their knowledge, their... I mean, much of the detective work they've done the Royal Society is astounding. And the other people I've also come to know here [...]. So it's been great for me to, in my last years, to be able to work again at what I think are good sort of things to explore and which I hope makes use of the experience I myself gained in all the years I was engaged in this field. So that's been great encouragement to me, great... makes me feel [laughter].

R. Uchôa: Yeah. Thank you. Thank you. Thank you very much for your time. I think that's it.