

## Jane Drew Lecture – Hull

In a lecture series organised by Dr Jane Lomholt Hull School of Architecture

(C.J – Chris Jones, JD – Jane Drew, BP- Bimpe Oshisanya, J.L. Jane Lomholt)

C.J. Well welcome everybody to our first major evening lecture. And it seems extraordinary that we kick off with our normal and pedestrian series of lectures with someone as well known and as influential and so on as Jane Drew.

Jane Drew, as you probably know has just been made an honorary fellow, if that is the right word for it.

J.D. I may say I got made a fellow of the RIBA, almost the first. In thought of two fellows, if they could get married. You know I thought sodomy was considered vulgar.

C.J. For those of you that don't know Jane's distinguished career. I will just highlight a few things without going on and being extremely boring about it all.

Jane started her professional life in the early 30's and through the frustration that women had at that time. Well, and probably still have... in terms of getting jobs done with the first female practice in this country... she has undertaken many projects. The best, probably of those... well the most well known of those is Chandigarh in the Punjab, in India, with Le Corbusier. She worked closely with those well known and famous names such as CIAM and the MARS group in the 30s and 40s. She worked on the festival of Britain schemes in the 50s and as I said Chandigarh; in the 50s as well. Other buildings have continued and flowed from her vigorous pen since then; such as the ICA; the Open University; and of course many other schemes in West Africa, where she's very well known for all the kinds of approaches to architecture, which include a strong kind of regional element. She has received many honours through her life. This includes visiting professor at MIT, Harvard, Utah. She's a member of the RIBA. She was president of the Architectural Association. I think you were the first female member of ArcUK.

J.D. It was very nice because... for me, because when I was president the engineers wrote and said. You know, would I as president give a speech for them. They were

very sorry that I couldn't bring my Lady. So I took that up, and I wrote back and said "who did they mean?" I had some charming daughters "I wasn't that sort of a woman."

That's the first time woman were allowed in with the engineers. They had to let their woman in. It's quite incredible what it was like.

CJ. Anyway just to end off before Jane starts to have her say. Just to quote the Independent of last year as they described Jane as one of the most important British Architects of this Century. So I give you Jane Drew, Thank You.

Jane Drew

Thank you very much for that, but I think its a bit like making a monkey draw. If a monkey can draw its wonderful. If a woman can do something well its... I think being a woman is really a help or has been, rather than otherwise. Because when I went to my first office... (I am not starting at the beginning.) They wouldn't let me look at the magazines, because I was so low down. And they all had women secretaries, the whole lot. This is how prejudiced it was. And when they opened their magazines and found I'd won an open competition they wouldn't believe it. I mean, that was the attitude. That no woman could or should. It was a very bad design, and I was very glad to say that it was never built. So that's what happened. Well. I went to the AA. I got in by mistake, because I think luck counts tremendously in life. I didn't know about architects, I'd never met an architect. I only knew I wanted to build. Which was thought very odd by my parents. Who thought being a doctor was a nice respectable occupation. But, wanting to build for a woman was very peculiar. And I went to London University. and met an extremely nice young man, who said don't come here. They do take woman you know but we've got Carpatio, who was professor, he's terribly old fashioned, frightfully backward and you know, its disaster. I came here and it's terrible, let me take you out to lunch, and I'll take you to the Architectural Association, which is very lively... down the road. Well he took me to Bertorelli's, and gave me Macaroni or Ravioli. I'd never been taken out by a young man before. And I though this was stunning. London is wonderful. And he took me to Vernon Lees, who did the school hygiene and tropical medicine. He said, but we've had the

entrance exams and we're only allowed 10% of woman, and all that sort of stuff. I was very downcast and he said let me see. Have you passed the thing we had called matriculation. Well I had, and it happened that I'd got a lot of honours, not because I was clever, but because my parents started me off. I had to speak Hindustani in the early morning. German for lunch, French for tea, and I was only allowed to speak English at odd times. This is parents trying to make their children into wonderful people, you know what parents are like. They failed. I also did ballet, very young. I was at Drury Lane at the age of 12 and then my mother read a book, that girls who did the splits couldn't have babies, so I had to put my legs together. And that was the end of my dancing career. You know they hoped I'd be wonderful. I started on the third size violin. I reached being leader of the violins for the Croydon Philharmonic, 2nd violins. And knew I would never get any better. It didn't matter how much I practiced, I'd never get no better. That was the end of me. So you can't be better than... It's like the school. In Ghana I did. Where they had a sign out over the front " What God hasn't given, this school doesn't undertake to add. It's really very true of life. You work with your limitations, and my luck has been really the chances that I've had. Now I am trying to give you a lecture really in a minute which is serious. The difference of the atmosphere then and now, and how I hope it will affect the present atmosphere.

I went through the Architectural Association in a sort of daze.

I didn't understand construction much, I wasn't very good, and the only thing that helped me was nobody else was very good either. Which always cheers you up. When you know, but it drove me mad working it all out, and then you found that some of the cleverest men couldn't work it out either, so that was alright. I struggled through the AA, not very good; and then I was kept on the straight and narrow path because i had to earn my fees. That was the most difficult thing. And I'll tell you cause there's always a way. My parents weren't mean, but my sister was two years eight months older than I was. And absorbed all the money being a student of medicine. In those days there were no grants, nothing like that. So I went down the High Street it was the worst summer we had. And I asked all the shopkeepers whom I knew cause I did the shopping because my mother was paralysed. I asked them If they needed a son or daughter who needed coached. And they all had. I used to coach the High Street in that time. I made my money. I didn't do very well, but it was my first experience

teaching. And it stopped me accepting invitations out in the evening, which was terrible for girls, because as I've said before, if there's ten girls and fifty men you can have a hair lip and a squint as a girl and you'll be asked out. Well, you got an exasperated idea of your charms. And it's very bad for your working life. And they limited the number of girls, so of course the girls couldn't work they were having to much of a good time; which is really what happened. You wanted a few more women and that's very nice, but not such a disproportion. I noticed today as they were giving these prizes, that there were quite a lot of girls doing engineering. And I was really glad to see it, because - unless you can understand structures it's very hard to get away. Well you know Utzon, he really thought those curves on Sydney were shell concrete, whilst they are all cantilevered. It probably counted for the death of several engineers working all that lot out. He didn't understand structure you really have to understand and it has to be well taught.

Now I'll go back to my life. Well I did struggle through the AA, and I did get into an office. And I did win a competition. I had £300 and I thought I was a millionaire, absolutely. I was determined that if I had an office I'd... I had known all these men, Wells Coates, Maxwell Fry whom I later married, all of them said to me you know we don't take women. And all of them had a female secretary. What they meant was, they only took women if they could be in a subservient position. Luckily all that's gone now. But really it was awful. Anyhow I had women and every one of my clients were male so that was alright. And we thought we were terribly important. Because of the war I was given things like sea rescue craft factories to do. You know, I don't know if any of you are practicing, but architecture is a terrifying business. I had to do slip ways for these boats on the Thames. 60 footers and I'd never designed a slipway. I didn't know how you designed a slipway. I remember hiding behind the bridge at Walton on Thames. When they launched the first ships being absolutely certain they'd sink, because... And it's the same with a lot of architecture. I mean the first time I did a high building which was in Singapore. I had to do it in a hurry. I really didn't understand. It held up you know, and I didn't have very good engineers either. I had a wonderful contractor who said 'can do' to everything that he could. Apart from that, you know it's terrifying business. I think there is nothing more frightening than going to see your job and seeing whether it looks like you imagined it would be. Well as I got to the end of my period at the AA I became aware of the people like Tallick, Lubetkin and The MARS group all of you know? No, it was a group of architects. The

English branch was CIAM. Which was a few architects every country all over the world who wanted to go forward to what was called modern architecture. There was Alvar Aalto, who drank us out of House and Home, but never mind it was worth it. There was Corbusier, there was Van Eyck from Holland, there was CIAM there was Giedion from Switzerland. None of us paid a subscription. It wasn't a thing to do with money at all. We were all determined to use the new engineering which was terribly important to us. The new possibilities like central heating. I remember it was Maholy Nagy giving a lecture. I think it should be pronounced Maholy Nage. He'd say "instead of the wall we have a zee air." I remember someone lobbying him at the back of the room saying, "Would that be hot air?" "In zee winter we have zee hot air. in zee summer we have zee cool air." But literally it was a complete revelation. Central heating was new. The fact that you could span a big area was new. Concrete, although it existed from Roman times. That you could do these new structures. Miles of wonderful bridges, all that was now new, and what we also had as members of the MARS group was certain scientists such as Branovsky and I am wondering whether any of them are still alive. Bernal, Desmond Bernal, who were having a new view of life. That life was going to be different and every country, the architects, the architects from each country, had the same program to do. One year it was a minimum dwelling. The next it was what people should have near their house. We were all left, I mean, I think everyone was a socialist. Our whole idea was to revolutionise life, and what factories should be. The factories should... it was even more important to have a good ambience in a factory, or somewhere where you worked, and it wasn't a place where you just slept and ate. And there was this complete revolution of ideas which we discussed 'til two, three, four O'clock in the morning. And we went to a different country each year with our schemes, and then tore them to bits of course, through everywhere... We didn't go to hotels. Denys Lasdun was one of the people, thinking of the English. The English were rather a small group. That was the MARS one. But we were determined to revolutionise life, and with my little women's office in King Street, St. James'. I had a completely false self confidence. I thought the RIBA was impossible, and I thought we should have an exhibition in the National Gallery, about a new life. And I said "Who is the head of the National Gallery" and said it was a man called Kenneth Clarke. So I went to see him. And you've obviously seen him on television. And he said, "well who are the members of your committee?" I said I hadn't got any members yet. First of all I have to get hold of the National Gallery. He

just looked at me sideways and said, "Look, you're a young girl and don't know about the RIBA." I said "No, I don't!" He said "You tell them that I am a member of your committee, you'll find they'll all want to join!" He was absolutely right. I went to the RIBA and said I've got the National Gallery. Three of them were... They had an exhibition on re-building and that Sir Kenneth Clarke, he was a member of the committee. They clearly changed their attitudes. Everybody wanted to eat out of my hand. Could they join? Holford, Holford? And everybody. It's a bit of psychology how it works. Anyhow Kenneth Clarke was wonderful to me. And we actually held the exhibition. And that was a time when the Bebbarage, Bebrage report. You're all so young. You don't know any of this, class / past history came about. You know school children would be given milk, and they have a better life, and all that. And Bebbarage said to me, "I'm totally visually blind, but I see the point, and I'm sure it matters to have green belts and good industry... things." I mean he was such a great man that he saw what mattered, even though not to himself. He went around the National Gallery. I said "which pictures do you like?" He said "I told you Jane, that I was totally visually blind." Interesting isn't it. But I see that it matters. And that is a thing that I don't know where I learnt it first, possibly from artists! I made friends with artists. I don't know how it happened. What you have to do. What's the trouble in this country is that nobody sees that art is not a luxury, it is a necessity. Now I'll go about what happened to me after that. Working in Africa, doing all the schools in Ghana, doing the university in Nigeria, and all the rest of it. In all those countries, however primitive they were, they made beautiful things. Because they had to make something. To make art a really lovely experience. It is not an extra That's why I don't really agree with these people who want to put a percentage for art, like a broach, onto a building. It's part of life, to make a wonderful experience. And that was what the MARS group gave me. It came from people like Le Corbusier, and all the rest of it! That one could change life well, it didn't change it much. Probably helped a little bit, to get the new towns going. Having that exhibition and the books and things, and off course the RIBA is rather inaccessible, having the National Gallery. I think all the books, the paintings were in caves in Wales. You know, to be protected from bombs. That did help a bit. Well then we'd been pressing very hard for a ministry of Town and Country Planning and in those times there was a ministry of housing and a ministry of transport. We've gone back to it, losing the GLC and all that. There was a general ministry and one day the general ministry arrived. And it

was all over the papers. There was going to be a ministry of Town and Country Planning. And the man named Straus was going to be head of it. And he chose the dreariest architects you could imagine. I wrote an extremely rude letter, I said "Dear Mr Strauss, congratulations on being the first minister of Town and Country Planning. Why have you chosen the deadest deadwood possible as architects to go on your ministry!" I mean that was awfully cheeky, I mean I had no right to do such a thing. To my horror he phoned me up, cause in those days, I hadn't treated my private life separately, and I was keeping two children, and I was sleeping in the office, and you know getting out of my camp bed, making it all proper before my staff came. And I kept it a good old secret that I hadn't gone home. You have to do these things, architects are never wealthy, not to start with. Anyhow, he phoned me and said, would I come up to him? And I went to see him, and when I got into his little waiting room, in a horrible building opposite ICI, by Battersea, one the most dreary ministry buildings, I saw he had a Barbara Hepworth in his waiting room, and I had hope, I thought this man knows about sculpture. He had Jim Richards book about modern architects, and I went in to see him. He was one of those, who was it that said it "The rich in their Rolls Royce's, with loud and strident voices. Strauss was obviously well off, three plums in his mouth, and you know all the signs. He said, "You know your possibly right about these assistants that you say. I got all the names from the Royal Institute of British Architects." I said "well they're awful.", "I want to see you, but I have a very important meeting with a minister, he was a minister or something or other", "Would you have dinner with me tonight" The Ivy restaurant, I mean it was a lovely restaurant, where all the pretty actresses went, you know they'd meet each other and say "darling, and what are you doing" I mean it was lovely. I went and had dinner with him, and we talked. I found a real enthusiast for art and everything. And he said, "I've been thinking about the RIBA. You tell me who are the good architects and why!" Well I said there's Wells Coates, he's excellent, but at the moment he's in the Navy, and I went on, and I said Max Fry, who I'd been living with, I forget whether I was married to him by then. He said "Max Fry, Swinton was asking me, where did you say he was in West Africa? Max had volunteered for oversea service, Swinton was asking me for someone to plan West Africa. Do you think Fry would do it?" I said, "I don't answer for my husband, or whatever I called him, very distinguished man, and I think you should ask him yourself, whether he would care to, plan West Africa." He said "They're all colonies." So that was that. And at thirty nine

I had just got myself ready to do what I wanted to do. I was doing prefabs, kitchens and all that to go in the prefab houses after the war. I had got Bristol aircraft to make marvellous things, it took a whole side. Which had eye level ovens, washing machines, and the whole lot could be got as one. Mind you I never got this through because the head of the ministry said "You don't realise Miss Drew, the woman's labour in the home is free, and it doesn't help the economy to save them." You have to see why girls get a bit hot under the collar, with that sort of thing going on.

But anyhow I was going over to America, I might as well tell you I was in a double role I was also in MI6, look they weren't in the war then. That bit is not to be published but it is quite true. I was going over and then I got a cable from Maxi - will accept... can... West Africa if you will join... offer you Nigeria. I knew with this devilish attitude I wasn't really keen too... He came out, he fought for me to come into America. He told Swinton that we both ought to see the Tennessee Valley, Well he was quite right. It showed you a complete transformation. Roosevelt was absolutely wonderful, do you all know about Tennessee Valley and the new deal? No! Oh how nice. You're so young. Well Roosevelt was the equivalent of a Labour, well as near as to Labour as you can get in America, in that materialist society. He decided that there should be an enormous Dam at Tennessee, Nashville. Which was a very poor part of America, where particularly the black population were treated rottenly, because in the South was where most of the slave landed up and their progeny, and it was really ghastly. They were in shacks. You know almost worse than our cardboard city, because it was so hot it was terrible. And he had put this Dam in, which changed the whole situation. Electricity was extremely cheap. The land flourished, the water came down. By the by, when we went to Chandigarh, it was exactly right to have done that 'cause they were putting in bore holes for water, and we thought this was absolutely no good. They chose Chandigarh for the Indians, because they thought it was a Holy place. I mean you couldn't start the building without the astrologer saying it was the right day, auspicious and all that. They had actually chosen the base for the new capital because a Holy man had lived there and left their good spirits behind... which would guide one into good ways. I mean it's a most beautiful poetiquette, but it doesn't find you water. And we put in this enormous, sorry I am jumping from subject. We put in this enormous Dam, which allowed Chandigarh to have a very good lie. And the green things to be green and the lake to be a lake. It is amazing how you do need, some very big engineering projects to go with these things to make them



come off. But anyhow, that did land us both in West Africa. Where we had a starter for six to plan... town plan, four colonies Nigeria, Gambia, Gold Coast and Ghana as it was. We were given a lot of plain freerain. That is to say we could.. I had lost a lot of battles with Encrumar, well one was bound to. To try and preserve all the water at the area of the seashore; also lost part of that in Nigeria. But we had a very sympathetic head in Nigeria Governors, who'd insert the laws which would help town planning, and help the housing. It was really interesting the first time I came in contact with absolutely primitive people. Going up among the pagans in northern Nigeria, they looked at me askance, to see if I was dirty pink all-over, and would they be allowed to see a bit more. They literally had never seen a white person before, and when you see what has happened to now. They are affluent with the oil... it had come, helping of course, and with it the intelligence. Are any of you Nigerians? (question to the audience)

B.O. (answers), Yes!

J.D. Do you know about Ibadan University?

B.O. Yes I do!

J.D. We did the first University in West Africa, we managed to twist... Swinton was very nice... He was our Boss, he was marvellous, he just phoned for a plane... you came back to England and queued for a bus. It was very nice to be able to get this across. It was shameful really. The British had been running those colonies for ages and giving them no education. And really education is the best thing you can give anybody, and morality. We had a hand at giving them a certain morality, the missionaries, I am not religious. The missionaries had done very well in teaching them morality. Now I'll tell you a little about the work in Nigeria. The first thing is there was no building industry. We had to set one up. Now they were talking about being practical in that speech today. If you can get a bit of earth and roll it like a sausage and it doesn't crack, you could probably make bricks out of it. So we went around rolling earth. We set up a building research station and we started doing a lot of stabilised earth building. Because the income was so low that we obviously had to use very cheap material. Incidentally we did the same in India. Very high technology

and very low technology. We set up a factory in Delhi for making post stressed pencil concrete beams because there was no wood to take the weights of things and we couldn't make something that would carry. And so, these you could take down those bumpy roads and they didn't break. Very high sophistication, but we did do all of the insulation of these roofs with a stabilised earth, which is a subject all by itself and it was a combination of very high and very low technology. I think you must learn a great deal here in this thing. You've got to be very adaptable in your mind. When I taught at MIT one of the ways I got people to be adaptable was by putting a ban on all sorts of things. I said I want you to design whatever it was. You may chose this that the other, a whole lot of things. And there minds started working. They suddenly thought you could pick off the doors. They suddenly thought their brains worked, it could be good to put some things high. You could have a high level refrigerator. And why just a high level oven for lifting things in. To make people invent you've got to put blocks. I think invention and curiosity are one of the things that goes forth.

I think I've talked for rather a lot. I'll show you a few slides. And try and tie it up.

Now this is our building labour in India. I want you to imagine about 20,000 refugees coming over the hills with just what they've got on their backs and no possessions. Trains coming into Calcutta station, full but only the train driver alive. This was exactly the situation in the Punjab when we went out there. We went out there persuaded by two. I'll tell you how it happened. One day a friend who had coached me for broadcasting. I was so bad. The contact was meant to be very good but the delivery was full of nerves. She said I've got two Indians coming for tea. Would you have them to tea in your house. She was very nice to me in India. I said well we don't really have tea in the office but I will certainly. And two men arrived. One was called Thapar, he was an administrator, and the other was called Varma, and suddenly out of the blue they said we want a new capital of the Punjab to replace Lahore, which we've lost because it has gone to Pakistan with the partition of India. And we've also lost our architect we appointed a man called Nowicki whose been killed in the air play. Mr Nehru has read all about your ideas. Now you imagine this. You imagine Mrs Thatcher saying, how she had read all about our ideas. He knows that you think there should be nursery schools near homes. We should have all sorts of amenities for

the housing, and he wants you to do work that will set an example to India; free of all the traditions of the past. You can send that one to print somewhere else. And that was what Nehru wanted. He wanted something that would lead India forward, with new ideas, and give hope to people who had lost everything. When I say lost everything. I mean they had lost everything. Now these women and men had walked 600 miles, because there was a smell of work. And that was the first thing we found that was very difficult. That was how to get the money down to the people that needed it.

The Americans thought they would be very kind to us and they sent us some excavators with Forbes high cores in them. But our difficulty was to get money to the people who had no money and who were starving. So we thought we couldn't just refuse it. We put 700 hundred families on one side of the ground and excavators the other and we found the 700 families were quicker and cheaper than the excavators. So we thanked the excavators very much and we sent the excavators to Delhi. But we had to consider this business of feeding starving people the whole time.

This is about fourteen floors up. The donkeys all walked very nicely up the ramp. For the hospitals that I did. I did two hospitals. I did ramps and not lifts, we couldn't possibly afford machinery for the lifts. And Corb did the same thing. He used ramps and they got wonderfully skilful coming down them... on bicycles I can tell you.

Now this is the plan of Chandigarh

Now the idea was, owing to the xxx Dam we managed to get water at last. The water should come right down, through all the sectors. The sectors to give you an idea of scale. Are half by  $\frac{3}{4}$  of a mile, and in the green part which is bigger than it looks there. In all those sectors we had near people, health centre, nursery school, and some we had open air theatres, all the amenities you need within the communities. And in the other direction we had the bizarre streets, which had all the sort of cheap. This is a sort of labour thing going. Corbusier did the plan in one week; he did the main plan because he had been thinking about it all his life. But really it was all the work of the MARS group and the edges of the sectors. These are the fast roads where you can travel fast, and the road that the road that feeds the housing is a slow road, because the idea is that people are naturally disobedient and tempted. And there is no use putting

notices like 30 miles an hour and 20 miles an hour, people don't take any notice but you want to make the roads such that it is very difficult to go at thirty miles, unless you were a very daring young man on a motor bicycle. They might have a chance.

This is Corbusier's high court. And to show you how the great can make mistakes, because his idea was to put a parasol over the building for the roof. And keep it cool underneath. And he worked out very accurately all sun shading everywhere. But what he didn't do was find out that because the temperature went so high in Chandigarh during the hot season, the concrete gave out more heat than it gave shade. So what he had done was build a radiator around his building. Well I am afraid the whole thing has had to be air conditioned. But it made a very useful form. The idea is really for all that. Now you may think that is very overdramatic, for a high court. But you must think of a historical perspective in which this was built. The trains came in with people murdered. We did an analysis of the murders in Chandigarh later, were all about Women in the cold time of year and water in the hot time of year. It was rather interesting, absolutely just like that, but at this time it was to make law and order after this frightful murder after partition. I mean you probably can't imagine a train coming in full of people that had been killed. But when Max and I used to pass a bus. We either dashed for it with a jeep. So fast that we only didn't get shot or reverse, because we were terrified out of our lives, and so was everybody else. So it had to be very dramatic the high court. And I think Corb was right to do that. Now by then that is to say Max and I knew a great deal about climate. About how to cool, about having water, and we couldn't use concrete because it's much more expensive. Eight times the cost of brick. We did all our work in brick. The cheapest, the street of houses I did cost £175 each per house. And we managed to get sewage out of that and water to everything. And our aim was not what you could put in the house to add, what could you do without! You could do without door handles, you could have a latch. You could do without plaster. Everybody could do without plaster. You could do without doors. You didn't need to have doors between rooms. You could put a curtain up. So our thing wasn't what you could add, but what you could subtract.

That's just to give you the scale of things, it's a most poetic idea.

And of course roof gardens we did everywhere. They really flourished and it's really a shame that we don't do anything with our roofs here. Just gave flat roofs a bad name and they never made anything beautiful and imaginative with it. They were very good gardeners.

Now this one of the early sectors. This is a plot of the road, a road that goes that way, and the bizarre thing, is such that in this direction it's for contemplation, and green and exercise, jogging and all that. And we have an underpass for bicycles. One of the good inventions is bicycles. And that one rather grew like topsy. A figure of eight road feeds all the houses. What we did with various house, types of housing. Was we built one then we had horrible post mortem arches, where people could grumble about what they would like. And we made terrible mistakes, because on the roofs we didn't put high enough walls between one roof and the other. Indians all sleep on the roof if possible. For the higher grades, and the Sikhs were so amorous, it was really a very big problem.

Now that is a very cheap housing, we did without downpipes, that was one of the first things you could do without. We put spouts everywhere. We announced that bricks would be 30 shillings equivalent. I am doing a translation for a thousand, and brickwork sprang up all over the place and we would never pay more. These are the very poor. In the planning this is all par top that sector. What we did was, the more poorer person, the more common ground we gave them to have a joint place where they could play. We tried to teach them in the health centres how they could grow things in the gardens to feed, and they built their own temples. That was private enterprise. The reason that the windows are long like this is because we had to separate ventilation and lighting because people sleep after lunch in the hot season. And it is too hot to sleep outside. I'll come to Persia where I did a lot of work later, where conditions were even more rigid.

This just shows, as they never had. Chandigarh was the only city in India with a complete sewage system. It's rather a thought isn't it. And as they weren't used to WC's we joined them at the bottom of the garden. They sleep in the garden because of the forest. We couldn't afford to put stairs and things up to the roof. And one thing they prayed for. This is rather. That's a kitchen. We made mock ups and asked them

all about the things. But you know people don't know until they experience. The sweepers and the forest people grumbled at me because I hadn't put high level ovens in. They had seen them in all the. They had 13 grades. You were doing all the govern. We put high level ovens in. And they said well why can't we have high level ovens and cook up high. Why should we be left to be down on the floor. That was rather interesting, also psychologically I think was interesting because that the very poor and the very rich were open to new ideas, there was a sort of Clarke milieu in the middle and they wanted things just like their mothers . I think we've got a lot of people who turn out like their mothers and don't leap forward. And I don't know what causes this block.

These are our roofs for the pre-stressed beams and the mud insulation.

This may look funny, but it's one of their gardens. We taught them how, from practically no aners at all they could grow things. And now they have grown them everywhere. Their grapes, everything growing all over Chandigarh. As a result of the fact. It just wasn't a habit of them to grow their own vegetables.

This is a better type of house. We had in every case we used to take the electricity in with the building. That was another thing we could do without. These pipes below ground which cost so much. They used to join from one to another, and carry in the building itself. I don't know why we had all of our street services separate here. It is extremely ugly if you don't combine it in with the building.

That would carry the pipes across, and the lighting is coming off the building. Remember we are saving pennies. If you try and design a house for £170 you haven't got much to spare, even taking into account everything. So we tried to cut out all the unnecessary things like trenches. Nature of course has got landscaped.

These were the very cheapest ones , where I had no money for wood at all, those were for the people who were very poor, I couldn't afford much so I just did staggered brick work to get the light in and those were the very cheapest ones, and then they built there own little temples.

That's the lake, just to show you and next to some of Corb's buildings. That was inspired by Middlesborough tower things, that Corb did that. And it works with the sunlight, he's absolutely marvellous with what he does with the climate. But having that lake was terribly important to have somewhere, where people could relax and enjoy themselves. I tried very hard for the open university. I managed to put a little night club to relieve the tedium of life, but I never got away with the water. I was promised it for a lake. You have to have these things. If I was asked what was important for a college or a University I would say a lake was almost an essential requirement.

Those are the shops, which I got the refugees to build themselves. They were all built by unskilled labour. They were very happy to follow a set pattern and we gave quite a lot of freedom inside, and I had the disagreeable job of doing the byelaws. Which we did all by drawing. The nice thing about drawings is there are no language barriers. You can do drawings for your byelaws and don't have any of the trouble with words.

That's one of the nursery schools. Jeanneret did that. It not, but we had lots of nursery schools, because women all worked.

That was another one

That's one of the swimming pools. We put open air swimming pools free in all of the sectors. And also open air theatres. This was Nehru's' ideas that life should be a pleasure and that it should not. It was very difficult to start with. The women were frightfully shy of going in the water even on a different day. Even a name like Teethun. When I went last time they were all swimming in there together. It is really nice to see how quickly people will lose their prejudices. This is the idea is, all architects have a paradise in their minds, when they are doing any design and try and get somewhere near it with their buildings, to make life as enjoyable as possible.

That's one of the health centre's in the course of construction. But the health centres, we made a lot of mistakes. I talked about the family planning we should do. And the man said the best thing we could do was to have necklaces that the women would wear, with safe periods and things like that on the beads. And that was alright, but the

only women who took these necklaces were the ones that were too old to have babies anyway. You know like dying your hair, it's a youth sign. So that was quite difficult, we weren't very successful over family planning, they were just very sorry for somebody who only had two children.

Now moving to Nigeria, this is a stadium that I made. Because we didn't just do mud buildings out there. The actual artwork was done by an African, I think it was no difficulty. As I said art is a necessity not a luxury, there was no difficulty in finding a fisherman or African who would be delighted to do some of the artwork.

This was done with practically no building equipment either, we had none of the facilities that you have here.

This is rather interesting because I found that most of the Moghul architecture was mostly because of the light. We couldn't have any representational thing of a human so for fun we put the plan of the college there. This one of the first noble colleges or not working for the Emire of Ghana who was delighted to have me as an architect. Because he had almost a hundred wives, and he couldn't show them to men, and he showed them all to me. And I felt absolutely awful, because he put me absolutely in my place with these. They said to me, what did I do for a man when he came to see me. So I put on some lipstick and I had some eyebrow blue, and I shaved my little tricks, but he said like the important thing, the rest of you. We put something on our hand, fingers. And he said is that all? And I felt like someone who only washed to their neck. They had new designs down their back and front. And I could see that English women were very unsatisfactory. Now because of the intensity, we put a thing up at the top for the water, wherever we built we had to collect our water from the roofs. Practically everywhere. Not in Chandigarh, because we could do a major job.

But doing these schools one off. We collected the water off the roofs. We filtered it and treated it with chemicals for drinking water, and we did others for WC's we had a form of WC, I don't know why they won't use it here. Where you had a three for the big job and one for the small job, you know what we waste by way of water, by these two gallon flush things is nobodies business. It's very difficult to get water there. And



why should we waste it? Why they won't do it here I have no idea, well there you are. You also found people couldn't stand the sight of sharp corners. Working in the North of Nigeria, because the sun glare is about double that of the overcast south.

Well of course for the Moghuls and I can honestly claim to have built far more mosques in my life than I had churches. We had always to provide a little mosque for this praying five times a day. Every good Mohammedan, even I the train takes his compass and even if he has to lie across a corridor he orientates himself toward mecca and you now in this school it set the same. We also planted hundreds of trees to get it as green as we could.

That of course is a water tower. And you notice the architecture changes. You understand why local architecture is different because mostly it is in the dry heat where you get quite a different needs.

Now this is in Ibadan University, one of the colleges we used the tribal symbols to start with in the balconies. This was all done by the by with wood shuttering. And there was no load bearing stone. This is was a first ...which won't take any weight. It gave some relief from concrete. And each student had their own room , their own balcony and we put WC's in each block but a little separate at the end, because they weren't used to them. You can't suddenly force a new habit on people, when they are not used to it, and they do awful things to start with.

This is later on. This is the arts block, we gave up on all the tribal business because they were becoming very westernised and there was no need. Incidentally one nice thing was that we made everywhere so that people could dance. They danced marvellously. And the lighting is all under these flower things and the trees have grown up with shade above. And the fun of doing a high life building I think you know Nigerians get even old people like me dancing. Its fantastic, it's real life. I won't go into the details of the design, I think it is enough I think to show.

We had great fun with concrete blocks, we just made blocks. Things that were simple to make. And because of the strong light you get lovely shadows.

Now this is the library we had no money for things like air conditioning. No luxuries like that, least of all landscape. We had to protect against insects, because the books

would get eaten otherwise. So if we hadn't put some sort of screen in it would have looked rather like meat safe. So that is really what is holding up all the screening. It's just open right through, and what delighted us was Americans who asked what kind of air conditioning we had. We had none. Right outside the money situation.

This is our attempt at landscaping which involved going into the high forest and finding nice shaped things. And we made a lot of mistakes, cause we put things like cabbages there. They looked very nice shapes to us. Later on we did start to landscape because we had such beautiful forms.

Now this I really enjoyed. I got asked one day if I would go out to Iran and build a number of towns. They thought I was a man by the way. I've had a lot of that. But I looked up the place in the Encyclopaedia Britannica. It looked exactly like the beginning of Dante. That it was unfit for habitation. Flames leaped hundreds of feet into the air. Which they did from gas things. And that no-one could survive, And I thought this was really fun. So I went out there. I built one or two towns, and I had my own helicopter which I thought was pretty damn, I'm trying to impress you.

Now because it was so hot, I had to put sweet earth in everywhere. I used oil pipes, it was all you could get hold of over there. Oil pumps in the most peculiar places. And we eventually with the sweet earth we got all this green, the whole thing in time to come, but we actually got this green and I did a lot of things for Bactiori and in the end I was made a member of the Bactiori tribe, a blood brother which was also a great pleasure for me.

I wasn't trying to copy Persian architecture, but I had to put something at the ends of the streets, but I had to put something because sand would come up to there at the wrong time. I put these dust walls in front of the houses with automatic shutting dustbin lids. Because about 60 % of Iranians in the south of Iran had eye disease from the flies and from the sand. If you are going to be sensible architects anywhere please go and look at the medical records. Anywhere even if it is Hull. You may think you know all about it, but you'll get a horrible jolt when you really find out. I'm sure where I live. Something is causing the arthritis that everybody has got. Well they had no concrete there either, and I used the local stone. And the Bactiori tribesmen who

had lived in tents managed to build this and there of course I could use air conditioning and fans. But they are such nice people that when I went in there houses after I had put fans in, there was always a donkey that was having a baby, that was in the room with the baby, and this was there way of looking after them.

Back in Nigeria, I must tell you a nice thing. This is the women's college and unfortunately, unfortunately I may as well tell you because it is life, the head said at the college, said to me Miss Drew " I don't mind the men getting in, but you must make it more difficult. And I had to make it more difficult with protection here and there. And this is attempts at landscaping using things out of the high forest.

We had to do chapels of course, in fact we had to cater for many religions, this was just done by totally untrained fishermen. They had such a sense of design which we lack, but it is really wonderful. The markets they arrange things so well. We seem to have lost it. A chap did this in about two weeks. Very pleased to do it too. It's probably very truthful, I mean much more truthful, than the pale dirty yellow pink Christ that appears in many of the sops.

We used this stone where we could, but I mean it won't take any load. This is, we had to put a High Street feature there because it was so big the university, that in time we had to make something to make a sector. And we had to cover in between all places because of the sun. And then the cars took the space which were meant for people. One interesting thing is that clock up the top. It only strikes one note, because the Nigerians, in Eurova, have such good ears that they can tell the tone. It's a drum language really.

Is that the end. Just let me check.

I think I've talked enough anyhow, ok Finish.

I think I've talked enough.

C.J. Have we got any questions?

C.J. I've got one question, what word of advice would you give to some of our first years, who have just started off.

J.D. Oh I mean aim for the moon, make your first mistakes anonymously in somebody else's office. That is very important. Well I think the first drawings I did in Joseph Cole's office, I mean, I didn't know what you took off for hardwood and what you took off for softwood, or all the rest of it. I would hate to think of what happened to those things when they were built. My life was very happy, because I knew I wasn't any good, and Charles Loughton who was an actor, and Elsie Bangster, who occupied a flat over the office, and I'd sneak back with my key in the evening to go over the drawings, because the people in the office were I say very horrid to me because they used to paint big red marks around my mistakes on the drawings and they used to take hours to get out. We had to do everything on linen those days, everything was done on linen, and it was very expensive. And I regret to say, it's pathetic but true, that my linen used to have white patches where I'd cried over it, well I made the worst mistakes, and I couldn't possibly afford to get another sheet. That's the early days. You can imagine my drawing that I won the competition off. They had all been so bestially to me. £300 doesn't go as far as I thought it would.

I got £3:00 a week, you were very lucky to get a job.

If you are starting, work for somebody whose work that you like, that is very very important, because it makes you have to deal with somebody whose quality is worthwhile, you'll slip into good habits, or you won't develop good ones. You must work for somebody you admire. When I went to America, I realised how much I didn't know. I think also I would advise anyone to go and work for a little while in America, but in Harvard if possible, where there are good architects. If you asked me who was doing good architecture in England, you know I'd find it rather difficult to answer. You see in France we had these cultural people like Mitterand and so, who all care about architecture, but I mean we haven't got it. I mean look at our ministers of the environment. I mean no-bodies house is worth looking at I mean Mrs Thatcher bought a Barratt home, and the rest of them, you could see at once they don't know anything, they are unfit to govern. The reason that Corbusier put the government centre in Chandigarh in a beautiful setting with the mountains was in order to

cultivate the minds of the people who were governing. And it was very important to do that. I mean we've got a race of shop keepers.

Mitterrand you know who is really claiming the whole of the virtues of Rousseau and everybody, was cleaning up the 75<sup>th</sup> arrondissement to make it very smart, so they had special dog loos. But they don't of course use a French poodle in the pavement to guide the dog. They got a German dachshund, whose taken to the pavement with his little nose. That you have to follow. He's a smart monsieur in the morning. Going off and there would be a dustpan a bin in case there dog does it where it shouldn't. You get fined if your dog does it in the wrong place. You have to clean it up and take it to the dog loo. But the result is you've got really clean pavements and its really nice, in fact the whole of there new loos are extremely nice. And the whole of those things, and I mean the pyramid and things are full of hope, and new buildings for the chuter and they haven't got this backward tendency, I mean people go ga ga about heritage, and I would like them to preserve buildings but what I would rather they did was to get really good artists and architects who can build things which are marvellous and better than the past for the future. That's what gives hope, that's what wants to happen. You know if any woman architect comes me and says. I'm having a difficult time. I say do some good work. I mean thank god for Eva Jiricna. Do some good work and you won't lack it. You'll get it somehow, most unexpected because you are doing architecture and forget there are a lot of people out there looking for someone who does good architecture. There are and you know you have that how will I ever get a job and all that feeling. But you will, even a tiny job, even altering of your aunt's back yard, someone will notice if you do it well.

C.J. Any other questions,

J.D. I don't think like there is much to tell them. I mean they probably technically. They can all work computers and things.

J.L. Take your glasses and your bottles out with you please.