Mette Warburg

Personal Details

Name	Mette Warburg
Dates	Born 1926
Place of Birth	Denmark
Main work places	Copenhagen
Principal field of work	Hereditary eye disorders
Short biography	See below

Interview

Recorded interview made	Yes
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Personal Scientific Records

Significant Record set exists
Records catalogued
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BIOGRAPHY

Mette Warburg was born in Copenhagen in 1926 and qualified in medicine in 1952. Initially entering Pathology, she turned to Ophthalmology on account of the lack of career prospects in Pathology in Denmark. She developed a special interest in ophthalmology of the mentally retarded, both for the provision of visual aid services and in research, particularly the delineation of new genetic syndromes involving the eye in multiple handicapped children.

INTERVIEW WITH METTE WARBURG, 23rd SEPTEMBER, 2004

PSH. It is 23 September 2004 and I'm in the Royal Library of Copenhagen talking with Professor Mette Warburg. Mette, what I often do when I am talking to people is to start at the beginning, but in your own autobiographical article,*[Warburg M. (1996) If only you do it well. Ophthalmic Genetics, 17, 133-144.]* which is very enjoyable, it does it so well that I don't really feel I need to go over everything again. But the overwhelming impression I have about your early life is the huge freedom you had.

MW. Freedom?

PSH. The freedom you had to roam as a child

MW. That's right. We were very free. I have often speculated how that could be. Of course fathers were never there, so what sort of a person was my mother since we were so free? And I believe she was naïve, being brought up with little contact with the present world.

PSH. Yes, but children just couldn't do the things you did, now.

MW. Not those living in the town, but where I live now, in the village, I can see that that is what they actually do when they come home.

PSH. That's nice.

MW. Yes, but so few people live there and so few children are born in villages today.

PSH. Yes, I think it's something we've lost and I think it's important that you have recorded that as you have. So, if I can skip the early time and the war years and come on to when you'd qualified in medicine, am I right that you went into ophthalmology because you were told there would not be prospects in pathology.

MW. Absolutely. It was terribly frustrating and you know, I didn't know what I should do. I was really very unhappy, so it was one of the few times when my father tried to lead me on and I'm not sure I'm a good ophthalmologist. I don't think I was made for that.

PSH. But if you had stayed in pathology you would have been unlikely to do the same things.

MW. No, no. Two years afterwards the whole thing had changed and the first tenured woman had a post at the University Hospital pathology department. It was just a question of the turning of things.

PSH. From what you record the pathologists were quite blunt about it.

MW. Oh yes. And thinking back you know it was not at all unexpected, because, at that time, male chauvinism was not anything bad, it was simply expectable.

PSH. And almost universal.

MW. Absolutely. Yes. Remember that women were members of Cambridge University, only in the last few years of the '70s.

PSH. What year was it you actually went into ophthalmology?

MW. Now, I think it must have been '55.

PSH. And was this first in Copenhagen, or first in Aarhus.

MW. Copenhagen almost all the time.

PSH. OK. But then you did spend, am I right, a couple of years in Aarhus?

MW. That's right. The way that we train people to become consultants is, they have to spend at least their time in two different university hospitals, so there was a post in Aarhus and then I moved to Aarhus for two years with the children.

PSH. And had you already developed an interest in genetic eye disease by then?

MW. Yes, that started probably in '56 I think. There was a post at the Royal National Institute for the Blind, which has a small eye clinic and they had a free post. There was a chairman and there was an assistant and that was it. And then that would be six months after I started in ophthalmology. I knew absolutely nothing. Absolutely nothing. I was not qualified for the post. So I thought, I have to do something to prove that I was good enough. So I bought and read and enjoyed Arnold Sorsby's 'Genetics in Ophthalmology.'

PSH. Yes.

MW. It came out that that was just the right thing concerning the patients, you know the people, the persons who stayed there, and my consultant, he was interested in optical rehabilitation.

PSH. So that gave you a kind of niche from the beginning.

MW. Yes, and it was so obvious seeing one patient after the other, that this was the key entrance to the job.

PSH. Did anybody else among the ophthalmologists around you in Copenhagen have that interest at all or were you just on your own.

MW. There was Ruth Lundsgaard who did Leber's optic atrophy, but that was before I started. It was even before the war, because she left all her books for Waardenburg whose books had been burned during the war.

PSH. They had been burnt during the war?

MW. Yes, well everything collapsed in the Netherlands.

PSH. Oh I see. Not deliberately though, just lost.

MW. No no. Just part of the war. So Waardenburg got Lundsgaard's books, then later on Kemp had a few ophthalmologists in his stables, I don't quite remember who it was, but there were a few. It was not the right thing. I mean it had nothing to do with cataracts. Ophthalmology at the time was mainly a surgical specialty.

PSH. So who did you link with in genetics at that time, at the beginning?

MW. Hauge. H.Hauge had the European courses running so I joined the first European course in genetics.

PSH. And this was at the Tage Kemp Institute?

MW. Yes. Yes, so it was.

PSH. Because . . .

MW. And there of course I met Margaretha (Mikkelsen), because she was teaching at Hauge's courses at the Institute. We became very friendly and we have been friends ever since. Whenever I needed help I could go to Margaretha and she would indicate which person I should contact.

PSH. If I may I would like to come back to Margaretha later. But what was the very first genetic eye disease you started working on? Was it Norrie's disease?

MW. I believe it must have been. It has a pre-history in the - I don't remember exactly the year - but there was a lady in the Netherlands called Mrs Schappert-Kimmigser, [1959, 1975 Doc.Ophthalmol *39*, 224-248] and she had a project concerning the prevalence and causes of childhood blindness in small countries, in the Netherlands and in Denmark.

PSH. Was this associated in any way with Waardenburg's work or quite separate?

WM. No. She was a good friend of the Netherland Society for the Blind. She had come from overseas and stayed here. Now this project tried to find all the blind children in the Netherlands and in Denmark. At that time I was just finishing my first two years at the RNIB.dk and I was rather unhappy seeing that she did not include children with learning disabilities and blindness, so a chapter on mental retardation was added, [page 343-49]. But really this was not the first. The first must have been Norrie. Yes.

PSH. And how did you come into contact with those patients?

MW. Because at that time, a year before I started at the RNIB, there was a book given out in Sweden called, oh I have that for you, congenital hereditary blindness, a very long title, two lines, by two men called Alstrom and Olson and they had looked through all the registers in Sweden to find children with congenital blindness. As a matter of fact what they actually found, but they couldn't know, was Leber's congenital amaurosis, but at that time it had no name. So Ahlström and Olson had this enormous title of their disease. In spite of that it was never called Ahlström Olson disorder, but Leber's congenital amaurosis, because it came out that after some years that he (Leber) had seen a patient who he had described very superficially. OK. So here we were, a good little book on a congenital blindness and a young person starting in congenital blindness, so I went through all the files of the Institute, 2,000 or so, to find children with congenital blindness, because I thought we must have something of the same sort. Well that was definitely true, but in between, there were three families with something quite different and they had a label put on them that was completely misleading, so that's how it started.

PSH. Were they called pseudoglioma then, or something quite separate?

MW. Some of them were called pseudoglioma. Some of them were called congenital microphthalmia although microphthalmos were not congenital. Some of them were called chronic uveitis.

PSH. And am I right you gave it the name of Norrie's disease because of his studies.

MW. Yes and no. I had to do so because I wanted to name my own baby and seeing the misfortune of Alstrom and Olson who had done everything you can in our world for calling a thing your own name, even in two lines, I thought, no. You have to name it yourself, or otherwise . . .Norrie's name was chosen because he had mentioned the Danish families and stated that he did not know what it was – a fine start in syndromology.

PSH. Yes. Can I ask then at this point, did you realise the X linked inheritance?

MW. Absolutely

PSH. So this kind of stood out from the family pattern even at the beginning?

MW. Absolutely. Yes absolutely. No doubt. Although it was only when you found the old case histories of course, but it was quite clear. From the beginning Norrie saw that this was hereditary, that was 1928 or so, but it was quite obvious that this was X-linked.

PSH. And may I ask, had some of the patients, as happened in the UK, had eyes removed in the belief that it was a tumour?

MW. Oh yes. One of my patients actually, a small child, yes we removed one eye in order to be sure. [i.e. sure that it was not retinoblastoma].

PSH. I suppose if people asked you then "is this work of practical importance?" then that would be a good way of showing it was of practical importance, to avoid the removal of eyes?

MW. Absolutely yes. In the future yes, otherwise more eyes would have been removed, yes.

PSH. So how many families of patients with Norrie's disease made up your initial study?

MW. We had three families in Denmark and then I went to the Professor and said "I've got three families of a new disease. Would that be enough for a thesis"? "No" he said "you have to find more". Well I don't think there are more in Denmark. Well too bad. So I went to Sweden and looked up the inventory in the Swedish Institute for Blind with Allied Disorders and the headmaster there knew very well his children and there we found two more families and then my studies of the literature showed me there was yet a third family in Gothenburg. Then we had six families and the Professor was pleased.

PSH. So you published this and it made your thesis as well did it?

MW. Oh that was it simply. Then I had the contact with .....

PSH. Are you thinking of linkage now?

MW. Yes.

PSH. Would that be Ruth Sanger?

MW. Exactly yes. Right.

PSH. I was going to ask how that contact came about.

MW. I wrote to her and said "I've got these X-linked families, will you help me?"

PSH. Was that after the Xg blood group had been discovered, because it was just around the time.

MW. Quite. That was why I did it. That was why I wrote to her, because since Xg was the only one, so I wrote and she said yes, I would love to.

PSH. That was really the beginning of quite a long co-operation between you and the people in London?

MW. Yes, you may say so, yes.

PSH. And of course you didn't find linkage did you?

MW. There wasn't; no.

PSH. No and there weren't any other markers until . . .

MW. Not at the time. Not at the time until . . . and we didn't need markers later on, because we had enough families.

PSH. Yes. And then am I right that, as with a number of the conditions you have worked with, they had a second life when DNA markers came along and you were able to be involved in that?

MW. Yes and then of course, that was first of all the Hamburg people.

PSH. Was it Hilger Ropers?

MW. Yes and Andreas Gal. Andreas Gal and Hilger .....co-workers in Hamburg, what's his name?

PSH. Do you know, I probably don't know. But never mind. Can I just stay in the early years for a bit and ask, after Norrie's disease, you described a whole range of eye diseases, mostly in the mentally handicapped. So when was it that you started actually working specifically with mentally handicapped from the point of view of eye conditions?

MW. OK. Our rules in this country are that you can have a post for only so many years and then you have to find something else or open a room. OK, so I thought, I have to find somewhere where these diseases that I am interested in are present. And since I had been around the country and looked through thousands of case histories at institutions for mentally handicapped to find more Norrie families, I knew there must be quite a market. So I had a job as first assistant at an institution for the mentally handicapped because I wanted to know the culture, and they were rather unhappy that they were forced to have me from some other echelon, and they didn't know what to do with me. So in the mornings I went round and took off the clothes and palpated the abdomen and did the somatics like an ordinary GP, and found what you would expect to find in people who have never been examined. Then in the afternoon I borrowed a series of glasses from the university eye clinic and had my little slit lamp, and then I saw every afternoon 5 or 10 people from this institution, and that was before I went to Arhus and when I came back again I re-did the job and saw that actually these people had retained their glasses and they were happy with it. At that time when I came home after having been, for a year, an assistant in mental handicap, a new institution for children opened and it was quite clear that they needed an ophthalmologist and I had a job for 12 hours a week, which little by little got extended, and with the help of good people I got tenure there as an ophthalmologist. It was quite true, there was a need, and in the beginning at the new place, there was no week when I did not find a severely visually handicapped child with no diagnosis.

PSH. That must have been an amazing time!

MW. Yes, and then later on when I walked the institution and looked at the people and saw all those with spectacles on them, it was so marvellous

because had I not done that, they wouldn't have been as happy with their eyesight.

PSH. Am I right you met quite a bit of opposition from people who

MW. Oh yes, from everybody.

PSH. People who were reluctant to accept that there were a lot of mentally handicapped children with eye problems?

MW. Yes that's right. I would not have had the post unless I had been very heavily supported by two eminent scientists in Copenhagen. One is Jens Bing who worked with [.....] and the other one was Ry-Andersen who was the eye pathologist. And they simply went on and on and on to claim this, after I had been associated 12 hours for 7 years, we came to 1974 and then the organisation was due to change from a centralised organisation for mental handicap to a decentralised, going out, resetting the people out into the country like in other countries.

PSH. So during these years you must have gradually extended your network of contacts in the genetic world. Who are the main early people you linked up with in terms of delineating genetic eye diseases?

MW. I don't understand your question.

PSH. Well, I suppose your descriptions must have brought you into contact with both people in genetics and other people in different countries in eye genetics, and I wondered who were the main early links?

MW. OK. Waardenburg, no doubt and Arnold Sorsby. I went to see them. I took my car and went down while I could still meet Waardenburg.

PSH. Was he retired by then?

MW. Oh and how! He stayed with his wife in a retirement institution you know, a lot of small little houses where he had two, maybe three rooms, but then he had been allowed to have a separate room - very uncommon - for all his books.

PSH. Wonderful.

MW. So I went down to him to know as much as he knew about congenital nystagmus, which was one of the things that I was studying at the RNIB and it was interesting to meet him. It was lovely.

PSH. How old was he then?

MW. Oh he was very old.

PSH. Sort of in his 80s, mid 80s?

MW . 70s/80s I don't know, it never occurred to me.

PSH. And do you know have people kept, or have his records and books been all preserved in Netherlands do you think?

MW. I don't know. I don't know.

PSH. And then Arnold Sorsby, because I mean how old would he have been?

MW. He was not that old when I went over, because that would have been in the late 50s, so he was not terribly old. He was still working on refraction and the heredity of refraction. St George's hospital I think it was.

PSH. He was first editor of the Journal of Medical Genetics.

MW. Well now!

PSH. And I know very little about him.

MW. He was such a kind person, but he had difficulty in the ophthalmic world. You can't have two chiefs and Duke-Elder was the number 1.

PSH. I see, so he was rather put on the sideline.

MW. Absolutely yes, and also he was interested in a very remote part of ophthalmology, so they would think.

PSH. When did you first make contacts with workers in America?

MW. With . . .?

PSH. People in America?

MW. Ah that was at the second Birth Defects Conference.

PSH. Do you mean the ones that Victor McKusick . . .?

MW. That's right yes. Birth Defects.

PSH. Would that have been in about 1970?

MW. Yes about

PSH. That's when I met you first.

MW. Right yes.

PSH. Because I was with Victor McKusick 1969 to '71 and I remember vividly you talking on X-linked sutural cataract, among other things.

MW. That's right yes.

PSH. And apart from Victor McKusick am I right you made links with Michael Conneally and people in Indiana also?

MW. That's right. Not especially Michael Conneally, although he was there, but it was Walter Nance who shared me with Wolfgang Zeman, at neurology I think, but I distanced myself from Zeman quite fast.

PSH. OK. So by 1970 is it fair to say you really had quite an international network of people you could link with, or were you very . . .?

MW. It was very weak. It was very weak. I knew of them, they knew of me, but actual linkage and sharing of information was, no, I was much more a reading person. Most important was the yearly meetings of the EPOG, the European pediatric ophthalmology, group of which I was one of the founders.

PSH. OK. In terms of investigations, you've always been a very clinical person, so who were the people you linked with primarily for biochemical, cytogenetic investigations?

MW. My friendship with Margaretha [Mikkelsen] was very important because when she had stopped working with Kemp, no with Mohr it must have been, with Mohr, she had cooperation with the official organisation of treatment of mental retardation and she established the Kennedy Institute together with Erick Wamberg.

PSH. Was that around 1960 or something like that?

MW. Could have been. But there she built her cytogenetic lab, and parallel to that a biochemical lab.

PSH. Who had the biochemical lab?

MW. Erik Wamberg, Hens Lou, Nina Horn

PSH. I know very little about the Kennedy Institute, so was this an all round institute with different types of labs for investigation, not just cytogenetic?

MW. It grew, of course, and is now a large multi facetted centre. Yes, it was raised as the result of, the name of Kennedy was, because there was a general, I don't know what that is in English, when you get money from all over the country to honour somebody. What do you call that?

PSH. Commemoration or

MW. Of Kennedy and since they were associated with mental retardation. their object is to study and prevent mental retardation, as we said at that time, and it was quite certain that they had to start with cytogenetics and PKU. So they had this department and they had biochemistry. They had a dietary department.

PSH. Were you able then to use those facilities for the investigation of the children?

MW. Well, in the first 20 years I tried to have, as a co-worker, I tried to let each of those young people at the Kennedy to be a co-worker with one of the patients from my clinic.

PSH. That's nice.

MW. Well it was reasonable. I didn't know their things and they didn't know mine.

PSH. So were they mostly paediatricians or were they scientists?

MW. Most of them started off as paediatricians and then became interested in, as it is now cytogenetics, and they stayed there or they moved on to other laboratories of the time.

PSH. Yes.

MW. So she trained Tommerup and she also trained Lisbeth Tranebjørg, who went to Tromso and Karen Brandum-Nielsen who is now in charge of the Kennedy.

PSH. That's interesting. So were there any special conditions that stand out in your mind where it was the chromosome analysis that really was the key?

MW. Yes. Yes.

PSH. Which would that be?

MW. It's a case that we have often laughed at, Margaretha and I. When I was third assistant or fifth, anything, a very low grade at the University eye clinic, I was one of the persons who was asked to go out on the wards of other departments, and there I found a child with bilateral cleft lip-palate, microphthalmia and severe mental retardation and 6 fingers and 6 toes, whatever, and I said wow, this is a Trisomy 13. And I went home. I phoned Margaretha and I said this is the first Danish case of Trisomy 13. It was very early. It must have been '62 [published in 1963] and we wrote in the case notes. 'This is probably case of --- and we've drawn blood and you will know about it.' And the next day the Professor came in and he was furious. He was furious. He had made the opinion that this was a case of . . .

PSH. Rubella?

MW. No no no no, the thing that you got when you had tranquilisers . . . um

PSH. Thalidomide?

MW. Thalidomide, and nothing should divert and "by the way you are not supposed to treat or examine any of my patients".

PSH. Am I allowed to ask which professor that was?

MW. He was not a surgeon!

PSH. No I'm sure. I hope he learned from his experience.

MW. I don't think so. Margaretha believes that this was the result of a sort of disagreement between him and my father.

PSH. Ah. Because your father was Professor of Medicine.

MW. Yes, at the same hospital.

PSH. Visiting the sins of the fathers on the daughters!

MW. Something like that, yes. But I don't know if she was right, but she very often was.

PSH. Yes. Can I ask then, did it turn out to be a typical Trisomy 13?

MW. Of course it was, and the story goes on "and you are not supposed to publish this". No no. Then of course the child died and there was an autopsy and the eye was removed and Ry-Andersen and I published from his department, which we were allowed to[1,2].

PSH. And this was the first time the eye had been studied in Trisomy 13 probably?

1 Warberg M & Ry-Anderson Ocular changes in simple trisomy and in a few cases of partial trisomy. S. Acta Ophthalmological 1968, 46: 372-84.

2 Warberg M & Mikkelsen M. A case of 13–15 trisomy or Bartholin-Patau's syndrome. S. Acta Ophthalmological 1963, 41: 321-37.

MW. Yes. I think it must have been the first histological study.

PSH. I can understand why that remains in your mind.

MW. We think it's great fun; we thought.

PSH. Just then to carry on with the linkage work, because as I have looked through things you have written, it strikes me very much that there is a whole series of disorders where you made the initial descriptions and then, probably 20 years later it become possible to map these. I mean did this involve you going out again and contacting the families?

MW. No. I have not been able to do that.

PSH. But even so, it seems from what I have read, there were many conditions where when the gene was found, you were part of the story.

MW. So for many years I have stacked samples at the Kennedy Institute.

PSH. That's what I was wondering, since you were clinically based, the Kennedy then gave you the facilities for storing samples, which must have proved to be of huge value later on.

MW. It was very neat yes. It was quite nice having it.

PSH. Are there other things you would like to tell me about Margaretha, because it is so sad that we have lost her and we don't have the chance to record things, but are there things that you feel that she was sort of very very special value from your perspective? Anything you would like to say about her, because I think we all recognise it is a huge loss.

MW. Too many things to take in.

PSH. Maybe it is too early?

MW. Not really. First of all I have never thought about what you are asking, so I have never sorted out my, feelings it must be, rather than anything else. What I tried to do was to establish a sort of clinical diagnostic place for people with multiple impairments, looking at it not only from an ophthalmological point of view but from the point of view of the whole person, and this has been previously actually impossible. My people are not interested in much more than eyes. There is a saying, in Swedish, that people, man, consists of two parts, the eye, the eye support, and it has been very hard to persuade my people to have a general view and to use it in the diagnostics. The Geneeye of course is a great help but it needs people who are prepared, to use it. People who would like to ask these questions. So you can still find these even in countries where there are many people interested in the same. It is difficult to persuade my people in having precise diagnostics.

PSH. Yes.

MW. I believe that we are too few. I mean in a small country with 5 million people you need cataract surgeons, you need retinal surgeons, you need strabismologists, and when you have these people there is nobody left.

PSH. So you have really to look across the whole world?

MW. Yes, so you have to import some of them - tempora mutantur.

PSH. Would it be fair to say that you found Margaretha very much a kindred spirit in looking widely outside the immediate field?

MW. No, she was not interested in say syndromology, she was not interested in curious disorders, she was interested in Down's syndrome and she had a wide network of Down syndrome people, and that was her destination, and she fulfilled that. And it was quite fun because we discussed what sort of journals we read and I read the American Journal of Medical Genetics and she thought that was just too, that was not fun. She went for the Human Genetics.

PSH. Would it be fair to say that both of you had a number of shared experiences in terms of being women in science and medicine at an early stage?

MW. Oh yes. Oh yes.

PSH. Because all the women I have spoken with have found difficulties but . . .

MW. But only in the beginning. When you look around and look at the young people here they know nothing about that, fortunately, so this was only until the '70s I think, when it was, well you know for my part I didn't find it curious, because that was the environment I was brought up in.

PSH. Do you think it required people like you and Margaretha and others to fight for your rights for this change to happen?

MW. Oh I didn't fight for my rights, no I evaded fighting them.

PSH. I was thinking in a more general way, not just for your own rights, but do you think this is a change that would have happened without women really pressing to be treated equally, or do you think it was because a number of women pressed for it, only because of that that it happened?

MW. 50% of the students are women [in 2006 it is 60%]. They have to have a job somewhere, and we can't afford doctors to go looking for jobs.

PSH. But that was not the case 50 years ago.

MW. No, then we were quite few, in fact 20-25% of the class and we all had, almost all had jobs afterwards. Not top jobs.

PSH. No.

MW. No. But also it is quite possible that the way we showed ourselves, the way we presented ourselves, was probably quite harsh, yes.

PSH. Yes and probably you had to.

MW. But it wouldn't be a help then.

PSH. No. There's a couple of questions that I have been asking everybody that I see, and one of them is which person do you think had most influence in terms of your early career and development. Is there a particular person that stands out that you learnt especially from?

MW. My patients. Absolutely.

PSH. So they were your teachers?

MW. Yes, I saw their problems and I hated their problems, and I wanted to do something, and also working there in the very early years I was so impressed by the way that these young people handled their problems, their strength, their initiative, it was really something that told you how fine it could be to be a human person.

PSH. It must have been a huge satisfaction that your studies not only helped the understanding but could actually do something practical at the same time.

MW. I used to tell myself that, on the days when I didn't do something new and important, at least I could do something good and important, and that was a great help.

PSH. I can understand that.

MW. But as to people - no. No, I think I was fighting very much alone.

PSH. And the other thing I have asked people is, if you look back on the different pieces of work, is there one that you feel for any reason especially proud of, or especially that you identify with. If you had to choose one, would any particular one stand out?

MW. If I had to choose one, I would choose the one that was really carried through in all the ways that one ought to do, which means that I would not choose those where I described a new disorder of this and that, and the new that and stopped there, and did not pursue it. So the only thing that I really did decently was the Norrie.

PSH. That in itself is a big area.

MW. I don't know. All the others were small things were picked up by somebody else and carried through.

PSH. But the Norrie's work went on 25 or 30 years I suppose, in the end.

MW. Well, yes, it was taken up by somebody else in other countries.

PSH. Did you find it satisfying to see something through from clinical recognition to gene appearance?

MW. That's the only thing I can do. That is my only way of working, so for that reason, I have made a DVD on how to examine people with curious combined disorders, which I hope will be used in educating young people. Of course it isn't!

PSH. Can I ask what are you doing now?

MW. Yes you can. During the time, we collected, when I was there and you know I stopped in '96, we collected altogether some 9,000 diapositives and I am now scanning them on my computer in such a way that I scan down those who refer to a well-known disorder and those with karyotypic abnormalities that have been shown, and so far I think I have scanned well over 300 and there are a few hundred left, and when I asked Niels Tommerup if he thought that would be of interest, he said "yes we can use it for our education."

PSH. I'm sure he is right and I'm sure it will be a wonderful resource for a lot of people.

MW. How? Practically?

PSH. I think that, for instance, there are many people in genetics, say medical genetics, possibly like myself, who have a general clinical picture of a disorder but who have no ophthalmological expertise, and if you ask me about many of these diseases 'now what are the exact changes in the eye" most of us couldn't tell you so I think this would be of value.

MW. No no no no, It won't do. It won't do because there are very few eye pictures.

PSH. OK but then there are pictures of

MW. Whole body pictures, whole person.

PSH. Well then these are also of valuable.

MW. They are of course, a little

PSH. Then these would be valuable for ophthalmologists.

MW. So they might, if they wake up yes!

PSH. The good thing about having it available electronically is that it would no longer just be people in Denmark, but it would be people around the world.

MW. That's right. I am in correspondence with Michael Baraitser.

PSH. Good. Good. Mette is there anything else you want to bring up because I . . .

MW. I think there is one thing that is important. When my children were 6 and 3 years old I became a single mother and I could choose between two roads; going down into rooms, having a huge income or going into research and clinical and scientific medicine, and I thought it would be socially much more interesting for my children if I chose the way I did. This of course is questionable, but what happened to these children? One is a professor in sociology of religion and the other is a top economist at the Ministry of External Affairs, so maybe it wasn't too wrong!

PSH. I'm sure it wasn't.

MW. Well you never know. Anyway, when the second one was little, in the pram, I started as a very lowly range doctor at the University eye clinic, when he was still fed breast milk and so I took the pram and stood it outside the clinic. Because I thought there would be so many visitors so of course somebody would rock him if he cried; then the Professor came down one day and said, you've got a home you've got children, you've got I don't know what. And I said well you know at this moment. I have recently had a nurse maid, so I have got no more work to do than most male doctors, so it's being a very nice time for me at the present.

PSH. Did he respond to that?

MW. No.

PSH. Mette, thank you so much for talking. There are many other things we could talk about. I am going to switch the machine off now.

End of Tape.