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GWYNETH HENDERSON: In this weeks "University Report" the development of a secondary school science teaching project in Botswana, Lesotho and Swaziland by their University. One of the people concerned has some very pertinent thoughts on planning - or lack of planning - in the future. But first details of a large scale "conference with a difference" that is to be held here in London next summer. According to the organising secretary it will be the biggest conference ever to concentrate on only one subject area. Well Mick Delap is here with me to explain what it's all about.

MICK DELAP: Well the subject area is West Africa particularly Manding Studies and the conference is to take place from 30th June to 3rd July 1972, at the University of London. It's sponsered by the School of Oriental and African Studies - SOAS - and French Societe des Africanists. And this co-operation between English and French Africanists is only one sign of the scale and importance of the conference. Preparatory lectures have laready started at SOAS - the first was given by Professor Yves Person of France's University One early in November - and the conference itself is to be accompanied by a wide ranging exhibition, open lectures, and recitals by Manding musicians. And that's not all - it hopes that the conference and the surrounding events will be only one part of a continuing educational project designed to provide a coherent view of the Manding civilisation's achievements,

Before looking at this in detail I ought to define Manding civilisation. The Manding language is a variety of ethnic names, is spoken as a major language in nine West African States: in the Gambia, Guinea, the Ivory Coast, Liberia, Mali, Guinea Bissau, Senegal, Sierra Leone and Upper Volta, and there are small minorities elsewhere. The term Manding or Mandinka is used to cover a number of West African people who speak related forms of the same language and who share a similar culture. These include among others, the Mandinka, Bambara, Dyula and Vai

MICK DELAP: Manding is thus spoken across twelve hundred miles of West Africa, which must make it one of the continent's major languages. It became important both as a language and as a culture when the medieval kingdom of Mali emerged to dominate West Africa from the thirteenth to the sixteenth centuries. And Mandin culture is exceptionally rich in bardic and musical traditions - which are maintained by a cast of professional musicians and singers and based on an elbaroate range of wind, string and percussion instruments. Dr. David Dalby, Chairman of the Conference, is in fact in Mali at the moment, contacting both scholars, and traditional musicians and griots. And it's fully recognised at SOAS that one of the keys to the success of the conference will be African participation, by both English and French-speaking scholars.

As well as sponsered guests, there is an open invitation to all those interested in Manding studies to attend. And researchers are invited to submit papers to the conference. The organisers suggest that intending contributors indicate as soon as possible one or more titles under which they would be able to submit papers. And it's essential that all completed papers arrive at SOAS before the end of January 1972. At present it's hoped that next June's conference will work out as follows. At the introductory session a corpus of reference material on the Manding will be presented together with background papers on linguistics, pre-history, history and social organisation. The rest of the first day, and the second, will be given over to a series of inter-disciplinary discussions on the general theme of internal and external relationships of the Manding. The third day of the conference will be devoted to specialised disciplinary discussion groups, and on the final day a plenary meeting will consider Manding culture's present role and the future of Manding studies. The conference of course has its origins in current Manding studies at SOAS. Two of the fity papers so far received come from West African scholars at SOAS.- Dr. Abdul Karim Turay, a linguist from Sierra Leone, and Lamin Sanneh, a historian from the Gambia And the Manding studies programme at SOAS hasn't been confined to academic subjects - Amadou Trarore, who's now returned to Mali, has been engaged in creating a novel in Manding. These examples, and the programme of the conference, show the determination at SOAS to link study of the past with the present needs of Manding culture. It's hoped that next year's conference, the exhibition and the concerts, special coverage in British radio press and television, and hopefully continuing interchange with West African through scholarships, will give Manding studies such a boost that they'll be permanently enriched.

GWYNETH HENDERSON: We'll be keeping in touch with the chairman, Mr. Dalby, and letting you have more details as they are settled. But now back to the present. I don't suppose there's a country in the world where - at some stage - the quality of the teaching of science has been far behind the arts. It's certainly still, I think, largely true of this country - as well as in Africa. Quite a lot of work has, of course, been done recently. The main thing being to make science interesting and relevant to children. One result has been that the old, rather artificial divisions of physics, chemistry and biology in the early years of secondary education are rapidly disappearing in favour of an integrated approach so that the child can see science and its relevance to his world as a whole. Three years ago a project was started by the University of Botswana, Lesotho and Swaziland to design and evaluate science teaching materials for the first three years of junior secondary school education in the three countries. Allan Macartney has been talking to one of the people concerned with the project from the start, Mr. Roger Landbeck - lecturer in physics at U.B.L.S. Well a little later Mr. Landbeck has some pertinent things to say about some of the problems involved, past, present and future, but first Allan asked him how and why the school science project began.

ROGER LANDBECK: It arose out of a new syllabus that was designed by UNESCO science advisor to the Lesotho government, a Mr. Lugg, who felt that the existing introductory science syllabus was very much outdated, and it had this rigid division into physics, chemistry and biology, and he wanted to try and get this idea of science as a unity over, and so he designed this new syllabus which tried to do this - tried to integrate things and also tried to present to children the idea that what is science, and most important of all, I think, tried to get over experimentation. that they should discover things by doing experiments, because in his day there was very little equipment in the schools and very little practical work done.

ALLAN MACARTNEY: You mean they taught science without experiments?

ROGER LANDBECK: Many of them did, yes. I can remember going with him to a school and seeing a biology lesson on the fish,in which everybody sat in the classroom, the fish was drawn on the board, together with all the latin names, and probably these children had never seen a fish, and no attempt had been made to get one to have in front of the children to see what it was like. Of course, you have to remember that in Lesotho it is very unlikely that children will ever have seen the sea or fish or anything like this.

ALLAN MACARTNEY: So your aim of this project was to make science rather more real to the pupils?

ROGER LANDBECK: Yes I think it followed on what the general trend of science teaching from Britain and the United States of learning by doing, learning by discovering, getting children to actually handle things and play, and by their experimentation discover the excitment, if you like, of science, discover things for themselves which they would retain because they had themselves seen things happening, rather than just read about them in a book.

GWYNETH HENDERSON: Which is, I admit, all I ever did. I can remember being told when I was twelve that I was far too young to actually touch anything! However things have, and now are changing in the classroom. But what about the syllabus itself? Often this is a great stumbling block in curriculum development. The system of examination leaves very little room for manouvre, and is itself rather inappropriate for the children concerned. Well did Mr. Landbeck and the U.B.L.S. team have their way in the syllabus?

ROGER LANDBECK: No, this is the unfortunate part really. We were presented, as it were, with the syllabus as it stood and we had no choice in the subject matter. What we actually did was to rearrange the syllabus to improve the teaching order and then we started from there with the material that was actually in the syllabus.

ALLAN MACARTNEY: You wrote the book, this was the first stage was it?

ROGER LANDBECK: Yes.

ALLAN MACARTNEY: But that wasn't the end of the project?

ROGER LANDBECK: No. Because we tried to follow what are some of the accepted norms of curriculum development these days, and that is you write a draft material and then you seek to try this out in a number of pilot schools.

ALLAN MACARTNEY: Did you do this is all three countries?

ROGER LANDBECK: Yes, we did all this in all three countries, because of course the syllabus was made for all three countries, and so we had to do this and we sought permission from the Ministry of Education in the three countries to use their schools for trial purposes. And I think here was some of the difficulties that arose. We had a number of contacts, of course, we knew quite a number of teachers who seemed to be eminently suited to doing this and we'd made arrangements for them to help us and assist us, but often things change so rapidly in staffing in these schools,

ROGER LANDBECK: that by the time we came to actually distributing the books for the trials to begin the people one of the teachers had in fact been moved to another school, so we had to start all over again.

ALLAN MACARTNEY: So that in this critical phase that is getting the feed-back, you had the most problem?

ROGER LANDBECK: Yes, this has been the most problems. You take the material to a school and you ask the teacher if they would teach from this book and only from this book as far as possible, and you ask them to note what is the reaction of the childre, what are the linguistic problems involved with the vocabularu; you ask them to fill in questionnaires relating to the experiments and so on. And you are very much dependant on this. We also of course visited from time to time these schools and saw the actual teaching in action.

ALLAN MACARTNEY: Now as a result of this do youknow feel that you've got something that is really satisfactory for the needs of the syllabus?

ROGER LANDBECK: I think so. It's not as satisfactory as I would like by any means because we just haven't had time to do adequate feed back. Another method that I've tried is to actually not go to classrooms but ask teachers to come to a small workshop where we've taken the books and looked through the material in detail and discussed it from their own experience and thereby got feed back in this manner, this has been quite useful.

GWYNETH HENDERSON: So feed back was a problem - as was the perennial universal problem of the lack of sufficient equipment in the schools. And the lack of recurrent funds for replacing things like chemicals. Obviously a wider use of local materials could suffice for some equipment - and in Swaziland some has already been produced. But is this all that needs to be done in the future? Allan Macartney asked Mr. Landbeck what the priorities should be now.

ROGER LANDBECK: Well I think a tremendous lot more could be done on the investigation of the children themselves. Now what we've done really is that we have produced the material. Now we do not know for example, whether the diagrams that we've drawn are understandable to the children. They may have perceptual problems from understanding the diagrams. Also I feel there's a great need to look much more closely into the cultural and social backgrounds of the children because as an ex-patriate even though one has been here six years you don't really know what are the customs, what are the thoughts that affect the learning of science. And nothing does soon to have been done about trying to understand what is the level of concept formation, science concept formation in children. and until you

ROGER LANDBECK: know what is the level of science concept formation in children you can't really start to present them with science teaching material. Now we have assumed because we've had to work from the syllabus a certain level to which they have reached, but I don't know of anybody who's done any real solid work in the three countries that has established that this is the level to start from, and I do feel that there is a great need for some phychological research into concept formation of children, into the sociological and cultural backgrounds to make this science really understandable, so that the children can understand their learning, it fits into their background and they can go from there. And I think really this is a great omission in the UNESCO science project that is now starting in the three countries, that there is no psychologist working on this problem, they are continuing to assume that you start from a certain level, and are bringing in syllabi from other parts of the world and sory of rearranging them to make it relevant to the countries but I don't think it's going down deep enough. I think you should go down much more deeper into this problem.

ALLAN MACARTNEY: Looks like quite a lot of research and follow-up is still to be done then on the work that you've started?

ROGER LANDBECK: Yes I think so. We started this really as a stop-gap, to fill a need and it looks like being a stop-gap for a year or so at least. But I would hope that there would be somebody that would do this rather grass-roots work.

GWYNETH HENDERSON: Well, I look forward to hearing that it's being done. Mr. Roger Landbeck - lecturer in physics at the University of Botswana, Lesotho and Swaziland was talking to Allan Macartney. And so we come to the end of another 'University Report'.