
1 OPENING ADDRESS

Information Minister Cde Shirley Field-Ridley

Comrades, looking at this morning's paper, I am completely convinced that the importance of communication is not lost on the organisers at least of this seminar, because there was little room to see anything else but the Science Communication Workshop which was being held in Guyana.

But let me say that it is very good to have you here for the purpose of this workshop. We are a young country particularly in the field of Science and Science Research, and therefore it is a particular boon to us to have this kind of exercise being conducted in our country.

You have come, those of you who come from overseas, at a time when all of Guyana does something that I haven't really seen to the same extent in any other part of the world. That is, we all wake at about 4 o'clock on Easter Monday morning, those of us who have children use them as the excuse for doing this exercise, we acquire little things called kites and we move to any open space to fly those kites.

Now it is a time of the year when fathers particularly, sometimes for the first time in the year, remember their parental obligations; and one can see them in numbers trooping to the seavall and to various other places in the country, flying kites. The fathers, of course, pretend that this is an exercise for the children, helping them to raise the kites. But any of you who have been here long enough and have passed the sight of little children sitting looking longingly, while daddy has been putting up that kite for two hours, will know really the whole purpose of the exercise.

And that is part of the cultural tradition, I would say, of Guyana. It has been going on for a long time. Certainly I was born and met it; my parents tell me that they were born into that situation; but as the march of progress continued we find that science and technology interfered a little bit with this particular aspect of our cultural development, because with the advance of technology there appeared electric cables and high tension wires along the roads, seawalls and open spaces.

As a result, for years we have been having a problem telling parents and children to ensure that their kites do not get tangled in these high voltage wires, lest there be fatal consequences. Unfortunately we have had over the years some very serious situations, some fatal accidents. This year, the Electricity Corporation mounted a very effective communication exercise and I think it was to their credit

that we have passed this Easter weekend, for the first time in a long time, without any serious incidents.

To my mind this shows that there is a room, an important area for communication in the field of science, in terms of communicating with ordinary people, with the people who themselves are not scientists, with the people who have grown up doing things in a particular kind of way, but who have to adapt very frequently and modify their behavioural patterns because of the progress of science.

Here, in kite flying, is just one little example of the way that we have had to modify traditional behaviour patterns to accommodate something that we are all very happy about, the fact that we now have electricity in most parts of Guyana. But we have found, and this has been the experience throughout the world, that as scientific progress goes on its way, it has a serious impact on the cultural patterns of the country served by the scientist --- Guyana being no exception.

We have found however in Guyana, and I would imagine most of you in the Caribbean have shared this experience, that in terms of our own research, in terms of our own education in the sciences and in technology, we are in the stage of infancy.

Before we were Independent, and that happened just eleven years ago, our curriculum within the formal school structure and indeed within the informal school structure, was particularly innocent of any excursion into the field of science and technology.

This meant a lot of things, this meant that we looked outside of the country to try and share the results of the research in science that was being conducted in other countries. It meant that very frequently we did not have the personnel to adapt the technology that came into Guyana, and like most developing countries we were the victims of what has been described as technological imperialism.

We found that those few Guyanese who managed to acquire a nodding acquaintance with the field of science and technology found themselves unable to function effectively in their own country. The facilities were not there, the atmosphere and climate did not exist, and so for them it was an easier job to leave the developing Guyana, to go overseas to practise in the particular area of science and technology that they had identified as their particular area of interest.

Now what does all this mean in terms of science and science communication? Somebody said to me a few days ago, imagine after we have been communicating with each other for all these years we suddenly recognise and realise that it is important. And one remembers incidents throughout the history of movements in the world caused by the lack of communication of what was happening in terms of improved technology and improved scientific advancement. There were serious problems.

Looking to England a long time ago one remembers the Luddite riots, when workers saw the invention of machinery as being solely achieved for the purpose of putting them out of employment, and there was a wave of activity which ended in the destruction of machinery.

Much nearer home, I remember over the years the kind of out-cry one got from the unions in the sugar industry when there were the first attempts to introduce serious mechanisation within that industry; and even now there is very very serious debate and a lot of fear about any kind of improvement in that kind of area because the workman sees it as taking from him the opportunity to earn a livelihood.

This does not mean however, that one wants to hold back the kind of experimentation that has been going on in the field of science, it just means that one needs to explain in language that the laymen can understand, what exactly is taking place. Here we come to the crux of the matter.

There are two levels, to my mind, and I speak as a layman, at which this communication in the world of science needs to be effectively pursued. First of all scientists must talk to one another; and this has not yet started effectively. As a decision maker myself, I know the trauma that we experienced in attempting within our own environment, to cope with problems that other people have been looking at for many many years; to start afresh in research that deals with stock feeds or fertilisers, when one is aware that there has been some research somewhere else that could be of help.

But we have not yet evolved an effective system that makes the results of that kind of research available to us all. So that while Surinam has done a lot of work in the production of charcoal, Guyana, interested in this field, is now trying to tap some of the techniques to make our production efficient. We are all in the same business, we are neighbours, there is just a river that divides us, but we need to learn to have that dialogue.

Then, of course, there is the other problem (even if the scientists talk to one another) of the need to talk to the public to make us understand.

I know that there is a very serious temptation among any professional group, to establish a jargon which can be understood by no other group at all. I myself have been a professional and I am aware that in my particular profession we went back to the Latin language and have used over periods, and still do use, many phrases that nobody other than a lawyer would even try to understand. But the lawyers use it because it creates a sort of closed shop; and when we communicate with one another, we preserve our status and we preserve the esoteric nature of our particular profession.

Now I am not at all qualified to say whether in fact scientists do this, but I do not think it is just a gap in my own intellectual ability that makes it impossible for me to understand a

lot of the communication that emanates from the sciences. We find it impossible to understand not just what the exercise is about, but the purpose and the reason for the exercise.

To my mind, this spans the area of not just natural sciences but applied sciences as well. This is true of almost any area of the sciences that I can think of. There is this built-in process of identifying and devising a jargon that makes it impossible for anyone else to communicate or to understand the communication.

But the fact that this workshop is being held, to my mind, says that there is recognition that something has to be done in this area, so that you have called in aid, the science of communication to assist in this task; but if one is not careful, that science itself can have built into it particular hang-ups, which again form a barrier to communication.

It seems to me that, in Guyana, in the Caribbean and perhaps in the developing world as a whole, we live in a situation where because of our newness to this field, most of the research has been done in the developed world. Because we have not had the expertise to develop and adapt that research to our own needs or because we are not aware of the efforts of others to adapt that research to our own needs, we find ourselves over-dependent on the outside world for all the things that have come with the science, with the technology.

I know that in Guyana we have gone through periods when many many researchers have come here to Guyana, have got particular assistance and help in the interest of furthering the cause of learning and science, have been given access to all kinds of phenomena in Guyana that they regarded as unique, have been studying what has been described as the peculiarities of the peoples in Guyana, have done research on the fish, on the fauna, on the flora. We have not at all had a chance to really share effectively in the results of that research.

Other people have got PhDs as a result of this, or perhaps have been able to make a little bit of money because they have published work based on research done here in Guyana, sometimes by themselves, more frequently by Guyanese who were not able to draw the conclusions from the work they had been doing and we ourselves have been, as I said, not really the beneficiaries of the work that has been going on.

Now that we are independent, now that science is a subject on the curriculum, now that we have become, I think, a little more aware of the importance of technological innovation in terms of coping with the problems of our environment, I would like to think that our own researchers and those researchers who come in, in this situation will be far more willing to share with us the results of the work they do.

I am not even suggesting that people were motivated by selfish instincts, but perhaps they simply did not see there was a need to so communicate. I am not even talking about people

who had a vested interest in not communicating, because they do exist, but people who because of ignorance of the importance of communication did not share with us the fruit of their work.

Living in a country like Guyana has other difficulties, again because we are not masters of our own research or research into conditions that are relevant to us we stand by or receive the results of inventions or discoveries that have made an impact overseas. Sometimes they have made an impact for particular reasons, because there are vested interests that demand that an impact be made. Sometimes these are counter-productive to the interest of little developing countries like Guyana, sometimes they're just plain unsuitable.

For example, there was time when Georgetown was a peculiarly beautiful city. The buildings were white, they were built on stilts, they were made of wood and they gave a very pleasing look. Now going around Georgetown, one sees that we have become masters of the art of using concrete to put up our structures, we use pastel shades, (that is fine) we build big edifices like for example the Pegasus Hotel, which have a beauty of their own. But these do not use the light that I think we have been blessed with; they do not use the breeze that the trade winds bring to us, but they are very sturdy buildings cutting out light and air, modelled on something from some other country.

Having completed the building we find that we really do need the light and air, that we have excluded the cool of the breeze, so we put in air-conditioners which are imported from overseas and we turn on the lights and have to keep them on all day because we ourselves have not had the confidence to do our own experimentation in the area of architecture, to find the buildings that are suitable for Guyana. But there are even more heart-rending examples of this kind of experience.

Guyana like many other developing countries, has from time to time, but more especially in the past, looked to aid donors for assistance to solve some of the problems of living in our environment and since malnutrition has been a problem for every developing country that I can think of, we have ourselves been in the position of receiving assistance in the form of powdered milk for our mothers and young babies.

Along with that there have been the commercial manufacturers of powdered milk, who were very conscious and are very conscious of the importance of communication, and who have subjected the residents of Guyana like all developing countries to the bombardment of every means of communication you can think of, which tells us of what a wonderful thing it is to use this particular brand of powdered milk or that particular brand of powdered milk.

Added to that, the communication network goes into play and tells us at a different level what our women should look like, what kind of figures they should have and how to preserve those figures. They give us statistics and in our struggle

to keep the standards that we have been told are the best, too many of our mothers refuse to breast feed their children. We believe it will interfere with the figure and men tell us that they would like to see us looking a particular kind of way, and we, silly clots, believe that that is what is really important in life, so we preserve our figures at the expense of the child.

But we do not think it is at the expense of the child because the manufacturers of the powdered milk have said it is the best thing that you can give your baby. And so the cycle continues, while the poor mother on the East Coast, who can't really afford the powdered milk in the quantity that she should put in a little more water ... when there is such a ready means of taking care of our children.

But this is what I mean by the fact that we really need to call in aid, our science research, our techniques in dealing with these problems, to assist in our own struggle to live in the environment which is ours; and we need to have the communication link, the communication consciousness of science, working for us and not against our interest.

I am not sure how soon we will arrive at that situation, but it is indeed very heartening that our own Science Research Council with help from the Commonwealth, with help from resource personnel, are very conscious of the need to link these two sciences, the science of communication and the other sciences which are represented by the disciplines here today, in an attempt to produce the kind of linkages in the society without which, we can be lost.

It is impossible in 1977 to turn our backs on what is happening in the rest of the world. Indeed, the aspirations of our people in Guyana, in most of the developing world have all been fashioned in the developed countries. For about 300 years in Guyana we have been taught that the way the housewife in the United States or in Europe or in Britain lives is the way the housewife in Guyana should live, and that something is wrong with us if we don't have the modern conveniences that science has brought in the aid of house-keeping.

Perhaps that is true, but one needs an in-depth examination to try and work out which of those conveniences are the ones that are really important for a country like Guyana, for a country that is developing, which has 800,000 people, and 83,000 sq. miles with very little money to develop it.

In Guyana we have, since Independence, been attempting to combat the individualistic tendencies that have been part of our life style before independence, by emphasizing co-operativism, working together, the sharing together. In Guyana right now travelling around the country you would be aware of schools put up by what we call self-help; - you will see also community centres, drainage and irrigation schemes; and we have done it by sharing experience which we take very seriously.

In fact, it is recognised when we talk about co-operativism or co-operative socialism as the life style of the people of Guyana. We believe and we have to understand that knowledge is not a private preserve of any individual but something to be shared one with the other, that the result of the work of each one of us, is something that has to be shared with those who are not able or have not had the time or the interest to work in our particular area of expertise. That sharing of experience is one that to me, has been part of the life-style for a long time in Guyana.

The original inhabitants of Guyana, the Amerindians, lived in a co-operative way. After slavery, the Africans built villages having bought them by pooling their resources, and ran them in a co-operative way. Those labourers who came from India farmed and planted rice with the same kind of philosophy motivating their activity.

Therefore, I would like to say that you are doubly welcome when I see, in the way that you have come together, the same attitude to sharing knowledge, sharing experience, sharing the results of your research, perhaps the methodology of your research, sharing your experience of systems that can build into the whole net-work of science, the opportunity of sharing and helping each other and in that way helping the communities at large.

I do not believe that in the struggle to harness the resources of the world to help man become a happier being, that one should see oneself as being in competition with each other, because the end purpose of all this activity is the man himself. And in Guyana when we talk about socialism the most important aspect of that philosophy is the importance of the man, his value as a person, his value as a social being, his importance in terms of providing for him the opportunities to improve himself and develop himself.

And that after all, is the end activity of all the sciences no matter which is the particular area that you have chosen. It is the reason why you indulge in the activity, so that ultimately man will be able to live a better life, will be able, because of what you have been doing, to find himself more in harmony with the universe, more in harmony with himself, more in harmony with his fellow man.

Perhaps in a country like this it is understandable that we place so much emphasis on that kind of research that immediately helps us to tackle the basic problems that we feel man should not have, the problem that so many mothers in our country face of waking in the morning and not knowing what goes into that pot at midday, the problem of finding adequate housing, the problem of clothing oneself.

We believe that these are problems that should not occupy a hundred percent of the time of any individual or even half the time of any individual. These are things that should be provided for, so that a man's energy can be released to deal with other areas of improvement in life, in his personal

development, in the development of his society. Now, to do this one has to take into account that man in this society is not a peculiar being, but he needs to have assistance to use the resources around him.

Just a few months ago the people of Guyana faced a very difficult situation and we are still facing it. One of the reasons for this situation is the increasing cost of petroleum products and oil itself, because we depend so very heavily on this source of power for many of the activities that are carried out in Guyana.

Our electricity rates had to go up, because Government could not subsidise, as they had been doing for some time, the rates to the private consumer of electricity. But yet in Guyana, as everyone knows, we are blessed or otherwise with very large rivers, and numerous water-falls, potential for power and energy we have identified as needing to be tapped and we have started the work to do this.

But of course in a developing country, the technology to do this is very expensive; the inputs call for capital expenditure that certainly Guyanese do not have at hand and certainly very few developing countries really have readily to hand, but these are the areas to which we need to turn out attention. These are some of the areas that need urgent attention in countries like ours, and these are the areas where one would find that it is possible to interpret the work of the scientist to the ordinary man because he can share in an experience, which benefits him in a tangible way.

The whole area of food technology is one that we need to talk more about, and to talk in positive ways too. We have a whole tradition that we have been told is wrong, where mothers believe that the way to strengthen your child is to give it something called plantain flour, a flour we make from plantains. And certainly if you got anybody my mother's age or older than that, she would swear to you that any robust, healthy child she produced was the direct result of plantain flour.

Nutritionists, however, have told us, and I am sure they are right, that really and truly plantain flour has little that helps in the growth and development of the child; it has carbohydrates and very little else. So that we need either to stop using it, or to enrich it in some way with milk or something.

Now this is fine, it's important to know this; but at the same time, those of you who are involved in this particular field need to tell us with the same kind of dynamism that the producers of powdered milk have been using, what are things we should use. We know the things we should not use, now tell us a little more about the things that poor mothers can use.

Sell it as you would sell soap powder, if you want that analogy, because I gather that is something that is sold very

effectively; but sell it with everything, use the communication channels, the technology of communication that we have taken from the developed world, sometimes a little too uncritically. Use the traditional means of communication that our parents, our grandparents the villagers all know about, across the fence, perhaps in the barber shop, in the rum shops ; try and make it attractive so that you popularise the result of your scientific activity.

But nutrition is not the only area, architecture is not the only area, there are so many areas where the work you are doing is vital but can only really produce the results that you want if people like myself who are laymen understand what it is you are doing, understand the relationship of what you are doing to our life-style.

It is true, that based on the research you do and the results of that research the message might change very very frequently. And I remember the story of a man who went to a doctor complaining that he couldn't sleep and the doctor after asking him some questions said, "but the thing you have to do is have a really solid meal before you go to bed, that solves your problem." The patient objected, he said, "but doctor the last time I came, you told me just the opposite that I should not eat at all before I went to bed." The doctor said, "cha! that was last January, science moves very very quickly and three months is nothing at all for science."

But I think the public can be helped to cope with problems of change like that. The important thing is that we, the public, understand what it is you are doing, that you build into your work a system, nationally and internationally, that ensures that the process of communicating will continue even when you yourselves who, by your presence here indicate that you understand the importance of communication and you are committed to it, even when you are not there, and that you leave behind you a system that can function, that can work.

The importance of communication is something that subconsciously, I think, we all are aware of; but I think sometimes in pursuit of our own discipline we forget those who are, for one reason or another, outside of that particular area and too late we attempt to communicate with the people who should have been part of the investigation from the very start.

I am not at all suggesting that there are areas with which you are not the only people competent to deal, but I would like to think that every subject can be explained in terms of its relationship, in terms of the end purpose of it, in terms of what is involved, in a way that wins you the sympathy, the understanding of the people at large.

In some countries, that involvement is in your own interest and is important because you will need the funding to carry on the research; and if people don't know what the research is about and have not been involved you don't get it.

In a country like Guyana where we are trying a very difficult

job of funding things like this in different ways, of centralising the resources of the country and then allocating them to areas of importance; it is, nevertheless, important, perhaps just as important, to share with our people the results of your work because, after all, they are the people who provide the money for the research, either by taxes direct or indirect or in other ways.

Apart from that, if we respect each other as human beings, if we mean anything by the value of the individual, then we treat him in a way that shows that respect, we treat him in a way that makes him a partner in the sharing experience which is the experience of living.

We must say to him, "you are part and parcel of this exercise, you have a role in this just as I have a role; you are providing one function, I am providing another function; but together putting all our work together we will find a way of making life a better place, a happier place, a place where people can walk tall and feel proud of themselves."

In this area perhaps more than others you can de-mystify a science that has come down to us with all the cultural imbalance that has been part of the lot of the developing world. It has been part of the reason for so many of us who live in the developing world, feeling that those in the developed world are somehow way above us because they are in control of areas that we don't understand.

If you de-mystify this particularly important area then you help us, in ways perhaps you don't even think of, to restore the self respect which we should have, to have confidence in ourselves to understand that those of us who live in the developing world, are human beings on par, with valid cultural bases, with the ability to perform as effectively as those other kinds of societies. It is in that spirit that it is my pleasure to declare open this workshop.