



TOGETHER
for a sustainable future

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07425



United Nations Industrial Development Organization

Distr.
LIMITED

ID/WG.238/16
23 November 1976

ORIGINAL: ENGLISH

Ad-Hoc Expert Group Meeting on Co-operation
among Universities, Industrial Research
Organisations and Industries and the Role
of UNIDO in this Co-operation

Vienna, Austria, 29 November - 3 December 1976

CO-OPERATION BETWEEN INDUSTRY, RESEARCH INSTITUTES,
UNIVERSITIES AND UNIDO^{1/}

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id.76-6433

Gentlemen, in this seminar we are trying to investigate a problem. Namely, how a contact between researchers in universities and research centres and departments in industry can be strengthened and how it can be put to use in the industrialization of the Third World.

How will we go about doing this? We are at present trying to make contacts with people who to us seem suitable. Personal contacts which we want to use to exchange, test and perhaps eventually change our opinions, points of view, the know-how and "know-what" of each other, and in this way we have already chosen the most effective method to make contacts, that is by personal contacts.

In industry we work in very much the same way. In lectures and seminars about product innovation I always try to highlight the complex system in which we are bound; a system of inter-connections between the departments of a company, between people, authorities, organizations, clients, competitors, experts etc. And though these connections were established ad-hoc in the first instance, they are often maintained and used over and over again.

This intellectual infra-structure which encompasses all activities on a social, political, economic, technical and scientific level is one of the keys to understanding our modern, industrialized world. Whilst gathering material for this paper and for this seminar, by speaking to people in our company, this fact was confirmed many times. In Table I I show some of the comments made in this direction.

In these talks yet another point became apparent: the mental capacity of the individual is very limited. He can either have a profound knowledge of his own particular area or a very superficial understanding of many, different areas. In connection with this theme of "contacts for research" we must acknowledge that one individual can never know of all the experts that there are in the world; nor can he know the range of competence of all the universities, research centres and industrial research departments, nor can he know all those small and big private, national and international organizations.

As far as I know there is no compendium of all associations, organizations and companies. There are large libraries full of address books and compendiums but they are, however, mostly incomplete and outdated.

So, how can we use this infrastructure?

How can we know where we will find a suitable partner for special cooperation, for know-how-transfer and for an exchange of information? In our experience there is only one way: one must ask a host of experts in organizations, firms, libraries, universities until one finds the right one; this sounds very complicated but in most cases it can be done very quickly.

As an example let us take the biggest organization in the world, the UNO. We know the names of its most important sub-organizations, we have personal contacts with them, with their experts and their managers, but we must realize that we don't know details about their fields of activity, their areas of know-how and expertise.

In the case of UNIDO, with whom I had some prior personal contacts, I was very astonished, on reading some introductory papers, to see the enormous range of activities.

One cannot reproach UNIDO because it has not made known its broad spectrum of activity to all those who should know. Here we have come across the law of limited human capability which I previously mentioned.

I would just like to say it would be favourable to awaken people's curiosity so that they engage themselves in finding out more about UNIDO. And when this curiosity is awakened UNIDO ought to be prepared to turn every contact into a positive one. It ought to have a number of very good contacts; experts, who will mediate in finding other experts; I would, however, like to warn against a huge central information bureau.

Some years ago we had extensive but unsuccessful discussions with computer producers and an UN-organization and large firms about the possibilities of an information storage and retrieval system.

I believe that this is not, however, a feasible project today. I make that claim because in my preparatory talks before this seminar it was often suggested that UNIDO should store all those development plans and economic policies of the world which are made public, all the studies and the projects which are carried out under the guidance of the UNO and other big organizations; it was also demanded that UNIDO should store and make accessible the greatest amount of knowledge from experts and firms, and to act as a kind of "super mediator".

I am convinced that these demands cannot be met so easily, not least because there are two more basic human laws:

- o the fact that everything changes so quickly in the world and therefore every information store just stores past history;
- o the inevitable path of large organizations towards inefficient, inflexible bureaucracy.

Take our meeting here, for example; we have come together to speak with each other as people who possess an indiscribable wealth of experience and knowledge, and who are prepared to share this with each other. No super-computer, no super-library, no super-archiv, no super-documentation can offer us that.

Now I feel that I must expand on what I previously referred to as the limited capability and capacity of man for knowledge and information: Man as a biological being has the capability to learn, to improve his mind, to add new information and to process this in a very quick and efficient way; he can do something which no computer can, that is to think out a problem. In addition to this it is not the most enjoyable thing to do communicating with a computer. It is far better to talk and make contacts between like-minded people.

Therefore, I make a suggestion, even a plea:

Let UNIDO in Vienna and as many places as possible in the world, become places of meetings, contacts, of stimulation, of intellectual enrichment. In this way it will best inspire researchers, scientists, experts, practical

people, entrepreneurs and politicians to become active for UNIDO's goals. Make it an "open house", or a "club", or whatever you want to call it.

And furthermore: Man can only really get to know those people who speak the same language, have the same opinions and the same way of thinking. I, myself, cannot converse with a scientist about his specialist field, but I can speak with him about his general methods, his general approach. Likewise I cannot talk with a farmer about cattle-breeding.

People can only converse with people of the same technical understanding. We have to bear this in mind when we talk about arranging meetings. Furthermore, it is often the case that people cannot explain what their work entails. Communication is taking place all the time in every-day-life, at the work place; communication therefore must mean: observing, watching, working together, talking, listening and discussing.

The advertising specialists know only too well that information is more readily taken up and processed the more channels of information there exist. Therefore, UNIDO should offer as much contact as possible on the spot, in the work place, between specialists of the same profession. Let for instance civil engineers work together, build bridges in Africa, in the atmosphere, the climate, the noise and the dust, with the local resources. Only common experience can create a basis, can prepare the mind for patterns of behaviour.

When UNIDO speaks of a training program it should not mean simply schools in the ordinary sense. Our researchers are of precisely the same opinion when they say that UNIDO should send its trainees to their laboratories, where they can take part in the work, can get acquainted with and can see and hear and feel how research is carried out. Our technicians likewise are of the same opinion when they speak about training in production technology.

This is how we in VÖEST-ALPINE have transmitted knowledge for many years - long before the words "technology-transfer" and "know-how-transfer" were born. We spread the LD-process around the world. How did we do this? We let the personal of other firms work alongside us until they grasp what is going on, until things fall into place and until they are fully acquainted with the whole process.

Further development and even innovation comes from the basis of understanding and intellectual digestion of a given know-how. I think this is yet another very important point.

Now I will return to the subject of intellectual infrastructure. I have tried to show how it works, that is by personal contacts, and what an organization like UNIDO can do to improve it. This infrastructure is the prerequisite of R & D as we know it. This infrastructure is different in most of the countries of the industrialized world, but there is a common denominator.

The developing countries have also their intellectual infrastructure, but there will be differences between one country and another and perhaps also differences between the industrialized world as a whole and the Third World.

People in developing countries have different conditions, different environments, different traditions, just as we have different customs, traditions and conditions. This is the reason that our technology, our products, our machines, our plants should be adapted to these local needs and conditions. People in developing countries ought not, and don't want to be, machines who reproduce our modern technology and our present way of thinking and living as well.

Therefore, we and UNIDO ought to try to only stimulate those people by our way of thinking, by our technology, by our products and plants, with the aim that they formulate their own solutions to their own intellectual infrastructure. This is the basis from which R. & D success comes. The most important point is that these solutions are taylored to local conditions, environments and traditions.

TABLE I

Examples of Contacts

between industry, research institutes and universities
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The most common contacts are:

- conferences, conventions, congresses
- trade fairs
- cooperation between companies
- special committees on industrial basis
- special committees on university basis
- special committees on Government and official basis
- contacts between industry and research institutes
- contacts in the course of industrial projects with companies, but also with foreign universities and research institutes
- contacts when searching special know-how or equipment
- contacts with production management when technical problems arise
- cooperation between industry and university to use expensive equipment
- industrial specialists and managers lecture at universities, serve on university and research institute committees and boards
- mutual assistance and advice between the above mentioned partners

- cooperation in the course of dissertations and theses
- mutual provision of problems for research
- joint teams from university and industry for solving special problems
- financial support from industry to university
- work in industrial boards and committees
- visit of university staff and students to industrial workshops, laboratories and administration including discussions between the visitors and specialists and management



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