Science Journalism and the Regional Cooperation in Asia

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Obstacles to Science Popularization

Everyone agrees that science popularization, that is, the public understanding of science is very important in any modern society. The major reasons for its importance are mentioned below :

"First, science is arguably the greatest achievement of our culture, and people deserve to know about it; second, science affects everyone's lives, and people need to know about it; third, many public policy decisions involve science, and these can only be genuinely democratic if they arise out of imformed public debate; and fourth, science is publicly supported, and such support is(or at least ought to be) based on at least a minimal level of public knowledge."

Notwithstanding, science popularization is not ced nations like Britain and the United States have found that the public is largely interested in science, but it is largely uninformed. There exists a big gap between science and the public's understanding of it. It means that science faces any obstacles in reaching the public.

The first obstacle relates to the properties of science and technology themselves. Science has three major characteristics: abstractness, specialty, and complexity. Scientific knowledge is not only about phenomena, but also beyond them. It is theoretical and theory is a kind of abstraction of the essential structures and fuctions of phenemena. Concepts bridge the gap between theory and phenemena. Thus a concept is also abstract. Theory

consists of the relations between concepts. This abstractness makes it difficult for the public to understand science.

The second obstacle to the public understanding of science is the specialty in science. Science is specialized intensively and extensively. For a limited scope of a phenomenon, a particular discipline appears, so that so many disciplines have come into existence now. They each have their own concepts and theories. Each discipline even tends to produce its own unique methodology. Nowadays science students should learn methodology for several years so as to produce scientific knowledge proper to their own discipline. Thus it becomes difficult for scientists to communicate with one another across different disciplines and sometimes even within a discipline. This speclalty in science, that is, specialization and segmentation of both scientific knowledge and methodology, makes it difficult for the public to understand science.

The third obstacle relates to the complexity in science. Complexity increases as relations among elements are comlicatedly inter-connected. It is impossible to explain phenomena as a simple element or a single relation, because their essances and processes are complex. So scientific knowledge becomes complex. This complexity in science increases its difficulty for the public to understand.

These three attributes of science itself suggest that there should be some strong mediators between scientists and the public in order to achieve the highest level of the public's understanding of science. Public relations activities and science journalism are two major mediating mechanisms.

Public relations activities for science are connected with the role of communication of science institutions. Institutions are less likely to be concerned about public relations activities for the general public because their jobs and products do not seem to be directly and closely related to public life. This usually results in positioning fever public relations practitioners in science institutions than in others like business ones.

Of course it is not easy to obtain public relations practitioners, who are capable of handling science and technology well. First of all they should know something about science and in addition have public relatios and communication skills. This means that public relations practitioners in science institutions should be both science and public relations experts. It is difficult to train newcomes to become practitioners, unless they have some educational background on science and/or public relations.

Without PR practitioners in science institutions, it is unfeasible that information form scientists will flow to the general public via mass media. In that sense, positioning those practitioners in science institutions is more necessary for improving the public understanding of science.

Another intervening obstacle to science popularization is the inactivity of cscience journalism. Most developing countries like Asian ones have very low key science journalism in mass medin. This results in the public having less acess to science information and then having the typical low understanding of that scientific information which is available.

Obstacles to Activating Science Journalism

The general public, wherever it works, is exposed to science information through mass media. However, science news is likely to be dull because of its characteristics of abstractness, specialty, and complexity. The attributes which make something newsworthy are prominence, proximity, timeliness, and human interests. In principle, science information should meet these attributes in order to be presented as news in mass media. Thus some health or environmental information is attactive

to science journalists, for it tends to meet some news attributes. However, most fields of acience like basic science, theoretical physics, and chemistry are less appealing to journalists and the public.

Another problem in making science journalism active is that science journalists have difficulty to search science news. The major reason is that there are few science institutions having public relations practitioners and science information is too specialized to be comprehensible without the practitioner's or experts assistance. This demands that public relations practitioners should be put in science institutions and help science journalists search out news materials. Ohterwise, science journalism will not bcome active.

Also scientists themselves are very important to make science journalism active. Basically scientists are the source of science information. However, they are more concerned with their own research productivity than with informing the public of their research. of course they are eager to inform other scientists of their discoveries through professional academic journals. These facts prevent science journalists from having easy access to scientists. Some scientists even tend to despise efforts to publicize research information. Whether it comes from some cultural tradition or scientists effort to keep the creative research a secret for the time being, science journalism is not easily activated without the assistance of scientists as the source of news information.

In science journalism, inaccuracy is another major issue. It arises from several sources. The first source is journalists lack of knowledge about the subject matter of science. Thus journalists may not be able to report it accurately. The second source, and no less important than the first one, is scientists lack of skill in communicating their knowledge. Scientists are familiar with the terms and jargon of their discipline and then try to communicate their ideas via these words to journalists. This forces journalists to translate scientific language into ordinary language for the general public. The very process of translation also is likely to produce the inaccurate information.

Table 1. Distribution of Journalists Requests to MRS by kind of Media in 1988(Unit : Percentage ; N = about 3,000)

Newspapers	43.0
Magazines	24.0
Television	14.0
Wire Services	3.5
Radio	3.0
Others	12.5
Total	100 percent

In short, on the part of scientists, to imporve the accurate communication of science information through mass media demands two things: scientists willingness to publicize their works for journalists and the public, and their enhanced skill to communicate their special knowledge in ordinary language. These are their essential roles for activating science journalism.

Significance of the Science Information Network Center

We can establish another source from which science journalists would be able to have easy access to gathering news materials. That is the science information network center which collects, classifies, stores, and distributes science information flowing from science institutions and scientists. This center may be the most valuable to scientists them-

selves, because they can come to know about one another's works quickly.

Also science journalists will also be able to make use of it in exploring or probing news materials related to science. Because there are such diverse and specialized subjects, journalists can not follow up except their special major. Thus they may not do the tedious work of screeing the information network in order to find some news materials, yet the information center can help in the screening.

It is highly feasible that the science information network center will classify and store the sociodemographic information of scientists by subjects, and enable journalists to contact them easily for interviewing. This kind of service has already been made available in the United States. The Scientists Institute for Public Information (SIPI) is a national, nonprofit organization dedicated to improving public understanding of science and technology. Here we need to know what kind of services it provides to facilitate science journalists to get science information.

New SIPI has three major programs especially for helping the science journalists news process. The first one is the Media Resource Service (MRS) program established in 1980 after the accident of the Three Mile Island's nuclear power plant. It is a kind of crisis managemet system from which journalists can get relevant information promptly when a serious accident occurs. The MRS program has a list of about 20,000 scientists categorized by subjects. The Service provides science journalists with the names of a few experts that he can seek to interview or ask questions in making news. Of course the MRS program has gotten permission from every scientist in the list that he or she is willing to give information to journalists for nothing, and to answer questions as asked. In 1987, it received about 50 requests per week from journalists. For references, Tables 1~4 show the distribution of 1988 and 1989 requests.

Table 2. Requests by Kind of Subjects in 1988

Health/Medicine	32.0
Social Sciences	16.0
Child Health & Development	11.0
Occupational Health	6.0
Environmental	5.0
Life Sciences	5.0
Ohters	25.0
Total	100 percent

Table 3. Requests by Kind of Media in the 1st Half of 1989

(N = 1420)

Newspapers	45.0
Magazines	25.0
Television	13.0
Radio	3.0
Wire Services	3.0
Others	8.0
Total	100 percent

As shown, newspaper journalists are the most active in seeking information of experts to ask questions of science matters. Also the field of health is the most interesting one to science journalists.

SIPI also has a Videotape Referral Service (VRS) progam established in April 1988. Because photographs and videotapes are very useful to clearly present science information, the VRS program classifies ad stores information about individuals and institutions who have useful scientific pictures or videotapes. It provides journalists with information, as requested, and facilitates them to get a picture or videotape for nothing because it has already gotten the owner's promise to freely give the material to journalists. As expected, television journalists made the most use of the program, and in 1989 there were about 7~8 requests per week.

Most recently in 1989, SIPI established another

program, the International Hot Line (IHL). It has a listing of some 150 environmental experts around the world who have agreed to answer journalsts questions about environmental issues. Journalists from any part of the world can call SIPI collect to be referred to experts in many countries.

These three service programs for science journalists have been foudnd to be very effective. The way of getting the services is very smple and the free services are directiy usable. Based on these findings, one can clearly see the benefit of establishing such a science information network center as SIPI in very Asian country. This is sure to help activate science journalism, which will contribute greatly to the public understanding of science. The center will also be able to develop programs of deducating and training public relations practitioners for science institutions, science journalists, and even the public itself.

Proposing the Asin Center for Science Journalism

Most developing countries in Asia have no active science journalism. They can not afford to pay attention to it, because there are so many problems in politics and economy. However, in fact they are in desperate need of active science journalism, in so far as science and technology, and the public understanding of them are very important to developing a country. Therefore we need to establish the Asian Center for Science journalism, which can contribute to making science journalism of Asian countries active.

Table 4. Requests by Kind of Subjects in the 1st Half of 1989

Health/Medicine	30.0
Social Sciences	17.0
Child Health & Development	11.0
Occupational Health	8.0
Environment	8.0
Life Sciences	5.0
Others	23.0
Total	100 percent

The Center, first, will be able to provide services like the SIPI's Media Resource Service, Videotape Referral Service, and International Hot Line about environmental issues. However, because the Asian region is different from the U.S.A. and Western European one in many aspects. the Asian Center can be more effective for needs in Asia. For instance, in science and technology, the field of agricultural development is more important than those of theoretical physics or advanced technology. Therefore, Asian science journalists will be able to get more appropriate information from Asian scientists, because the scientists know better what kind of information applies to the needs of the Asian science journalists.

The Center, second, will be able to educnte and train punlic relatins practitioners for science institutions, science journalists, and the public particulary interested in science and technology. All these could serve to promote sience popularization in Asia. This will be very effective, because such educational programs do not yet exist in Asia.

Above all, this Center will work as an example of regional cooperation in Asia. Also its efficiency will be highly valued, because each Asian country does not have to and in a sense can not afford to establish the Center on her own. In addition, the Center will promote science popularization together in Asia and maintain an Asian identity in the field of science and technology. Therefore, this UNESCO workshop on Public Awareness of Science and Technology will be recorded as an excellent one if it proposes and decides to establish the Asian Center for Science Journalism in Seoul or another Asian city.