

## 204. Media and Science Communication Creating Science Opinion Leaders—A Case Study of Science News Magazine

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**Abstract.** Media play an important role in science communication by bringing scientists/experts together with the public, involving scientists/experts in transferring science information in an easily-undertook way, and thus engage people's daily life with science. This paper uses Paul F Lazarsfeld's Two-Step Flow Theory to analyze Science News Biweekly's efforts in science communication, including composing the science communication column and organizing activities like online training course for science journalists, seminars including various participants and discussing science's role in policymaking of public health, GM food, and urban planning, and science-media exchange programs involving scientists and journalists. By all these activities, Science News Biweekly first tries to train scientists/ experts and journalists into opinion leaders who are both good at science knowledge and communication, and then create opportunities for them to radiate their effects to the common people in a way widely engage the public. The analysis finds that because the second step, that is the interpersonal communication, is thought to be more important in convincing people to believe a certain scientific information and thus influence decision-making, media can actually try to do more to "mould" opinion leaders and improve people's perception of science knowledge in the first step. And in the field of science and technology, opinion leaders' role in the government's policymaking is much more significant. Thus media should try more to "train" more opinion leaders, so as to promote science communication effectively.

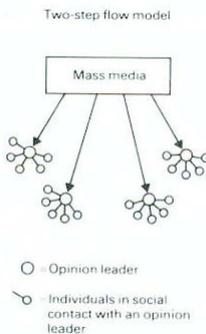
**Keywords:** Science communication, Opinion leaders

### Introduction

Media play an important role in science communication by bringing scientists/experts together with the public, involving scientists/experts in transferring science information in an easily-undertook way, and thus engage people's daily life with science. However, Chinese scientists were tending to be reluctant to do science communication. In two surveys done by Science News Magazine, about public health communication and GM food safety communication respectively, 56% and 63% participants thought that scientists haven't done enough in science communication (Tan & Jia: 2010a, Tan & Jia: 2010b).

The fact that scientists' efforts to communicate their researches have been decreasing, was partly due to the ignorance of importance of communication and partly due to the lack of ability to do dialogues with the public.

Besides, more than 50% science journalists thought that it was hard to receive help and cooperation from scientists. Scientists' reluctance to do science communication and popularization has become one of the reasons why there was so much misreporting of topics related sciences. This directly leads to the lack of opinion leaders in the field of Science, especially about controversial topics like GM food and TB vaccine. Without accurate information from opinion leaders, interpersonal communication among the public tends to be in chaos.



Source: Katz & Lazarsfeld (1955)

According to Paul F Lazarsfeld's Two-Step Flow Theory, information from the media moves in two distinct stages (Katz & Lazarsfeld: 1955). First, individuals (opinion leaders) who pay close attention to the mass media and its messages receive the information. Opinion leaders pass on their own interpretation in addition to the actual media content. Opinion leaders are quite influential in getting people to change their attitudes and behaviors and are quite similar to those they influence. So it is of great influence and importance to "mould" influential opinion leaders in the field of science, who can transfer accurate scientific information to the public and avoid personal dissemination of pseudoscience.

### **Analysis: Case Study of Science News Magazine**

Science News Magazine, operated under the Chinese Academy of Sciences (CAS), is the first and only professional news magazine targeting the science community in China. It aims at serving for scientists and promoting the development of China's science. Its readers include policymakers like health minister Chen Zhu, science minister Wan Gang as well as all academic leaders and chief scientists from CAS and CAE (Chinese Academy of Engineering), NSFC (National Natural Science Foundation of China). With widest readership in China's science community, Science News Magazine has the base to choose science opinion leaders. And a professional medium, it has the platform to provide dialogue between science opinions leaders and the public.

Also, in partnership with British Embassy, China Science Reporting Network and the World Federation of Science Journalists, as well as China Association for Science and Technology (CAST), Science News Magazine has done a lot for advancing development of science communication in China and engaging scientists to transfer their professional knowledge to the public. Sponsored by British Embassy, Science News Magazine designed and organized the Science into Policymaking Series Seminars, discussing scientific evidences' role in policymaking of controversial topics like public health, GM food safety, waste incineration, and urban relocation. During discussion of such controversial topics, certain scientists were promoted to be opinion leaders and radiate accurate information to the public.

For example, Zhu Zheng from the Institute of Genetics and Development Biology of the Chinese Academy of Sciences, successfully become a typical opinion leader in the field of GM food safety after he acted as a leader in a hastily arranged session derived on the "Communication and Dialogue of Agribiotech Symposium". During this symposium, members of the general public berated and quizzed scientists on concerns ranging from the legitimate to the bizarre. A group of protestors descended on there, prompting organizers to set up a side session between members of the general public and scientists.

A group of experts, leading by Zhu Zheng, reassure the audience and answer their questions patiently. As a result, those encounter yielded great consensus and the protestors appreciated the chance to try to set the record straight. This hastily arranged session was praised as "a milestone" in the history of GM food safety communication. This shows that science communicator can and should try to provide accurate information and play a role as a bridge between scientists and the public, enhancing scientific communication and promote the right understanding of science issues among the public.

In addition, Science News Magazine held many other activities like Seeking Future Star of Sciences, Scientist-Media Role Exchange Programme, and so on. For the Scientist-Media Role Exchange Programme, young scientists were encouraged to work as intern journalists in media while science journalists were encouraged to work in science institutes as public information officers and public engagement campaign assistants. This programme not only created greater mutual understanding between journalists and scientists, but also increased the communication skills of professional and reporting capacity of journalists. Both science opinions leaders and journalism opinion leaders were created for more effective and efficient science communication.

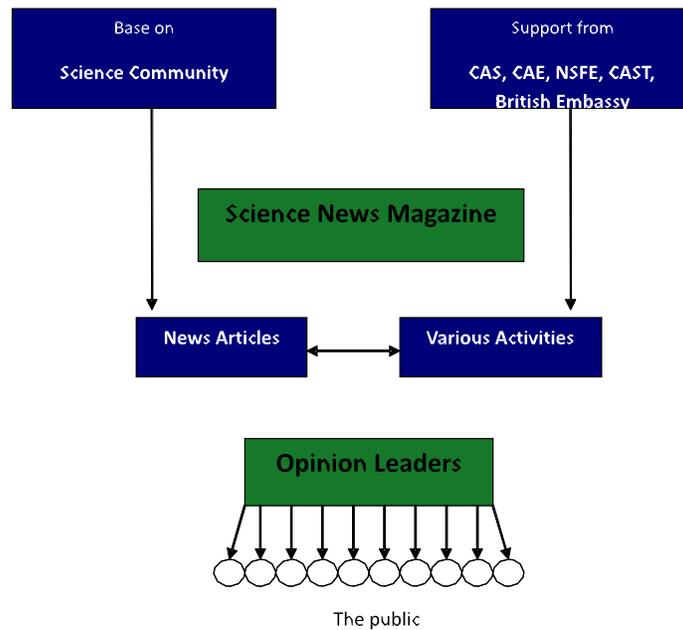
By all these activities, various opinion leaders in various fields were chosen and moulded. What's more, owning various media resources, including blogs, websites, television, broadcast, newspaper and magazine, Science News Magazine has multiple channels to publicize its activities, increasing popularity and fame for all these opinion leaders and making them as influential as possible.

So far, Science News Magazine has planned a series influential scientific evidence based reporting like the truth of anti-dam, questions against earthquake prediction and GM food safety (Zhao: 2009). All those news reporting, together with various activities well schemed by Science News Magazine, promoted and branded many well-known opinion leaders, greatly facilitate science communication in China, improve the process of policymaking and increase Chinese people's scientific literacy. Of course, in the way to more effective and influential science communication, Science News Magazine also faces many challenges. One thing is that to organize all those kinds of activities, it needs more funding and financial support from various organizations which truly intend to enhance science communication.

Another thing is that market-oriented media reform in China has led to exaggerating reporting, entertainment, and unserious journalism. To truly promote science communication, Science News Magazine has to maintain a top-notch journalist and operation team, to ensure highly qualified evidence-based reporting and effective communication activities.

### Conclusion

From what is analyzed above, Science New Magazine has formed a mature system for influential and effective science communication. As showed by the graph below, Science New Magazine is based on and targeting at the science community, so it owns abundant recourses of scientists. With backup of such recourses and support from organizations like CAS, CAE, NSFC, CAST and British Embassy, it is able to organize various activities to cultivate opinions leaders, who will be further consolidated by media reports of itself and its counterparts. Such route which focuses on the first stage of communication, that is process of making opinion leaders by media, has been proved to be valid and feasible.



*Communication Model for Science News Magazine*

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