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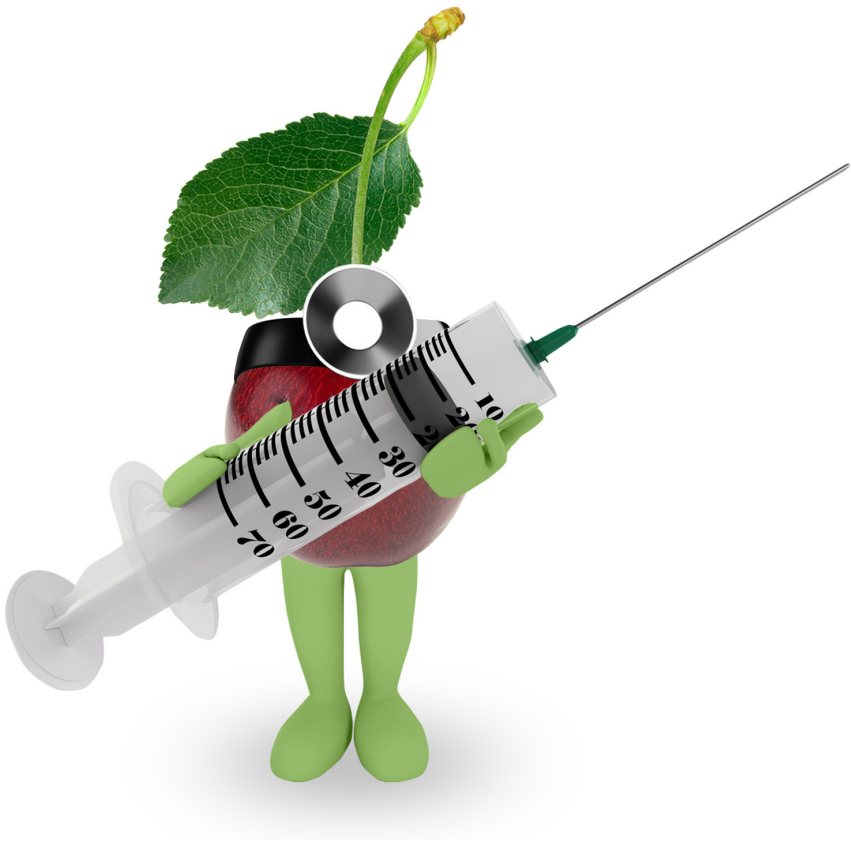

PUTTING SCIENCE ON THE PUBLIC AGENDA

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PUTTING SCIENCE ON THE PUBLIC AGENDA

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Summary

The link between science and society is inevitable and becoming ever more important. Science is a relevant media content, but it needs to provide an interesting story in an attractive field. The question arises of how to get to the story and how to capture the momentum so that the audience or non-experts will understand the advantages, change their behaviour, and create a positive attitude to science.
Being a communication expert, I explored the relationships between society, the media (journalists) and science (scientists). I examined different contexts that are typical of each group and what is the potential to make these relationships work better in order to create acceptable and more broadly engaging science communication.

Keywords: public agenda, marketing communication, communication skills, storytelling, consumer, scientific institution, media relations

Introduction

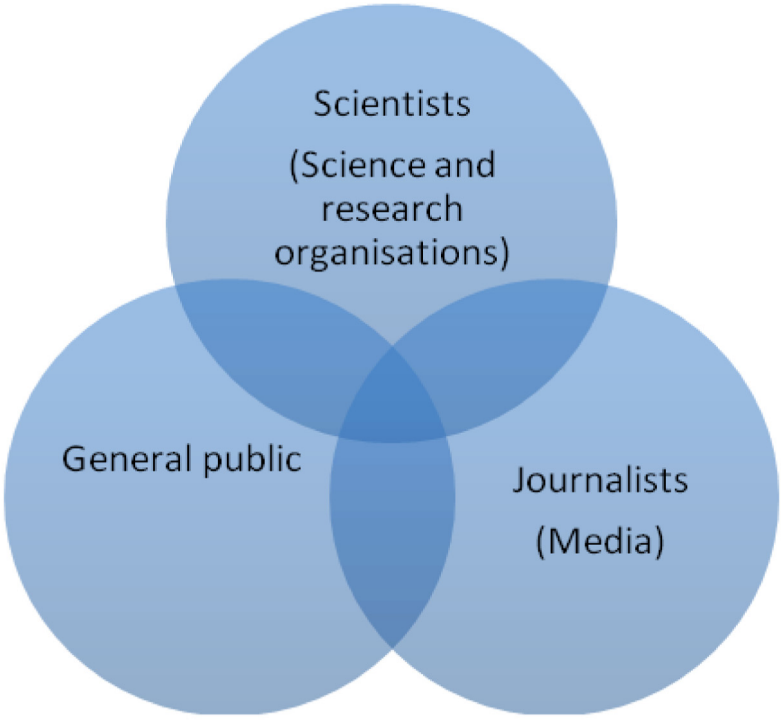
In the expert field of public relations and core communications everything is based on relationship management. The term relationship management refers to the process of managing the relationships between an organisation and its internal and external publics. In this context, John Ledingham (2003) defined an organisation-public relationship as "the state which exists between an organization and its key publics in which the actions of either can impact the economic, social, cultural or political well-being of the other" (p. 184). Moreover, the concept recognises relationships as the core focus of public relations. The notion of relationship management represents a pivotal change in the nature and function of public relations. This change involves a rethinking of the role of the production of a communication message in science communication and its dissemination via public relations. This is an important theoretical concept that has to be grasped by practitioners of communications within science organisations. Further, the social stakeholders or crowded stakeholders landscape makes it essential to choose the right communication strategy to maximise the likelihood that the relevant message will be seen or heard, understood and accepted. Key stakeholders as part of society have so many information sources at their fingertips that is important for any scientific and/or research organisation to use the best and relevant methods and messages in order to break through the cacophony of the often competing messages in science and technology. And, if up until recently communicating with society was optional, today it has become a necessity. No one in the field of science and technology can afford to ignore this fact. In reality, science also needs to communicate because, for example, politicians must understand and be able to defend the interests of science and technology. Important decisions regarding science are not made in a "scientific environment" but one which involves local, national and European politicians, social groups, private businesses, corporations and their associates, lobbies, special interest groups (pressure groups), "moral authorities", the media, the lay public etc. In the last few years, the relationships between science and society have begun to change radically.

If we change perspective and look at science communications from the point of view of society generally, we can see that scientific research and its results are ever more often the real social, cultural and economic driver — scientific research and its technological innovations and findings are changing society, the way consumers behave and live. Moreover, scientific research is a basis for the progress for the

whole of society and its development so it is essential for it to be seen as a credible partner within a dialogue that participates in the development of life in a technological society. Further, the consequences of science and technology are too important to leave them in the hands of scientists alone and the relationship between science and society is too important to simply hand it over to non-scientists. This is because the price of not communicating well can be very high and may cause damage to both sides involved. Therefore, the relationship between science and society looks like a nicely bound marriage. Society needs science and science needs society. Society needs science to drive change and science needs society in order to use the talents, freely explore and involve all the resources available to society.

In this article, I explore how to develop a firm, deeper relationship between science and society and how to proactively involve the media as the media acts as an important translator within this relationship. I will look at the relationship between the general public, science and the media.

Figure 1. **Triple Helix Model of a Science and Society Dialogue**



Engaging the General Public

Public awareness of science (PAwS), public understanding of science (PUS) or, more recently, public engagement with science and technology are terms relating to the attitudes, behaviours, opinions and activities that comprise the relations between the general public or lay society as a whole with scientific knowledge and organisations. Especially the term PUS has become a label for every communication channel or type of communications (events, books, magazines, shows etc.) that transmits science to the general public. PUS has its formal origin in the Bodmer Report[1] issued by the Royal Society in 1985. "The Bodmer Report changed attitudes within the Royal Society and opened the way for so many initiatives: much more science in the media, organisation of the National Science Week, prizes for science communication and undergraduate and postgraduate courses at universities. Perhaps most important of all was that scientists were encouraged to go out and communicate, which few did before our report…The effects of our report exceeded our expectations" said the report's author, Walter Bodmer, in an interview 25 years after its release. The Bodmer Report resulted in a movement to found the Committee for Public Understanding of Science. Later on, communication experts further developed the suggested one-way communication model which was presented in the report into a necessary two-way communication model. This resulted in another term: public engagement of science and technology, which we use today. Engagement is an important shift in building a relationship with the general public. Why? Because communicating science is more sophisticated, it needs to be contextualised properly in order to be understood well, it incorporates psychological and emotional concerns that are relevant and shape consumer minds, lifestyles and points of view.

Namely, today society with its wide network of media expects to be consulted, involved and engaged. Citizens/consumers need to be heard and listened to. They want to know who scientists are and what they do; they seek relevant and comprehensive explanations. If particular research carries potential risk technologies, they want to know and even organise themselves in public pressure groups to respond, to protect themselves. Citizens/consumers expect scientists to act and feel responsible towards society and the "ethical" pressure of the general public on scientists is nowadays very strong. Therefore, the communication of science is no longer simply a matter of dissemination but a process that produces knowledge, changes attitudes, shows references for everyday life, and accepts new practices. Science and scientists

play a fundamental role in this process and if they want to retain their voice of authority, they need to avoid simple statements and facts, deal with consumers' reality and their actual perceptions. To refer to our metaphor of a marriage — the fundamental objective is to create deep and solid relationships based on trust. It is important to create a trustful space for dialogue with society. Inevitably, there will always be some gap to bridge based on the difference between the knowledge scientists hold in comparison to the general public but, based on trust, the communication with the general public would be much more engaged and its reach much wider.

For scientists, communicating with society demands a different language that is completely different from the language used in their professional circle or among peers; it is not a simplified version of scientific language, nor is it based on teaching a language or a simple "translation" acceptable to the non-expert public. Communication with society or public communication has its own requirements: it must integrate different forms and norms and, above all, the most important base is the context. These differences between the languages of the scientific world and the language of society have to be seriously considered.

Another significant difference between the two mentioned worlds is attention, an issue that is often underestimated. Expert communication implies the complete attention, responsibility and interest of scientists/readers to be informed as they need it for their research. On the contrary, the non-expert public (readers, viewers, visitors) has no particular reason to pay attention. Their attention has to be gained. Otherwise, the momentum for engagement will vanish. And in the media there are so many competitors for consumers' attention: politicians, business, and lobby groups. They all seek visibility and a knowledge-based consensus. Even beyond pure commercial needs, any product can be supported by "quasi" scientific information. Consumers are facing an information overload so the struggle for their attention is an important reality for science communication. Competition for attention starts in the media newsroom where particular science information has to be presented, told, contextualised and written in a way that holds the potential of a good story for a certain medium. Can this imply that scientific news must have elements of popularisation like sensationalism? Notwithstanding the answer to this, it cannot be disregarded if it is needed for effective communication and public engagement. Indeed, in order to make some science topics appealing, spectacular or even sensational within expectable ethical limits, today scientists need to master certain communication skills.

Scientists and communication skills

In public communication, given the considerable asymmetry in the knowledge held by experts and non-experts there are some techniques that have to be applied: narration, emotion, rhetoric devices, partial explanations etc.

The more science touches on the everyday life of society with greater speed and reduced mediation, the less scientists can disregard the ethical implications of their research and communication. In short, scientific research's great influence implies just as great a responsibility of an audience.

Therefore, the quality of communication depends greatly on the quality that is established with the audience. Like in a marriage, the better you know each other, the better you will get along. Effective science communication has two premises. One premise is rational — to identify opportunities and to plan the communication well. The other premise is the momentum of a vigorous dialogue that has to be engaging. Communication skills are needed for both. The aim now is to explore what scientists can do better and what they can strengthen in order to perfect their communication with the general public.

Emotions and science communication to the general public

Communication among scientists as experts is usually rational, based on facts and data and lacks general and emotional statements. Moreover, only the facts speak for themselves — it is not so important who is presenting, or how motivated the speaker is, no emotions are embedded. On the other hand, in public communication the data and quality of the discourse are by themselves not enough; moreover, some important data could just mean a detail that has no particular meaning. Namely, in public communication emotions are not a cheap trick to get attention or manipulate. Gaining public confidence and creating positive feedback involving emotions can be more persuasive than including persuasive facts. Or, put better, information that does not carry an emotional tone does not draw attention and results — cognitive reasoning.

Storytelling

Reasoning, remembering and understanding are much easier to do if scientists start from the art of storytelling. The human mind is made for creating and perceiving stories,

which represent a ritual for receiving information. The visuals that are created as a consequence of a story make up a mental picture which organises coherent content in our minds. The decision on what goes into the story does not depend on what exactly has to be told, but on how the content would work in the narrative structure. The narration must somehow be tied with a perception that enables the reader to feel like it is his own personal experience. "Make it personal" is the rule of science stories modified for the media.

Figure 2. **Exploring the possibilities of a science story**

Audience	Who are they? What do they already know about the topic? What are their opinions?
Fascination or surprise	Can the research topic make the audience's imagination soar?
Importance	Why does society need the discovery? What will change after the discovery? How will it affect the way people live?
Expectations	What would happen next?
Emotional significance	Which emotions does the research arouse?
Contextualisation	How pertinent is the research to everyday life?
Comprehensibility	Can it be easily understood? Which medium would be most suitable?

Audience

Compared to journalists, scientists have the great advantage of knowing the subject well, but the big disadvantage that it is not as easy for them to understand what the public might find difficult. On the contrary, journalists, as non-experts, are aided by their own experience and easily recognise these difficulties. If scientists want to make themselves understood, they must make a greater effort to become an observer of their own topic from the outside. Explaining the large gap that exists between scientists and their audience, they need to carefully watch their level, time and ways of explaining. It is necessary to identify the segment of the audience and know their expectations, motivations, concerns, interests or hopes. Identifying your audience will help in choosing the appropriate media approach (TV, radio, print, web) as every medium has its own best ways to penetrate the audience.

Message and clearness

When defining the message it is important to remember who you are addressing. Focusing on a message is essential, especially when using "media that are based on headlines or short news", like TV or radio. The headlines will remain in the heads and minds of an audience, which is often distracted. The message has to be an extreme synthesis of what the scientist wants to communicate, or rather the essential core of the contents or the "punch line of reasoning" that can be learned and/or remembered by the receiver, listener or reader. The message has to be obvious. It guides the audience like the North Star: it helps give focus to an interview, it is the nut of the question you want a journalist to address immediately, it is the first input… In order to be effective, the message must take account of the objectives but, above all, the public's needs, and it should be summed up in just one sentence.

Having said all of the above, does science need a spin doctor?

The role of the media

If science and scientists wish to communicate with society, they have to be present in the media, first of all in newspapers, on the radio and television. Not only is the media extraordinarily effective in reaching an extremely large number of people, but it is also a place where most of the social negotiation of knowledge and opinions takes place. In fact, it is in newspapers or on radio and television that the public image, consensus and credibility of various social groups — including science — are made or destroyed. Moreover, even contact with business and political and interest pressure group stakeholders is made through the media. Science-related themes, discoveries or problems only become "real" when they appear in a newspaper, especially for politicians, because they can represent a potential topic of political debate that can be used for or against them. In addition, the media is the key shaper of public opinion. However, gaining precious media space is not always an easy task and it generally demands a lot of investments in terms of time, effort and resources that cannot be ignored. The "return on these investments" is often long-term and almost always difficult to measure. The simplest way to assess the media is through press clippings, but it is also important to know how:

- to identify those journalists that cover a particular topic we can bond with; and
- to evaluate the effectiveness of the articles published or the radio-television coverage given, not just the quantity.

Working (collaborating, bonding, informing) with journalists is one way into the media. Their non-expert position would make them pick out the right words and arguments. Their professional experience makes them expert in listening to the readership (society) and intuitively identifying its interests, opinions, moods and values. For this very reason they should be regarded as potential, extraordinary allies rather than intermediaries that must be put up with or, even worse, simple targets of cutting remarks. This is the case even if it is not always easy to work with them. Scientists generally view journalists as people who do not understand the nature and value of science and they therefore do not dedicate their attention to it, or they distort it, normally in an attempt to make it more sensational. From their point of view, journalists accuse scientists of not being clear, and they often do not believe that scientists or their work might be of interest to their readers or viewers. To do this successfully, it is important to clearly understand how the interests, goals, values and routines of researchers and journalists differ (Carrada, p. 56).

The above premises were confirmed by the study European Research in the Media (European Commission, 2007). Within the research, the European Commission explored what should be added in order to ensure a real debate with the media and the scientific community. The research identified concrete issues and possible solutions to help science journalists and editors meet current and emerging challenges, and enhance the profile of science and research in European media.

The main conclusions presented below will support our findings presented in the article. Moreover, they will add to the Triple Helix Society and Science Dialogue that was presented at the beginning of this article.

Figure 3. **European Commission: European Research in the Media: What Do Media Professionals Think?**

There is fertile ground to grow the coverage of science in the media. Science underpins every aspect of life and this survey highlights that the media understands the value of scientific news and believes that the scientific community has a story to tell and that their readers are interested in this story. This message is loud and clear from all sectors of the media (TV, newspapers, agencies, specialist magazines and on-line media) and is not limited to the specialist scientific media. Despite this, a majority believes that there is not enough coverage of EU science and research.

Journalists are very interested in good science stories but this does not mean that the presentation of scientific results in itself makes for a good story. The strongest interest is currently in environmental, energy and health and medical issues. There appears to be less interest in the range of other scientific options put forward, although the key factor is relevance to publics and it may be that the three issues highlighted are either currently of more concern or are easier to relate to target audiences.

There is an overload of scientific information that cannot be properly used or cannot be used at all because it has not been adapted to what the media needs. The media is not receiving information in a format that they can quickly and easily digest and this is a very significant problem. Science stories will not be used, or will be featured less prominently, if they are overloaded with complex information which is not easily useable or translatable into everyday language. Lack of relevance is a key issue and lack of understanding of what makes a good story means that because there is limited media space for science, there is less coverage overall, or a concentration on 'sensationalist' stories which are easy for the media to use, but of lower quality. This perpetuates scientists' fears that data are misrepresented by the media

A comparison with the parallel survey of the research community suggests that there is a wide gulf between media perceptions of scientists' attitudes to the provision of information and those expressed by the scientific community. The media suggests that it is scientists who need to change their approach and be more proactive because they are thought to have a lack of commitment to providing information for the media. This is reportedly reflected by a lack of availability, responsiveness and efforts to understand the media and the information that it needs. The comments provided do not take the scientists' perspective or context into account

Direct scientific sources are much more valuable than reported second- or third-hand information. The best-rated sources for scientific information are scientific journals and direct contacts with scientists. These sources are perceived as providing the most newsworthy information and their use increases the likelihood of good quality coverage. However, despite this high interest, scientific information is thought to be complex, scientists are perceived to be difficult to access because they are not sufficiently available and responsive to media requests.

The media values contacts with the scientific community. Most senior journalists and editors confirm that when there is collaboration between the media and researchers the outputs are useful to their work and the relationship between the two professions is productive. The problem is the lack of relationships between scientists and the media as well as the lack of natural opportunities for these two groups to meet. Although scientists are a potentially useful source, there is relatively limited direct contact and this leads to significant concerns about the credibility of unsubstantiated information. Those in TV and radio seem to have the least contacts.

In addition to the lack of opportunities that bring the media and the scientific community together, the reasons for the mismatch in needs and expectations between the two professions are numerous, including the lack of high profile science personalities and that leading academics are unknown by society but the media considers that there are more improvements to be made by scientists than there are within the media profession. The scientific community is not programmed to court the media and there are a number of changes suggested including: training to develop media competencies, increased availability and developing media-friendly information. Whilst these key issues are highlighted, these points can only be addressed by the scientific community and if and how this is possible goes beyond the media's competence.

There is potential for more effective cooperation between the scientific community and the media, because this survey highlights that there is a strong interest from the media and the parallel survey conducted by the scientific community paints a similar picture. An overwhelming 91% of respondents to this survey reported that when they work with the scientific community this contact is productive. Therefore, it can be concluded that if the media is able to work more closely with the scientific community this will lead to better coverage of science. However, how to facilitate this improved and increased exchange is not identified and it is suggested that this is an important area for further discussion and action between the leaders of these two communities.

Main conclusions, December 2007.

Conclusion

The world of science is too large for non-experts to capture it by themselves or the media alone. Covering science is much more difficult and specific than covering politics, culture or sport. But journalists are constantly looking for interesting stories to facilitate their work. The appropriate scientists can then easily solve this problem, but need to learn how to communicate well, what is the right story, context, approach to tell and to what extent they should enter into facts and details.

Established working relationships that are created in the media together with scientists not only benefit themselves, but society in general gains important insights into the world of science. In this way the whole of society (non-experts and media consumers: readers, viewers, listeners etc.) creates an understanding of science, builds a positive attitude to certain scientific disciplines, receives social approval of research and stimulates curiosity and interest in science among younger generations. Science has an important mission in society. It is therefore essential for scientists to learn how to relate, participate and contribute to the related dialogue in society. They have to justify it and be able to explain it. Having accomplished this, science would gain more space and appear on the public agenda more often.

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[1] The "Bodmer Report" was named after Sir Walter Bodmer, the chairman of the working party that produced the report. It established a rationale for PUS and touched off a series of new or re-invigorated bodies and activities that are known collectively as the Public Understanding of Science movement. The Public Understanding of Science movement arose from a perceived need in the scientific community to increase public knowledge of science in order to both improve the basic competence of the citizenry and promote public support for government R&D expenditure. PUS was animated by observations of public scientific illiteracy as measured by surveys that revealed extensive public ignorance of specific general-knowledge-level established scientific facts and theories. This ignorance, it was feared, indicated an inability of the citizenry to exercise a responsible democratic influence over public issues increasingly based on science and its applications. The Bodmer Report came as a tonic for the British scientific community: scientists did receive a form of public approbation and PUS activities began to flower. In specific terms, the Bodmer Report laid the groundwork for a new body, the Committee on the Public Understanding of Science (COPUS), which was established jointly in 1986 by the Royal Society, the Royal Institution and the British Association for the Advancement of Science (BAAS). COPUS has provided a focal point for the expert-led PUS movement, coordinating a stream of activities. Both the Bodmer Report and COPUS have served as a catalyst for a more widespread and diffuse movement to promote science: the Public Understanding of Science movement.

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Jadranka Jezeršek Turnes, Ph.D. — graduated from London Metropolitan University and obtained an MBA degree within the Ogilvy global advertising network. She has been involved in marketing and communication throughout her professional career, advising clients in the areas of global brands, public relations and corporate communication management. Her professional focus in recent years has been communication management in innovative environments. She has been intensively involved in the communication of innovations in science and the establishment of international innovative/commercial networks. Important references in recent years include: Head of the Programme of the Slovenian Innovation Forum (2010–2013), establishment of the innovation office of the PoliMaT Centre of Excellence in a business accelerator in the USA (2012), establishment of practical training for Slovenian start-ups in the USA and meeting with investors in the USA (2012 and 2014), and initiation of a business network and organisation of training together with Jomo Kenyatta University for Agriculture and Technology, Kenya, Africa (2013), cooperation with the Institute of Chemistry, communication support for Biobanka — a stem cell bank, cooperation with the Slovenian Research Agency, the development strategy of the Polymer Technology College, Slovenj Gradec, where the challenge is communication with a range of stakeholder groups. She is a member of the Public Understanding of Science and Technology global professional network; She regularly participate with her work at professional conferences on this topic abroad. She is a member of an editorial board of a foreign scientific magazine in this area. She is also the author of the book "Uspešne sponzorske strategije" (Successful Sponsor Strategies, 2007) and co-author of the book "Dogodek od A do Ž" (Event from A to Z, 2009). She speaks English and Spanish fluently.

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