JCOM

TWENTY YEARS OF SCIENCE COMMUNICATION: LOOKING BACK, LOOKING FORWARD

# Have we ever been satisfied with Science Communication? Continuity and change

**Massimiano Bucchi**

**Abstract**

The argument that we live in times of great change is probably a common thread in the reflection on science communication in most historical phases and contexts. Have there ever been periods of continuity in science communication, in which actors and scholars did not have the perception of substantial transformations and required change? Or to put it more provocatively: have we ever been satisfied with science communication as it was? And if not, why so? One possible, and apparently paradoxical, conclusion is that the focus on change is itself an element of continuity in the history of science communication.

**Keywords**

History of public communication of science; Science communication: theory and models

**DOI**

https://doi.org/10.22323/2.21070303

*Submitted:* 23rd May 2022
*Accepted:* 9th June 2022
*Published:* 7th November 2022

The very first issue of JCOM — then Jekyll.comm — published in March, 2002, opened with an editorial about "Communicating in the post-academic era of science". The editorial stated as the ambition of the journal "to observe and to interpret the evolution of science communication", arguing that "the passage from the academic to the post-academic era" was "bringing about a change in the status of science communication".

The argument that we live in times of great change is probably a common thread in the reflection on science communication in most historical phases and contexts.

The "Public Understanding of Science" movement, in the mid-1980s, was triggered — among other things — by the perception within the scientific community that public attitudes to science were becoming increasingly more negative and thereby requiring an appropriate communicative response to counteract and balance this trend.

At the time when JCOM started its publication, "a new mood for dialogue" between science and society emerged in policy contexts, invoking a change and often a radical depart from top-down, paternalistic, one-way strategies of science communication that characterised the previous two decades.

More recently, the impact of the transformation in the technology and forms of communication has often been considered a source of major transformation of science communication, outlining both new opportunities and substantial risks.

A possible question then is: have there ever been periods of continuity in science communication, in which actors and scholars did not have the perception of substantial transformations and required change? Or to put it more provocatively: have we ever been satisfied with science communication as it was? And if not, why so? After all, although the definition of quality in science communication is still far from consensual, we often agree in identifying high quality actors and products when looking back to the history of science communication: TV programs, popularisation books, magazines, public initiatives.

It is not possible to answer this question in a satisfactory and articulate manner in such a short commentary. However, I will try to highlight a few elements of continuity across the history of science communication.

1. *The centrality of communication in science.* The emergence of Modern Science was the result of a process commonly referred to as the "scientific revolution": a radical transformation in the forms of creation, validation and dissemination of knowledge between the XVIth and the XVIIth century in Europe. Communication was at the core of this process. Prior to that, valuable knowledge was reserved to few elected, if not kept secret. Knowledge was validated largely by reference to authority, be it religious authority or the consolidated philosophical tradition. Modern science introduced a significant discontinuity at many levels of communication. One central element of discontinuity was that knowledge was not valued until it was circulated and communicated. The name of the game for the new circles and communities of natural philosophers — not yet calling themselves "scientists" — was *priority*, i.e. being the first to mark a discovery or obtain new empirical results. In order to claim priority and being recognised for their discovery, they had to communicate it.
2. *The importance of communicating with non-experts.* Early natural philosophers soon discovered that allowing communicative exchange with outsiders was just as important as establishing communicative boundaries to protect their autonomy. As science became more specialised and institutionalised, developing specific contexts and formats for communication among experts, popularisation emerged as a distinct genre to make scientific content accessible to general, non-expert audiences.
3. *Public talks and performances.* Public demonstrations and talks about science have been popular — with variations in format — across the centuries; public experiments in front of large citizen audiences were conducted by some of the greatest scientists in history, including Louis Pasteur.

4. *The role of visible scientists.* Visible scientists have played a role in public communication of science since the beginning of modern science. During the XIXth century, public talks and demonstrations attracted large crowds, with several scientists becoming familiar public faces and authors of popular science bestsellers. During the XXth century, television contributed to make some of these scientists and popularisers known to mass audiences.

Such elements of continuity are obviously not meant to underscore relevant changes in the practice of science, in the practice of science communication and in the broader policy, social, cultural, political, technological and media contexts. However, some of the drivers, dynamics and even formats of contemporary science communication can be seen in substantial continuity with its long-term tradition.

So why do we perceive and invoke change in science communication?

I outline below two possible interpretations: one more critical and one more benign.

A more critical interpretation can be related to a still unsettled recognition of science communication as an established professional and scholarly domain [Trench & Bucchi, 2010]. As we have unfortunately observed also during the pandemic, there is still a widespread tendency — both among scientists and policy makers — to ignore historical background, extensive and significant results, literature and professional expertise in our field in favour of stereotypes and prejudices of both audiences and communication processes. Institutional incentives operate to strengthen this trend, encouraging innovation in science communication *per se:* to be funded, new projects often require science communication formats that are formally innovative or even extravagant instead of consolidating and building upon existing experience and knowledge.

A more positive interpretation of the focus on change can be related to the intention to improve the quality of science communication. In 1894, for example, the great writer and pioneer of science fiction HG Wells (author of classics like *The Time Machine* or *The War of Worlds*) wrote an interesting article about "Popularising Science" in the scientific journal *Nature*. In the article, Wells criticises popular science of his time with regard to style, clarity, lack of audience intelligence and humility. In a sort of pioneering criticism of the diffusionist, deficit approach, he writes:

> Out of a quite unwarrantable feeling of pity and condescension for the weak minds that have to wrestle with the elements of his thought, the scientific writer [forgets] that whatever status his special knowledge may give him in his subject, the subtlety of his humour is probably not greatly superior and may even be inferior to that of the average man, and that what he assumes as inferiority in his hearers or readers is simply the absence of what is, after all, his own intellectual parochialism. The villager thought of the tourist a fool because he did not know "Owd Smith". Occasionally scientific people are guilty of the same fallacy. [Wells, 1894, p. 50].

In many respects, the criticism by Wells (as well as the hope for improvement) still potentially applies to contemporary science communication. One possible, and apparently paradoxical, conclusion is that the focus on change is itself an element of continuity in the history of science communication.

## References

Trench, B. & Bucchi, M. (2010). Science communication, an emerging discipline. *JCOM 09* (03), C03. doi:10.22323/2.09030303

Wells, H. G. (1894). Popularising science. *Nature 50* (1291), 300–301. doi:10.1038/050300a0

## Author

Massimiano Bucchi, professor of Science and Technology in Society and Director of Master SCICOMM, University of Trento, has been visiting professor in Asia, Europe, North America and Oceania. He is the author of several books (published in more than 20 countries) and papers in journals such as Nature, Science and PLOS. Among his books in English: Science and the Media (Routledge, 1998); Science in Society (Routledge, 2004); Beyond Technocracy (Springer, 2009; published also in Chinese, 2016); Newton's Chicken. Science in the Kitchen (World Scientific, 2020); Handbook of Public Communication of Science and Technology (3rd ed. 2021, ed. with B. Trench, Routledge). From 2016 to 2019 he was editor-in-chief of the international journal Public Understanding of Science.

  massimiano.bucchi@unitn.it.

## How to cite

Bucchi, M. (2022). 'Have we ever been satisfied with Science Communication? Continuity and change'. *JCOM* 21 (07), C03. https://doi.org/10.22323/2.21070303.


ISSN 1824-2049. Published by SISSA Medialab. jcom.sissa.it