ISSN 1824 – 2049 http://jcom.sissa.it/

Comment

MASTER IN SCIENCE COMMUNICATION: AN OVERVIEW

The Master's degree of Trieste

Pietro Greco

ABSTRACT: The concept of a project often corresponds to its history. In particular, you can identify this when you reconstruct, through the memories of its main players, the history of the oldest and longest-running Italian training school of science communication – the Master's Degree in Science Communication – which has been held for sixteen years now at the Interdisciplinary Laboratory of the International School for Advanced Studies (SISSA-ISAS) of Trieste.

The concept of a project often corresponds to its history. In particular, you can identify this when you reconstruct, through the memories of its main players, the history of the oldest and longest-running Italian training school of science communication – the Master's Degree in Science Communication – which has been held for sixteen years now at the Interdisciplinary Laboratory of the International School for Advanced Studies (SISSA-ISAS) of Trieste.

The school was founded in 1993, and like Minerva was born from the head of her father Jupiter, thanks to the instinct and determination of Paolo Budinich, an exceptional physicist: a *creativity generator*, as he was defined by one of his most notable collaborators, Erio Tosatti.[1]

Without a doubt, Paolo Budinich, has played a key role in the revival of physics in Trieste after the Second World War and the atypical history of the city. Together with Abdus Salam, he founded the International Centre for Theoretical Physics (ICTP), a centre particularly devoted to the education of young people from developing countries.

Paolo Budinich also founded SISSA-ISAS and the Interdisciplinary Laboratory of SISSA-ISAS. He is an eminent co-funder of the *International Centre for Genetic Engineering and Biotechnology* (ICGEB) and of Area Science Park. In short, Paolo Budinich is rightly considered the father of the "Trieste system" which makes this city one of the most research-intense cities in Italy.

In the concept of a democratic society of knowledge expressed by Budinich, science communication plays a fundamental role. In 1987 Paolo Budinich established the Laboratory of the *Immaginario Scientifico*, the first new-generation (hands-on) science museum in Italy, specifically because he is convinced that – as is the case with research activity – science communication activity also needs top-level education centres.

In the early nineties, he expressed his view on these issues when he was interviewed by a prominent Italian journalist, one of the most interested in science's state of affairs: Franco Prattico, member of the editorial staff at *La Repubblica*.

Prattico, like Budinich, is convinced that there is a single "human culture". And that any separation between scientific and human culture is unnatural and dangerous. This is because it prevents, amongst other things, a full understanding in a world increasingly informed by science and technology. The bridges burned between the two dimensions of this single human culture should urgently be rebuilt. And the first bridge that needs to be rebuilt is "public science communication". This especially applies to Italy, a country that – an exception to the industrialized countries – has chosen an economic model of "development without research". A country which is dominated at every level because of this – enterprises, schools, media – by an idealist spirit that denies science any real cultural value and reduces it to mere technical knowledge.

In short, Franco Prattico and Paolo Budinich believed that if you were to rebuild the bridge of public communication of science, you would have to set up a training school for scientific journalists. This idea

was taken on by the director of the Interdisciplinary Laboratory of SISSA-ISAS, physicist Stefano Fantoni. Hence, in 1993 Trieste saw the establishment of the first Italian school of science communication.

The school's curriculum is quite general, but the school is primarily addressed to young and adult graduates interested in a career in scientific journalism. However, there are two qualities that clearly distinguish it from any other school, in Italy and abroad, and that – in my humble opinion – has made it a success.

The first quality is joint management – on an equal footing, integrated and not bureaucratic – by scientists (especially physicists) and journalists. This is a unique trial in Italy and was probably unplanned. But it was implemented through facts, thanks to a vastly informal atmosphere – an exception in the Italian academia – promoted by the director of the Interdisciplinary Laboratory, and thanks to a non-competitive atmosphere that attracts to Trieste, after Prattico, some of the most prominent Italian professionals in science communication.

Though alien to the organised movement of the "public understanding of science" and somehow unaware of it, the founders of the Trieste schools were likely able to grasp the "spirit of the times". In the early nineties of the 20th century, the demand for public communication of science was also growing within scientific communities and among the general public in Italy. And the meeting of physicists and journalists in this school was the spontaneous expression of this demand.

The second quality that has marked the Triestine school from the start is its genuine interdisciplinary nature. By the enterprise of Franco Prattico in particular, the school was born with neither a professional training approach nor with such a vocation.[2] In fact, its objective is not to train "technicians" of science communication equipped with good journalism skills and a good general scientific education. The objective is much more ambitious: to train intellectuals able to explore the countless corners that have been incessantly forming along the borders between science and society, and to eventually shed some light on them. This way, our society is able to interpret the meaning of those corners and to play an active role in the cultural, social, political, ethical and economic processes in a society of knowledge and information.

The primary belief is that, in the end, society does not need to be scientifically literate. Yet it needs to mature a much deeper culture, a science-informed one, because science is an increasingly important part of our social and economic life, as well as of our political-ethical and cultural life.

This objective is really ambitious, even though it defines a trend, rather than a finishing line to be crossed. No matter how, the school was established to give real participation and equal distinction not only to scientific training and communication techniques, but also to history, philosophy, art and literature. This really is one of its strong points.

Over the years, those two qualities – shared management by journalists and scientists; wide cultural vocation – have grown steadier and richer at the same time. Some further developments have been important to redefine an original and evolving model of training in science communication. It is worthwhile to mention them, because we believe they have "something to say" even outside the walls of the small city of Trieste.

First, the school understood that science communication was then becoming a need (a twofold need) and adopted this as a guiding principle in teaching. We were living – and we still do – in the middle of a transition: from academic science to post-academic science, as John Ziman defined it.[3] Many have described this transition and given it various names. In the end, the general picture is: science and society have grown more and more intertwined. Science permeates everyone's lives in so many different ways: in terms of technology, culture, society, ethics, politics and economy. In turn, society increasingly permeates science. There is an increasing number of non-expert groups (either large or restricted groups) that participate in relevant decision-making that affects the development of science.

Communicating science to a larger and larger number of non-expert groups has therefore become part of the "necessary" and "mandatory" tasks of scientists.

Science communication has become a need for the entire society, an essential element of the democratic process, the blood of the "scientific citizenship" which is an ever more important part of citizenship in general terms.

In this perspective, it is restrictive to exclusively consider the science communicated through the mass media by scientists and/or professional communicators. The system of public communication of science features a much higher number of elements and links among these. It is a complex dynamic system that functions on many intercommunicating levels and involves not only the mind, but also the body and the spirit.

This complex dynamic system has neither general rules nor communication templates. Every context requires its own template. As in most cases the context is changing fast, nearly all templates need to be constantly updated by trial and error.

Professional science communicators (as well as scientists) need to be aware that they are part of this complex system. And training schools have to define this reality and redefine themselves in the light of this reality.

This is why the spontaneous interdisciplinary and intercultural approach of the Master's degree of Trieste – that some have defined as "typical of Magna Graecia intellectuals" – turned out to be useful. It is so because it has shaped people more capable of moving within this multifaceted cybernetic space, i.e. the space of public communication of science.

This awareness, developed in a multidisciplinary (and not monodisciplinary) cultural environment, has allowed the Master's degree of Trieste to avoid difficulties and uncertainty when facing the discussion on the "public understanding of science" and its limitations, which has been very demanding everywhere else. So, thanks to intuition, our school has been at the forefront in the discussion.

Thereafter, more awareness arose: it is not possible to implement high-level education in science communication without research on science communication itself and its evolutionary mechanisms. It is a type of research that cannot be monodisciplinary, but has to be intrinsically interdisciplinary: sociological and philosophical, historical and artistic, theoretical and applied.

This journal itself, JCOM, was created as a result of the need for interdisciplinary research.

All in all, observed *a posteriori*, some of the features of the activity carried out at the Master's degree of Trieste seem to have a general interest: informal yet integrated collaboration among different experts; an open cultural approach which is not centred on a specific profession; an interdisciplinary nature; research.

Obviously not all of these more or less spontaneous objectives have been achieved. Sometimes their path was blocked or things have taken a few steps backwards. In most other cases, however, progress has continued uninterrupted.

Quite ironically, the school's strong points have also proved to be its weak points. Its informal set-up was the reason behind its creative experimentation, and behind its ability to 'sprint ahead', but also to 'withdraw quickly'. In the long run, however, it has prevented its training activity from acquiring stability, exposing it to uncertainty. Hence, it was only accepted, yet never acknowledged, by the academia. The research activity itself has had to accommodate external needs (at national and European level) leaving part of its interdisciplinary vocation behind. Nevertheless, the graduates from our Master's degree (some 250 people) now work successfully, in their vast majority, as science communicators in different organisations: data was presented in a letter entitled *The output for the Master's degree in Science Communication at SISSA of Trieste*, published in Jcom, March 2007, by Donato Ramani and Nico Pitrelli. And that is in Italy, a country where, now more than ever, science's cultural and economic value has barely been acknowledged. Our results should not be underestimated.

Translated by Massimo Caregnato

Notes and references

[1] P. Greco, *Buongiorno Prof. Budinich*, Bompiani, 2007; ed. inglese: *Good Morning Prof. Budinich*, ICTP, 2008.
[2] The author is a journalist who participated in the foundation of the school and shared the founding principle of Prattico.
[3] J. Ziman, *La scienza reale*, Dedalo (2002).

HOW TO CITE: P. Greco, *The Master's degree of Trieste, Jcom* **08**(01) (2009) C03