

## SCIENCE PR STRATEGIES FOR COMMUNICATING ASTRONOMY: THE CASE OF ESA AND *HUBBLE 15<sup>TH</sup> ANNIVERSARY* PROJECT

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**Abstract:** By implementing *Hubble 15<sup>th</sup> Anniversary* project (2005), the European Space Agency (ESA) follows the new realities of Public Relations and science communication which apply to research institutes concerned with astronomy. The mix between the principles of popular culture and the *Public Understanding of Science* (PUS) movement represents the theoretical foundation of an active and efficient communication strategy, intended for the promotion of a positive attitude among the public towards the opportunities of scientific research. By using all the means offered by popular culture, *Hubble 15<sup>th</sup> Anniversary* project suggested a range of cultural products and events (*Hubble Days* events, DVDs, Hubble-themed gadgets etc.) which combined information with entertainment and which managed to materialize a science PR strategy based on the realities of popular culture.

**Keywords:** science communication, public relations, popular culture, popularization of astronomy

### 1. The new communicational demands for scientific research

The goal of this paper is to analyze the new approach in the popularization of physics and astronomy, which derives directly from the current situation of the research sector and of the institutions which activate in this field. At present, research institutes are pushed more and more towards adopting a market behaviour, mainly due to the change in their financing sources. Insufficient state financing, as well as the desire to attract the extremely selective private patronage, determine the competition for funds. The success in obtaining these funds depends greatly on the visibility and the “voice” of each institution in front of the various actors who have the power of decision and influence in the public sphere, from politicians to the wide audience. This phenomenon inevitably leads to the installation of a competitive behaviour (Bauer and Gregory, 2007: 41).

This type of behaviour becomes obvious through the appearance of a consumption logic, noticeable on the level of research centres, which involve a much more active communication and promotion towards the exterior of the strict scientific community. If the image of the scientist could have been, until recently, an efficient vector through which financing could be attracted, nowadays, because of the more impersonal character of the research activity, this instrument becomes insufficient.

Thus, the research centres in physics and astronomy display a new behaviour, a more corporatist one, which finds its concrete manifestation in the field of popular culture. In their much more active process of communication, research institutes use various media and create cultural products specific to popular culture, in order to make

their field of research accessible in the public space and to underline the importance of their activities. This initiative can be seen as a call for mobilisation addressed to research institutes regarding the necessity of sustained science communication towards the public, which is crucial for adapting to the new context in which research centres activate.

## **2. The Public Understanding of Science movement: Popular Culture and PR for science**

The current situation of research centres, characterized by an active communication behaviour and by an awareness of the necessity of PR processes intended to maintain a favourable attitude towards the process of fundamental research is a relatively recent one. In the 1980s, the scientific community began to realize that the communicational isolationism of science can have negative effects upon the profession of scientist and upon the research sector in general (Bauer and Gregory, 2007: 39). The idea of the necessity of science popularization supported by public communication became more and more present, and science communication was the focus, being rethought in order to achieve new objectives. Thus, the *Public Understanding of Science* (PUS) movement was born.

This period represents a milestone in the history of science popularization, a moment where science communication is given the trait which defines it from now on: communicating outside the scientific community is a process whose ultimate purpose is not so much educating the public (a process which is viewed more as a means, as a secondary product, or which is completely overlooked), but maintaining a positive attitude of society towards science and towards the field of research in general. Thus defined, PUS becomes a PR process, and the matrix it is built upon is popular culture. ESA's *Hubble 15th Anniversary* project fits in this new communication logic.

PUS was intended as a PR instrument from the very beginning, aiming to maintain a trustworthy relationship of the research institutions with their various publics, which they now identified as being relevant, having the power to take public decisions on which the development of the research sector depended.

The implementation of Public Relations for science is made on the grounds of popular culture, because the logic according to which popular culture functions fits perfectly within the new purposes of Public Relations in the science sector. Imposing a new regime of consumption to goods which, traditionally, have not been considered to rise to the status of merchandise, is the strategy adopted by the research institutes in their communication process.

The conclusion reached by the actors in the scientific research sector is that science can too be promoted as a commodity, in the benefit on the scientific community, and its contents can be used to create cultural products which subscribe to the production and consumption logic specific to popular culture.

Such an approach was partly induced by the more and more stringent necessity of research centres to attract private funds, as well as to “justify” the use of public funds, more exactly to create the trust among the wide audience in the value and importance of their own activities. At this point, the popular culture mechanisms prove to be a proper instrument for promotion, such as shown by the concrete case of the ESA products and events planned on the occasion of the 15<sup>th</sup> anniversary since the launching of the Hubble Telescope.

### **3. PR for science in *Hubble 15<sup>th</sup> Anniversary* project**

The more and more active involvement of research centres in public communication, through PR instruments which apply to the realities of popular culture, has become today, as it was demonstrated above, an imperative and not just an activity supplementary to the theoretical one, which regards the education of the public through a benevolent process (Gregory and Miller, 1998: 10).

In physics and astronomy, fundamental research presents the particularity that a sustained, coherent and strategic communication with the public outside the scientific community is necessary on a higher level than to other fields of research. This necessity is partly born from the extremely high financing requirements, of which a great percentage comes from public sources. Research institutes in physics and astronomy have to maintain, in these conditions, a favourable attitude of the public towards their accomplishments and to justify the use of the funds or to attract the financing by earning the trust of the political factors of decision.

In this complex and dynamic context, ESA provides an example of good practices, by the means through which it builds its communication strategy. During a general and continuous effort of informing the public and maintaining a public image favourable to its own research activity, ESA has engaged in numerous PUS tactics which would impose on the Hubble telescope, the main project of ESA, a consumption regime specific to popular culture. This brought along its notoriety and the degree of trust it has today among the audience.

One of the most ambitious communication projects of this type was developed by ESA in 2005. The 15<sup>th</sup> anniversary of the launch of the Hubble telescope by NASA and ESA was celebrated on April 24<sup>th</sup>, 2005. This anniversary offered the ideal occasion for the construction of a dynamic project, *Hubble 15<sup>th</sup> Anniversary*, which led to the creation of cultural products and events to consolidate the public image of the Agency.

#### **3.1. Hubble: the research project and the “communication niche”**

*Hubble 15<sup>th</sup> Anniversary* project has been implemented as a science communication instrument specific to popular culture and, at the same time, as a Public Relations action which have begun on a solid basis, namely the scientific project of Hubble Space Telescope.

The NASA/ESA project for the Hubble Space Telescope is one of the most famous and successful scientific projects. The reason for this success is explained by two

equally important factors (Christensen, 2007: 203). Firstly, although we analyze a fact of science communication and not one of research, the extraordinary scientific results which have been obtained with the help of the data collected by the Hubble telescope offer an important fundament upon which the communication strategy of these accomplishments was later built. Naturally, a carefully built, complex strategy was a factor just as important in communicating the scientific results to the wide public.

In order to apply an efficient communication strategy to a science project, the identification of the characteristics which individualize it in comparison to other research projects is necessary. Lars Lindberg Christensen calls this a “communication niche” (Christensen, 2007: 205). The communication niche of Hubble telescope is its capacity to capture images of high resolution and its access to infrared and ultraviolet observations which are inaccessible on the ground.

The success of Hubble and the natural orientation of its PR strategy were dictated by the inherent advantage of the telescope to create high resolution images, of very big formats and bright colours representing aspects of the cosmic space. Stressing the visual aspect in the popularization process is common to the research sector in astronomy and it peaks in the case of the Hubble project. This situation is also explained by the “insatiable appetite of the media for good images and animations for article illustration.” (Christensen, 2007: 205).

### **3.2. The PR office and the PR strategy: Hubble as “hero”**

A PR strategy for research institutes – especially in the case of the agencies as big and important as those in the field of astronomy – cannot be thought outside a distinct structure, specially created within these organisms to deal exclusively with the popularization of the scientific results of the institute and with communication problems. *ESA/Hubble* is the office for scientific communication specially created at *Space Telescope - European Coordinating Facility* (ST-ECF) in Munich, in order to deal with the PR strategy through science popularization for the Hubble Telescope. Without such an organisational structure, an effort of such amplitude could not have been realized in a coherent PR strategy, and the science communication process would not have had the same impact as in the case of Hubble Telescope.

*Hubble 15<sup>th</sup> Anniversary* project constituted an important piece in this complex PR system built on science communication in the spirit of popular culture, promoted by ESA. The organizers have identified in this anniversary the opportunity of a dynamic, spectacular project, whose purpose was to attract the attention of the general public.

The organizers focused on the young audience, so they designed cultural products of science communication created in the spirit of popular culture consumption. Their purpose was to consolidate the knowledge on science in general, as well as on astronomy and the discoveries particularly made with the help of the Hubble Telescope. However, the impact of the project was to be as broad as possible, so that it would get to as much target-groups as possible, including that section of the general public whose interests don't usually include science.

To achieve this purpose, the project was based on a concept which holds from the very beginning a treatment of science communication specific to popular culture. The main concept of the project was that of presenting the Hubble telescope as a “science superstar”, proving that the heroic element is – as in the case of communication strategies for the scientist as a public figure – a pertinent ingredient in the construction of cultural products designed to promote a research institute. The heroic conception is seen in all the cultural products created within this project.

### 3.3. The logic of popular culture in the PR campaign for Hubble

The main piece of the architecture of Hubble's anniversary project was the documentary *Hubble - 15 Years of Discovery*, the concept of which formed the basis of the construction of other cultural products of the campaign: events, exhibitions, books, posters, inscribed objects etc.

Choosing the film as a main channel for communicating the messages of the campaign was directly determined by the specific of science communication in the field of astronomy, but also by the target-audience. The results of the astronomical research become spectacular images, and the public's appetite for such type of images was intelligently speculated by the science communication office of ESA, thus creating an attractive story to combine, in the PUS spirit, the dissemination of scientific information with entertainment. The bet was obviously put on the potential of cultural products built according to the logic of popular culture. Hedonism (which implies pleasure and entertainment) and neutralization (which implies the translation between the elite and the low register) are, in this aspect, two of the traits of popular culture which make this dual construction possible (Spiridon, 2013: 152, 176).

The *Hubble – 15 Years of Discovery* documentary was distributed as a DVD and broadcasted on TV on general channels, as well as on specialized ones. The DVD was distributed in the entire Europe in over 700.000 copies, in 80 selling-points, being bought with magazines and science popularization newspapers or from science centres. The project has thus reached the performance of having produced the best sold science documentary until then. It was estimated that between 10 and 20 million viewers (Christensen, 2007: 205) have watched the documentary on the various TV channels that broadcasted it. Also, the movie was projected in planetariums, science museums and astronomical observatories.

By holding such records regarding its coverage, the *Hubble – 15 Years of Discovery* documentary embodies one of the main characteristics of cultural products belonging to popular culture, that of being known by as many people as possible (Nachbar and Lause, 1992: 10). Obviously, a PR strategy such as the one adopted in the ESA project, which has in view such a numerous and varied target-public, is based on this type of opportunity.

Moving on from this quantitative aspect, the analysis of the internal mechanisms of the documentary construction reveals a structure whose explanation is also rooted in its use of the model of popular culture.

### 3.4. The Hubble-hero in a SF-like narrative

The film covers all the aspects related to the evolution of the Hubble Space Telescope scientific project, offering a visual trip through Hubble's history and evoking the initial obstacles and the scientific success it had in the end. Bob Fosbury, researcher at ESA, is the narrator of the film. He explains the way Hubble works and the astronomical phenomena the telescope has photographed, as well as its contribution to the clarification of such phenomena.

The heroic image is, as it has been mentioned before, a main element in the construction of the documentary. The Hubble Telescope is presented as a main character and superstar, having unique characteristics which allowed it to reach outstanding performances. The imagistic material it managed to make available for the researchers was the basis of some of the centenary discoveries in astronomy. The fact that the technologic instrument of discoveries – and not the scientist – holds the title of hero in the case of the campaign led by research institutes, is explained by the impersonal character of any institution, which cannot be symbolized through its celebrities, even if they are scientists.

From this perspective of the heroic focalization, the researcher (Bob Fosbury in the documentary) falls into the second plan, but continues to hold an important role, which puts it into the line of activities designed to humanize the scientist.

He is, thus, the narrator of the "story", and the opening phrase of the documentary is emblematic for its specific modality of construction, in the spirit of popular culture: "I want to tell you the story of an instrument that has vastly improved our view of the sky, sharpening our perception on the universe and penetrating ever deeper toward the furthest edges of time and space." This formula, which reminds us of the beginning of fairytales, evokes the glorifying attitude towards the hero and synthesises a trait of popular culture, specific to cultural products of popular physics and astronomy. The genre verisimilitude of scientific documentaries on subjects of physics and astronomy is achieved through the support offered by the science-fiction film. This is also the case of the documentary created by ESA, which approaches recurrent themes of the SF film: the origin, evolution and end of the Universe, time travelling, black holes and worm holes.

During the documentary, Bob Fosbury explains these astronomical phenomena, which have always fascinated the human mind, with revealing images on the background, images that Hubble has made accessible over the years. Translation between the elitist regime (of science as a professional activity) and the popular one can be best observed on this level, where the transfer connection between the SF film and the scientific domains of astronomy and physics is effaced. They lend each other themes, techniques and methods, so that the initial direction (the discoveries in physics and astronomy have provided inspirational material for the SF stories) is more and more left behind by the regime of popular consumption, taken over by scientific documentaries from the SF film (such as the case of *Hubble – 15 Years of Discovery*).

The effects of this situation upon the public are extremely favourable, from the point of view of the PR strategy adopted by research institutes, as well as from the perspective of the PUS movement goals. This meeting of interests proves the tight connection between the two tactics of communication and the successful collaboration which makes the two more similar than ever in reference to their vision and methods. By applying a regime of popular consumption on the science popularization documentary, ESA managed through *Hubble – 15 Years of Discoveries* to also sell undistorted scientific information, only properly wrapped for consumption. This way, a double purpose is achieved: that of improving the quality of scientific knowledge among the wide public (followed by PUS), and that of creating a positive supportive attitude towards scientific research in astronomy and towards the results of the Hubble project (followed through the PR strategy of the European Space Agency).

### 3.5. Hubble popular products in an intertextual web

The *Hubble – 15 Years of Discoveries* concept was transposed on other channels as well, a phenomenon specific to the consumption regime, which proves an intertextual character (Fiske, 1990: 123) in the construction of the campaign by the ESA communication office. A coffee-table, of 120 coloured pages, with a light design, rich in images, accompanied by the celebratory DVD, has been published in several editions of 5.000 copies each and translated in German, Portuguese and Finnish. All these traits specific to popular culture, used in the production of this editorial apparition, are bound to attract that part of the public that pays less attention to the scientific issue, but keeping, in the same time, the quality of the scientific information unaltered. Applying a consumption regime to science facilitates its reception in the style of popular culture, which equates to intelligently suggesting to the wide public to engage in a generally elitist domain such as science.

Over 60 events were organized all over Europe under the logo *Hubble Days*, which took the form of presentations, exhibitions or shows in planetariums or open spaces, all following the same strategy of presenting the discoveries of Hubble in a heroic way.

It is remarkable that practices that are mainly commercial can be identified in the communication strategy of *Hubble 15th Anniversary* project, which correspond to an intertextuality specific to popular culture, achieved through various channels. Conceiving a Hubble virtual store, which allowed people to purchase, electronically, inscribed objects and other Hubble-themed gadgets, was such an initiative of commercial inspiration which the organizers have adopted in their communication strategy. This demonstrates a convergence between the intentions of production in popular culture and the communication objectives of a research institute, such as ESA. The posters, post-cards, stickers, pens and mugs, all inscribed with the logo “Hubble”, are just a few of the promotional objects that could be purchased on-line from the Hubble store, and they too exploit the visual potential of the telescope’s astronomic discoveries, positioning Hubble in a heroic superstar situation.



#### 4. Conclusions

By implementing *Hubble 15<sup>th</sup> Anniversary* project, ESA exemplary illustrates the new realities of Public Relations and science communication adopted in the strategy of research institutes, particularly those concerned with astronomy. Popular culture and the PUS movement are the foundation of an active and efficient communication, necessary for the promotion of a positive attitude among the audience upon the opportunities of research. By using the means of popular culture, *Hubble 15<sup>th</sup> Anniversary* project has suggested a range of cultural products which combined information with entertainment and which managed to materialize a PR strategy based on the realities of popular culture.

#### Acknowledgements

This study is published as part of the PhD research programme funded by the European Union through the project *Excellence and Interdisciplinarity in PhD Studies for an Informational Society* (project code: POSDRU 107/1.5/S/80765).

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