

Parallel Session: 15. Science on TV and radio: quality, quantity and new trends

VIDEO SERIE, “LES CARES DE LA NOSTRA CIENCIA”

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Abstract

Scientists are unknown by the general public, who usually see the figure of a scientist as "a middle-aged man, with white coat, etc.". The scientific activity seems to be distant, boring and even a little bit "dark".

The main objective is to show to the general public the most human and personal face of people who "make science" in their city (in this case, Barcelona), and to demystify the figure of the scientist giving a more realistic vision of the work he/she makes. Our methodology is the production and broadcasting of the series "Les Cares de la Nostra Ciència" ("Our science's faces"). This series presents 25 people who work in different scientific areas in Barcelona and who represent different ages, knowledge areas, sex, etc.

The videos, that last approximately 5 minutes each one, are structured in four parts; professional trajectory, science, free time and future. The videos are being broadcasted by Barcelona's local municipal television channel (BTV), within the program focusing on the current topic of interest in science "Einstein a platja" ("Einstein on the beach").

Key Words: Television, Scientific community, scientific vocations.

Context

Scientists are unknown by the general public, who usually see the figure of a scientist as "a middle-aged man, with white coat, etc.". The scientific activity seems to be distant, boring and even a little bit "dark". The scientific knowledge seems to be separated from the people who do research everyday, and is hardly imagine the process of the research and the activities that have been made in the laboratories. Also, other fields, like the science history, philosophy or education, are rarely related with this job.

Science popularisation most of the time focus on the description of the research and the results of the studies, but is less common that we can have access to know the persons who make science.

Objectives

1) To show to the general public the most human and personal face of some people who "make science" in their city (in this case, Barcelona) with a relevant trajectory in their field, 2) to demystify the figure of the scientist and give a more realistic vision of the work he/she makes, showing a diverse group

of them and different atmospheres of work, ages, sex, expectations, motivations, etc 3) to promote less slanted vision of the role of women in science by showing that is a real option of life and is also compatible with other responsibilities, like family and 4) to boost the scientific vocations between young people, showing them like close persons and with different interests and ways of life, with different hobbies and interests, also different motivations to study science, ranging from family tradition until “causality of life”.

Methods

The production and broadcasting of the series "Les Cares de la Nostra Ciència" ("Our science's faces"). This series presents 25 people who work in different scientific areas in Barcelona and who represent different ages, knowledge areas, sex, etc.

The production of the series was during 2003, and it was presented and included in the Science Week activities in presence of the protagonists of the series, finishing with a session of questions and answers.

The production of the series was made in three stages. First of all, the writer of the script –a student of the Scientific Communication Master, of de Universitat Pompeu Fabra-- interviewed the protagonist in order to get the information and select the story line, and then write the script.

The second stage was the shooting. Each chapter of the series was filmed in one day. The script contains the topics in which the scientist will focus on. During the filming, the protagonist speaks about the subject in the specified time, but he/she is free to explain it in the way he/she wants, in order to give naturalism and show him/her in his/her own words and expressions.

The videos, that last approximately 5 minutes each one, are structured in four parts; professional trajectory, science, free time and future. The first one allows to know the main character and explains the reasons that led him/her to their current situation in the professional field.

The second part shows briefly his/her current work. It's a simple description of the job environment, including his/her working team and the place in where he/she is each day working.

The third part is more free, because the protagonist speaks about the activities that he/she makes during free time, weekends or holidays. Including the hobbies, sports, family and also telling some of their preferences like books, music or writing.

The last part let the scientific speak about the future in his/her knowledge area, but also in his/her personal life, so this part allows to know some deep aspects of the protagonist and to know something about his/her ideology. We use different locations for every part of the video. In the part of the trajectory, most of the times was his/her office, to show the space where he/she works everyday. Science part was in the laboratory or work centre and the two last parts in places that protagonist likes. We had personal scenarios like their home, or another like the beach, gardens, parks or the street. We let scientist participate in the decision of the locations, and also express their

preferences in more technical aspects like framing, camera movements and effects, to give more personal design in each one.

The third part was the postproduction. We inserted personal pictures, videos or graphics of the family, hobbies, sports or holydays of the scientist. The sound was also election of the protagonist and we can find from classical music to rock, pop or instrumental songs.

Results

A series of 25 videos with scientist of different knowledge areas, 5 of them from Biology field, 4 from physics, 1 from psychology, 5 from medical area, 2 from pharmaceuticals, 3 from engineering, 1 from history, 1 from philosophy, 1 from pedagogy, all of them are working in science topics.

The series is being broadcasted by Barcelona's local municipal television channel (BTV), within the program focusing on the current topic of interest in science "Einstein a platja" ("Einstein on the beach").

Furthermore, a summarizing video of 23 minutes has been elaborated and it will be used as a didactic material in secondary education.

Parallel Session 15: Science on TV and radio: quality, quantity and new trends

WHAT ISSUES OF SCIENCE DO PEOPLE PREFER TO WATCH ON TV?

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Abstract

REDES is a scientific TV program emitted from Spain during 9 years. We have recently analysed the data of audiences to investigate witch kind of scientific contents our audience prefers. We haven't found big differences between general topics but some significant and interesting conclusions: people love physics and cosmology. Psychology topics are also very successful. Genetics and biotechnology usually have low audiences, on the contrary of programs related to evolution. Programs about technology and social science have in general the lowest audiences.

Key Words: television, audiences, topics

Context

REDES is a one hour scientific TV program that it's been broadcasted from Spain through the second channel of the spanish public television (on Sunday after midnight) and in all Europe and America through the International Spanish TV Station. Professor Eduard Punset, the director of REDES has interviewed the most important scientists and thinkers of the world, like Stephen Jay Gould, Edward O. Wilson, François Jacob, Sheldon Lee Glashow, Lynn Margulis, Richard Dawkins, Danniell Dennet, Roger Penrose, Ilya Prigogine, Antonio Damasio...

REDES is in its 9th year and has recently celebrated the program 300. During these years we have talked about all kind of issues related with science (genetics and molecular biology, brain sciences, atomic physics, cosmology, technology, natural sciences, evolution...)

Objective

To analyse the data of audiences and to identify which topics on science do people prefer to see on television. To find out the influence on audience of other factors like the general reputation of the scientist interviewed or the difficulty of the subject.

Methods

The data we have are: time and date of emission, contents and scientists interviewed, share (percentage of people who is watching REDES, from global audience at that time), number of spectators.

Because of the variability of total number of people watching television depending on the date, we haven't use this data and we just use the share to compare audiences between programs.

We haven't included the first 56 programs in the study because they were broadcasted in a different time and day of the week, and the people interviewed were not just scientists but also famous people like actors, musicians or politicians. From January'04 REDES is emitted on Tuesdays at midnight, so we haven't used these data.

We have neither included the programs that were difficult to define in a topic, those that were broadcasted 30 minutes before or after the average time of emission, and the repetitions broadcasted on summer.

The main categories of programs we have selected in order to compare the data of their audiences are:

- technology and future
- physics and cosmology
- biology and earth sciences
- brain sciences
- health
- social sciences

We have also create small subcategories due to the existence of very different contents on these fields and in order to analyse particular well defined topics like cosmology, genetics or evolution.

Results

Total of programs broadcasted (until january'04):	302
Total of programs included in the study:	177
Share (average):	5.44

Main categories:

Topic	Share	Number
Technology and future	4,64	20
Physics and cosmology	5,87	29
Biology and earth sciences	5,44	54
Health	5,49	20
Brain sciences	5,73	33
Social science	4,8	21
Total	5,44	177

Table 1

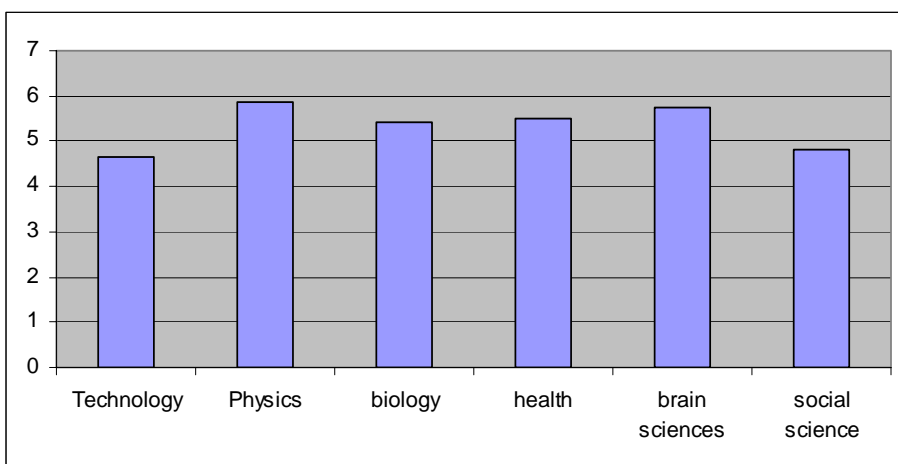


Figure 1

More detailed:

Topic	Share	Number
Technology	4,58	13
Future	4,76	7
Astronomy	5,68	17
Physics	6,15	12

Environment	5,37	8
Evolution	6,26	19
Genetics	4,63	11
General biology	5,11	16
Conventional medicine	4,75	10
Alternative therapies	6,30	10
Psychology	6,00	24
Neurology	5,06	9
History and philosophy	3,82	11

Table 2

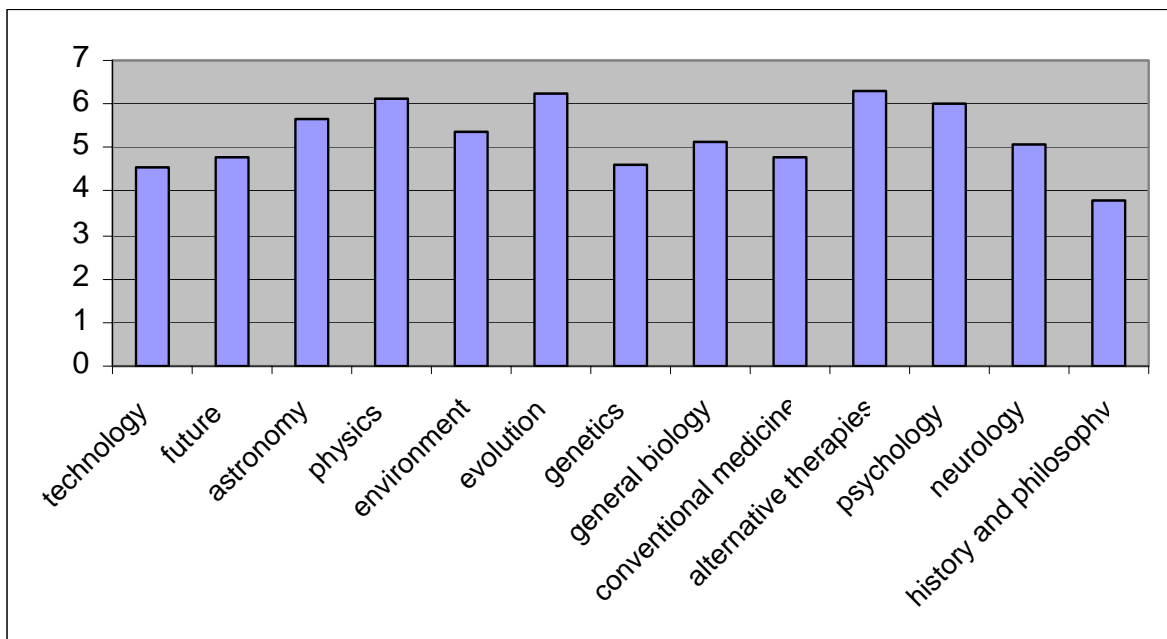


Figure 2

Conclusions:

When we analyse general topics we don't see clear differences. It's interesting to see how physics and cosmology, that apparently is the topic less related with common life, has the biggest audiences. Brain sciences, that in our program are very focus on psychology, are also very successful. On the other

hand, technology and social science (that are the easiest to understand for a general audience) have the worst results.

But the most interesting conclusions appear when we analyse the different subtopics. For example, inside a enormous topic like biology we can see how people clearly prefers evolution (6.2) than an apparently more topical subject like genetics and biotechnology (4.6). Even environment have a modest result (5.3).

In our program we usually talk about the laws of physics, quantum, particles... they are usually very hard programs, but surprisingly audience like them (6.1). Even more than all topics related with the space travels and universe (5.6)

When we compare the share of programs on conventional medicine (4.7) – mostly are special programs on a particular illness- with the one of alternative therapies (6.3) we also identify a big difference. There could be interesting interpretations of these fact.

Another difference appears when we compare neurology - how the brain works- (5.0) with the topics on psychology - how the mind works - (6.0).

By the way we could assure that our audience is much more worried about mental illness like depression than physical ones, like diabetes.

We must also mention the low audiences of programs on philosophy or with historical contents. It's been a small surprise, because although they are usually dense, we usually have lots of comments by mail and phone the day after the emission.

Analysing audiences, we have seen other curiosities apart from the preferred topics, like the low importance of the reputation of scientists or communicators to get good audiences. We have chosen the 23 programmes where the scientists interviewed were considered the most famous, and the average share was 5.3, not very different from the general share (5.44). Another fact is that difficult programs on physics, neurology or microbiology, for example, not always have low audiences as one should expect.

Parallel Session 15: Science on TV and radio: quality, quantity and new trends

SCIENCE AND SOCIETY IN EUROPEAN TV DRAMA

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Abstract

Main results are presented of a research carried on by the EuroPAWS network within a EU funded project (ASSEND). The best TV drama, TV films series and serial involving science and technology were identified and presented in purposely organised festivals. Grants for the development of scripts involving science and technology were awarded. An action research activity involved in depth analysis of the scripts and TV Dramas, analysis of round table discussions and semi-structured interviews with writers, directors, producers and broadcasters.

Keywords: public awareness of science, films and TV drama

Text

Introduction: the drama channel of science communication

TV drama can be both a strategic point of observation for understanding public attitudes toward science and technology, and a strategic point of action to promote the dissemination of scientific culture. We can identify at least five elements supporting this claim.

1. TV dramas address a large and undifferentiated audience. It is unlikely that people will chose to watch a TV drama *because* of the science in it, but they could *appreciate* it for its scientific content: drama has great potential to reach an audience not already sensitised to scientific topics.
2. Science communication increasingly concerns conflicts, controversies, the impact of science on society, etc.: it cannot be confined to the contents of scientific research alone. Any drama deals with conflicts and emotions and is necessarily set in a social environment. Thus many elements that have to be attained with much effort in non-fiction

science communication programmes are *intrinsic* in the language of fiction.

3. The valorisation of non-expert knowledge is an increasingly important aspect of the democratic process and is hardly taken into account in TV news, documentary and reportage. It is on the contrary easily attainable in a drama, where the main characters are often people with whom the public can identify.
4. A better understanding of the points of view of successful TV authors (who needs to understand the public to please them with their work) and producers and broadcasters (who needs to understand the public to sell their work), can be extremely useful for understanding public awareness of science.
5. As public debate needs to take place in the social environment, it is important to understand how scientific content is moulded in the public mind after entering the social arena. Thus scientists must learn the principles of the social environment that will help them correctly to judge the impact of their work on public opinion. TV drama - where the scientific content will inevitably be immersed in a social context – can be helpful in understanding how that topic is perceived.

Methods

ASSEND, Associating science and technology in European TV Drama, was a 2 years project financed by the European Commission *Science and society* programme, ended in December 2003. It included several actions: organisation of festivals and round tables, grants for the development of scripts involving science and technology, award to the best recent TV drama. Details can be found on the EuroPAWS web site (<http://www.europaws.org>).

A full report describing the details of the research can be obtained from the authors of this paper. In synthesis, 63 scripts from 71 writers applying for a grant were analysed in details, and a subset of writers interviewed on the origin of their ideas and their relationships with the scientific community. An survey of TV drama produced in the period 1999-2003 was also performed, 9 and 11 films were selected for screening in Paris within the *Rencontres Internationales de l'Audiovisuel Scientifique Images et Science*" in 2001 and 2003. These were analysed in details and writers, producers and broadcasters were interviewed to highlight the underlying motivations and choices leading to the productions.

New idea grants: results

The largest proportion of proposals came from the UK (48%), France (17%) and Italy (10%). Over one third of the writers were women. 50% came from the TV world, but a non-negligible 23% had their main professional activity in science. Proposals concerning engineering related stories were the larger group (24%), followed by medicine and biotechnology. 43% of the stories were set in the past, 34% in the present, and 23% in the future. It is interesting to underline how the vision of science strongly depends on the epochs in which the story is set. In historical biographies, the scientist is mostly seen as a positive hero fighting against a blind establishment for the benefit of humankind; in the future, science and technology is mostly seen as a threat:

the scientist is often a well motivated person loosing control over his work; when stories are set in the present, science and technology is more frequently a tool for solving (forensic) or, conversely, determining practical problems (e.g. environmental catastrophes).

A short summary of the interviews with the authors cannot render the complexity of each of their point of view. We shall highlight here that a) the large majority do not consider the need to respect scientific details as a limit on their creativity, but rather as an enriching challenge; b) a general reluctance was found for those authors with no scientific background, in interacting with the scientific community, although considering it as a potential to nurture their creativity.

Science and TV Drama Festivals: results.

20 dramas with a strong scientific plot were analysed, following a 2 years long survey and selection. Plots, general data and analysis of the films are detailed on the EuroPAWS web site. Four main approaches can be identified: historical reconstruction, perspective scenarios, ethical issues, forensic.

It is worth mentioning the two films awarded with a MIDAS prize. *Les enfants du miracle* (France 2) narrates the story of the first in-vitro fertilisation in France. The author choosed to carefully respect the scientific content, while being completely free in inventing the personal life of the characters. *Virus au paradis* (France 2) astonishingly anticipated the SARS and avian flew emergencies, by presenting an epidemic spread by migratory birds and the risk management actions to stop it. This film demonstrated the potential of TV drama of covering or anticipating the news.

All professionals interviewed recognised the need for very careful documentation as a key for successful productions.

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COMMUNICATING CONCERN via TV; OUR VIEW OF NATURE

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Abstract

The Attenborough series *Life of Mammals* forms the basis of an Open University UK course, designed to bring students without a significant science background into university-level education. The TV programmes were found to motivate and engage students, but there is no evidence that they help dislodge deep-seated and persistent beliefs in evolution as progressive and directional.

Key words : TV, teleology, Attenborough

Text

The communication of science on TV in the UK – and especially of natural history - is extensive and generally of high quality. The BBC TV programmes created by Sir David Attenborough have iconic status, combining elaborate technical ingenuity and passionate concern for global wild-life and for the importance of conservation.

The popularity of the *Life of Mammals* TV series prompted The Open University UK to use the programmes as the core of an introductory science ‘short course’ – *Studying Mammals* - studied to date by more than 1500 students in the UK and mainland Europe. The course includes specially written ‘distance learning’ material, supporting and developing a range of BBC resources, in particular a DVD containing all 10 *Life of Mammals* TV programmes and a BBC book that accompanies the series, written for a generalist audience. Those who study the course usually have a modest pre-existing level of science understanding, but their motivation and eagerness to learn is generally high, as reflected in their preparedness to commit to about 100 hours of part-time study, over several months. Students study with the help of a study adviser, who provides telephone support, and many of them participate in computer-based conferences that substitute for the face-to-face contact experienced by more conventional university students. Students submit one item of assessment, which tests both their level of comprehension of the material and ability to assemble and communicate information from the different course components. The resulting (10 point) qualification can

contribute to a more broadly-based Open University degree, such as B.Sc. Natural Sciences.

The striking images that comprise a key part of the TV programmes form the basis of many Student Activities in the OU course; students watch particular TV sequences and search for underlying biological explanations. Students generally find such sequences – ranging from shots of the breeding nests of the duck-billed platypus, to big cats chasing antelopes, to the striking sight of a baboon devouring a flamingo - informative and memorable. More than 90% of our student sample identified TV sequences as ‘giving fresh insight into the life of mammals’. The educational value of such images is therefore significant

Nevertheless, these same visual images have been the focus of concern for a number of critics of Attenborough-style TV. Programmes such as *Life of Mammals* have been criticised for elevating dramatic TV footage – especially of hunting and killing - to the status of ‘central, dominating motifs, as sensational and distorting portrayals of life in the wild as scenes of human violence are in the tabloids’,(Mabey 2003). Charismatic megafauna – notably lions, tigers, cheetahs - feature strongly in the *Life of Mammals* and indeed the section of the OU course that focused on ‘meat-eaters’ was classified by students as being the most ‘interesting and rewarding’ of all. Mabey and other critics argue that such perceptions distort the viewing public’s perception of the reality of nature, prompting a ‘disengagement from nature’ and the objectification of our close mammalian relatives.

Attenborough-style programmes are also criticised for their ‘Voice of God’ approach. Aldridge and Dingwall (2003) argue that the entire basis of such programmes is to ‘demonstrate that nature is wonderful’, with the implication that such wonders have been ‘planned’ by a higher authority. Indeed, the commentary of *Life of Mammals* contains a sprinkling of loose and teleological statements, risking an implication that evolutionary change is progressive and goal-oriented. Such lapses are likely to unintentionally compound the widely reported difficulty that those who learn about evolution have with understanding the nature of adaptive change via natural selection (Thomas 2002).

A key issue therefore is the extent to which such TV programmes form a sound basis for learning about biology. Survey data from OU students (200 questionnaire returns, 50% response rate) suggests that the TV element was highly regarded. 88% of respondents felt that these course components were ‘very effective’ in developing their understanding of the subject. The course assessment tests students’ ability to critically analyse text and TV material; pass rates on the course are high (>95%) and the assignment mean score over successive presentations have averaged 75%. No students report that the programmes increases their sense of detachment from nature and the most common response is that the TV programmes provide a vivid and memorable close-up view of mammals in their natural habitat. Of greater concern is the observation that many students are inclined to express their ideas relating to mammalian evolution in teleological terms; questions that required students to spot teleological statements are answered significantly less well than the

average. In feedback comments, very few students pick up teleological sentiments expressed in the commentary of the TV programmes and in their free-writing, a significant fraction of examinees express their ideas on mammalian evolution in terms of purpose or direction.

On this preliminary evidence, such TV programmes help to motivate students and illuminate a variety of key behavioural traits in mammals. However, these programmes do not eradicate pre-existing perceptions of evolutionary change as being progressive and directional. Indeed it is possible, as argued by Aldridge and Dingwall (2003), that such programmes may inadvertently reinforce such beliefs.

References

- Aldridge, M. and Dingwall, R. (2003) Teleology on Television?; Implicit Models of Evolution in Broadcast Wildlife and Nature Programmes. *European Journal of Communication*, 18, 4, 435-455.
- Mabey, R. (2003) Nature's voyeurs, *The Guardian*, 15 March, 4-6.
- Thomas, J.N.(2000) Learning about genes and evolution through formal and informal education. *Studies in Science Education*, 35, 59-92.

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WHERE HAS SCIENCE GONE?

**THE MEDIAZATION OF SCIENCE ON TELEVISION BETWEEN
1961 AND 2000**

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Abstract

In this paper the first results will be presented of a content analysis of medical television shows on Dutch tv between 1961 and 2000. The main question of the study has been whether or not the use of scientific information in the media has changed from 1961 onwards. This question is posed to the background of processes of scientification and mediaization of culture. From the analysis of the speaking time of experts, journalist and lay people in medical tv shows the conclusion is drawn that three different periods of medical television can be distinguished: a scientific, journalistic and lay period.

Key words: Scientific knowledge, mediaization, medicine.

Context

In the ongoing modernisation of society two developments could be identified: scientification of culture on the one hand (e.g. Hagendijk, 1996) and mediaization of culture (e.g. Thompson, 1995, Altheide & Snow, 1991) on the other hand. In relation to science and media the question can be asked how those two developments relate to the representation of science in the media. Is there, for example, a scientification of media content or a mediaization of science in the media? Or does that vary over time? In order to start answering questions like these, an explorative longitudinal study of media content has been conducted, asking the question whether or not the use of scientific information on Dutch television has changed in the period 1961-2000. In this study medical television shows have been taken as exemplary for science on tv (e.g. Durant, 1992). The theory of 'extended mediaization' (Thompson, 1995) has been taken a step further by defining mediaization as a journalistic order in which references and narratives of journalism and lay people are dominant over references and narratives of scientists and professionals. Leading to the hypothesis that a mediaization of medical science on tv has taken place between 1961 and 2000.

Methods

In this research content analysis, of a stratified sample of non-fiction Dutch medical television shows between 1961 and 2000, has been conducted. The content has been analysed on the level of the TV show as a whole and on the

level of the statements per actor within the show. More than thirty variables were used, concerning classical news factors on the one hand and references to science and other sources on the other hand. In total 77 medical shows were analysed from 7 different medical non-fiction series, leading to 7242 statements.

Results

One of the main indicators of a changing content of medical television is the amount of speaking time several actors are given in medical television shows. The frequency and the length of statements of three different groups of people were registered: experts, journalists and lay people. The category of experts consists of scientists, doctors and other medical professionals and the category of lay people consists of patients, family and amongst others members of the general public. As Figure 1 shows the distribution of the average speaking time between the three categories of actors has changed considerably between 1976 and 2000¹. In the seventies experts were the dominant actors in medical television shows, together with lay people. At the end of the nineties these positions have reversed: lay people are now the dominant actors in medical tv shows, with experts in third position and journalists in the middle. In the eighties this new division of speaking time between the three categories started to emerge and stabilised in the nineties. After 1982 no person appeared in the tv shows anymore in the role of scientist.

Conclusions

On the basis of this empirical research of the development of the average length of the speaking time of different groups of actors, can be concluded that three different periods of medical television can be distinguished in the Netherlands. The first period, before 1976, could be labeled as the scientific period, followed by a journalistic period between 1981 and 1988. This journalistic period seems to be a transition period towards the third period, which could be labeled as a lay-period. These results can be an indication of a changed 'factuality regime' (Hagendijk, 1996) from science, through journalism, to a lay frame of reference in medical television. This leads to the provisional conclusion that the mediation of medical science on tv indeed has emerged. This is a provisional conclusion; mediation also depends on the content of the statements of the several actor in medical tv shows. The second part of this research will therefore be focussed on what the different actors are saying on medical television between 1961 and 2000.

Notes

¹ To conduct an analysis of the speaking time of the actors between 1961 and 2000 was not possible, due to the availability of the data. Medical television shows were only recorded and archived in full length from 1976 onwards.

References

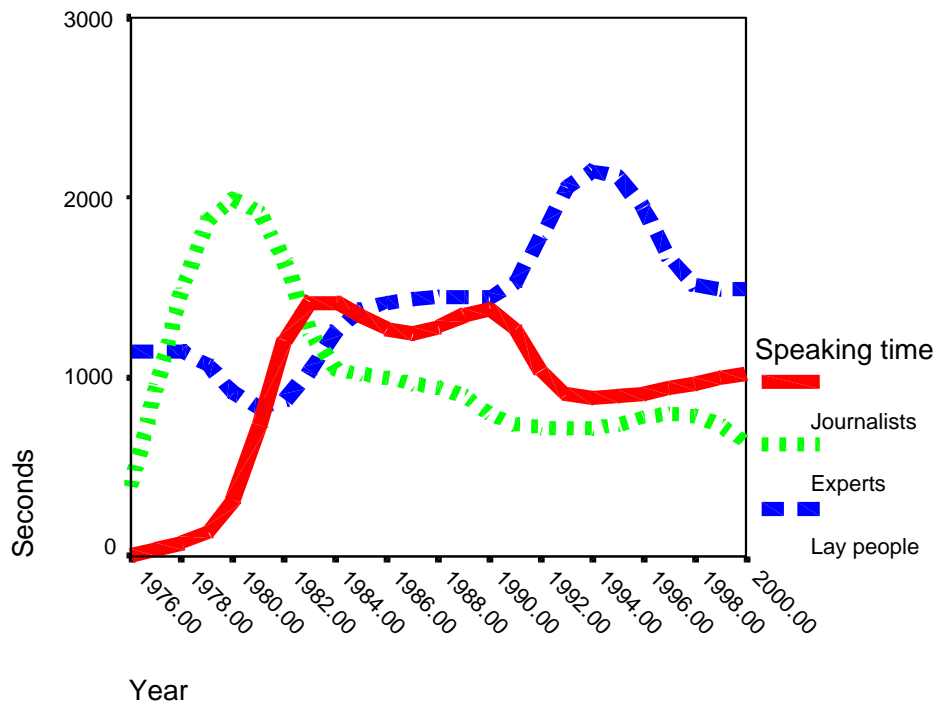
- Altheide, D.L., Snow R.P. (1991). *Media Worlds in the Postjournalism Era*. New York:
- Aldine de Gruyter.
- Hagendijk, R.P. (1996). *Wetenschap, constructivisme en cultuur*. Amsterdam: Luna Negra.

Thompson J.B. (1995). *The Media and Modernity. A Social Story of the Media*. Stanford: Stanford University Press.

Durant, J., Evans, G., Thomas, G. (1992). Public Understanding of science in Britain: the role of medicine in the popular representation of science. *Public Understanding of Science*, 1, 161-182.

Figures and Tables

Figure 1: Speaking time of experts, journalists and lay people in medical television shows on Dutch television between 1976 and 2000.



Development of the speaking time of experts, journalists and lay people. The average speaking time of experts decreases ($\beta = -.373$, $p < .05$), of lay people increases ($\beta = .357$, $p < .05$) and of journalists does not change a lot ($\beta = .267$, ns). Time series on basis of T4253H smoothing.

Parallel Session 15: Science on TV and radio: quality, quantity and new trends

INFORMATION ON SCIENCE IN EUROPEAN TELEVISION. A STUDY OF PRIME TIME NEWS PROGRAMMES.

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Abstract

This paper presents some preliminary results of an ongoing project on science in prime time European television news. Results confirm that science is a marginal topic in the main news programmes of the five biggest European markets: Germany, United Kingdom, France, Italy and Spain. Other findings indicate that some scientific topics are common to most of the channels, although they can be covered in very different ways. The average length of the items makes it difficult to include some contextual information, which is necessary for the viewer to link the topic to his/her daily experience.

Introduction

Academic research on television news is scarce. One of the most extensive works, a study of 15 European channels of 8 countries, co-ordinated by the Centre National de la Recherche Scientifique (France) in 1994, found that science was not covered in a massive way, although it varied from one country to another. Germany was the best informed country, and Italy the one with less scientific news (de Cheveigné, 1988).

This work analyses scientific contents of European prime time television news programmes in ten channels of the five biggest European markets, in order to analyse the quantity and quality of science coverage.

Method

This study combines quantitative and qualitative research. Firstly, it tries to find out how often science and technology appear on prime time European news programmes, and what is the length of the items on this topic.

More specifically, three research questions were formulated:

RQ1: What number of items about science and technology are broadcast in European television prime time news programmes?

RQ2: How much air-time do these items receive?

RQ3: What is the average length of items on this topic?

In view of quantitative data, the study was completed with some qualitative research about how scientific topics are presented in the analysed news programmes, with special emphasis on contextual information. Following an inductive method, the case of Smart-1, the first European mission to the moon, was selected as a case study.

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The preliminary results presented in this paper, focus on the situation of the five biggest European markets: France, Germany, Italy, Spain and United Kingdom. In each country, prime time news programmes of the leading public and the leading commercial channel were recorded, during the sample week (the forth week of September 2003). Coding items include length, place an topic of each news item.

Results. Quantitative analysis

As table 1 shows, 32 items about science and technology were found during the sample week. In relative terms, this is only a 2.37 % of the total number of items broadcast, which shows that science is far behind other topics like politics (16.79%), crime (12.55%) and sports (12.10%). Health and environment, also represent small percentages of the total number of items, although health is more frequently covered (4.01%).

Differences among countries are relatively small, except in the case of Italy, where no item on science and technology was broadcast. In the other countries, the percentage of items for this topic, ranges from 2.61 to 3.23 %.

Table 1. Number of items

	Science	%	Environment	%	Health	%	Crime	%	Sports	%	Politics	%	Total items
F r a n c e	1 2	3,13	1 1	2,87	3 2	8,36	4 9	12,79	2 5	6,52	4 9	12,79	3 8 3
G e r m a n y	6	3,23	3	1,61	2	1,08	2 2	11,82	2 3	12,36	4 6	24,73	1 8 6
S p a i n	1 0	2,69	7	1,88	6	1,61	5 1	13,70	8 1	21,77	5 2	13,97	3 7 2
United Kingdom	4	2,61	1	0,65	9	5,88	2 7	17,64	1 9	12,41	3 5	22,87	1 5 3
I t a l y	0	0,00	3	1,19	5	1,98	2 0	7,93	1 5	5,95	4 4	17,46	2 5 2
T o t a l	3 2	2,37	2 5	1,85	5 4	4,01	1 6 9	12,55	1 6 3	12,10	2 2 6	16,79	1 3 4 6

Table 2 shows the total length of the items about science and technology, and the percentage it represents over the total air-time. Percentages are significantly higher than those of number of items. In the overall account for all the countries, 5.71 per cent of time was about science and technology, whereas only 2.37 of the items were about this topic. This shows that science items are usually longer than the average for all the topics.

In this case, differences among countries are more significant, since percentages range from 15.45 (UK) to 5.35 (Spain).

Table 2. Air-time (seconds)

	Science and technology	%	Total Air-time
France	972	6,20	15667
Germany	327	9,88	3309
Spain	936	5,35	17477
United Kingdom	498	15,24	3267
Italy	0	0,00	8138
Total	2733	5,71	47858

The average length of news items about science and technology (table 3) varies significantly from one country to another. The longest items are found in the United Kingdom, where the average is 124 seconds. The country with the shortest length in average is Germany (62 seconds). In the general account for the five countries, science topics have an average length of 85.4 seconds.

Table 3. Average length of science and technology items (seconds)

France	81
Germany	62
Spain	93.6
United Kingdom	124
Italy	0

Average	85.4
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Qualitative analysis. The case of Smart-1

Smart-1, the first Europe's mission to the Moon, launched successfully from Guiana Space Centre, on September 27th 2003, was the subject of 10 news items during the sample week, out of a total of 32 on science and technology. The total time for this topic was 13'52", which makes an average of 1'23" per item. It was broadcast in Spain (TVE1 and Telecinco), France (FR2 and TF1), United Kingdom (BBC1) , and Germany (ARD).

The length of each news item ranges from 2'40" (BBC1) to 14" (FR2). Some of the channels covered the topic in several days, whereas others did it just once: FR2, 3 times; TVE1 and BBC1, 2 times; Telecinco, TF1 and ARD, 1 time. The type of coverage varies greatly from one channel to the others, although there is a coincidence in the fundamental elements of the topic.

The way the channels covered this event varies significantly. In some cases, only very basic data were included, whereas in others there was some explanation of the scientific meaning of the mission. The level of depth in the treatment is closely related to the length of each item. TF1's coverage of Sunday September 28th, lasts for only 15 seconds, which allow for just the very basic data; namely, that the mission was launched successfully on board of Ariane-5, which was considered to be "good news for the European space industry". No context information was provided. It adopted the format of as a brief piece read by the presenter, mostly covered with pictures of the launch of the space rocket.

On the opposite side, BBC1's item broadcast on the same day, was 3 minutes and 23 seconds long. It was reported by a journalist in the studio and included some graphics projected on a chroma-key screen, and an excerpt of interview to an expert. In this case, some context information was included. Firstly, it compared Smart-1 mission with UUSS mission which landed on the moon, 34 years earlier. Secondly, it explained what we could learn from the moon with this new mission: how the moon was formed and evolved. Thirdly, it went into some details about the possible existence of frozen water in the south pole of the moon, which would mean that it could be colonised sometime. Finally, it explained what the mission could mean for future space flights, since it will test a new type of engine, "based on an ion-driven propulsion system".

Discussion

The results of this study show that science and technology are marginal topics within European prime time television news. Although the percentage for air-time is higher than the percentage referred to the number of items, both figures show that science and technology are not covered as widely as other topics. This points to a risk that science can be under the minimum level of attention to match the interest of citizens on this topic.

The length of science items, although above the average, seems insufficient to include enough contextual information, which is important for the viewer to make the necessary connection between the scientific topic presented and his/her personal experience. If this connection is not made, then the relevance of the topic will not be clear.