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Science and Technology for the People
Abstracts

When the Lights Went Out

David Nye, University of Southern Denmark

For most of human history darkness and light alternated as a natural rhythm, and only in the late nineteenth century did it become possible to impose artificial illumination and break this cycle. In the United States, for a half century after 1880 the electrical system spread, and as it became comprehensive, certain electrified landscapes were 'naturalized.' In the first years of this process what we now call 'blackouts' occurred, but this term did not exist. Indeed, the idea of the blackout seems to have emerged from the theater, where the term was first used, and then was taken up by the military and civil defense during the 1930s and 1940s. Only in the second half of the twentieth century did Americans begin to speak of unexpected power outages as blackouts, and only in 1965, with the massive blackout of New York City and the Northeastern US, did the term acquire its present meaning. This paper will explore the blackout as an unintended cultural formation, in which the human environment is defamiliarized and 'natural darkness' returns.

Science-Society in Europe: Changing Visions, Enduring Practices

Maria Eduarda Gonçalves, ISCTE - Lisbon University Institute,

In recent years, the introduction of the notions of dialogue and participation in European Union (EU) institutions' discourse concerning science-society relationships signals a change in both the vision of the sciences and of the science-society relationship, not unrelated to the EU strategy to improve its legitimacy through the democratic implication of citizens in so-called knowledge society.

But to what extent are current EU and Member States' policies translating this desideratum into practice? How significant has been the shift from the conception of science as objective and neutral knowledge to be 'popularized' to the conception of science as a socially constructed process of research? How far has the civil society been involved in EU expert-based decision-making processes?

Our analysis endorses the belief that, despite the EU's novel and homogenising discourse, conventional attitudes and procedures persist, and significant differences remain in the conceptual framings, as well as in the practical efforts carried out in this field at both the EU and Member States' level.

From point-to-point to mass communication: the radio in Portugal from 1898 to 1939

Ana Paula Silva, CIUHCT, FCT/UNL

The term 'point-to-point' is used in telecommunications to identify a connection between two points in a network, referring to an interpersonal medium of communication at distance, in which the transmitter and the receiver are at the same level in the communication system like, for example, in a telephone conversation. On the contrary, 'mass communication' refers to a univocal and hierarchical medium of communication, in which the message is broadcasted from one point to a multitude of receptors that are not at the same level of the transmitter in the communication system. In this case reversing the transmitter-receivers positions is not possible. As the radio technology developed, both media received a significant impetus, creating an unprecedented mass communication medium."¹ This presentation examines the process of introduction of radio technology in Portugal since the beginning of its dissemination until the outbreak of World War II, when the news of the invasion of Poland by German troops was broadcast worldwide on the radio.

Tuning into Europe: the emergence of a European broadcasting space in sound and vision (1925-1955)

Andrew Finckers, University of Maastrich

The emergence of broadcasting as a new application of wireless technology in the early 1920s was - right from the beginning - a phenomenon of transnational importance. As radio signals don't stop at political or national borders, the control or regulation of radio waves became a matter of both national and transnational discussion. This lecture aims at analyzing the development of a radio and television infrastructure in Europe in their material, institutional and symbolic dimension. Emphasizing the fragmenting and integrative forces of broadcasting technologies in the shaping of European communication spaces, a special attention will be paid to the role of broadcasting technology in the "hidden integration" Europe.

The public face of Darwinism in late nineteenth-century Spain: Odón de Buen (1863-1945) and his audiences.

Agustí Nieto-Galan, Universitat Autònoma de Barcelona

In the 1890s, from his chair of 'Natural History' at the University of Barcelona, Odón de Buen (1863-1945) was deeply committed to Darwinism. He raised bitter criticism from a good number of conservative groups, which perceived evolutionist ideas as a dangerous intellectual weapon in hands of liberal republicans. In 1895, Jaume Català, the bishop of Barcelona, denounced de Buen's illegal teaching practices, and, as a result, his textbooks were censored and his Zoology course interrupted. The affair became a real public

¹ <http://www.rtp.pt/wportal/sites/radio/75anos/historia.php>, acedido em 16/08/2010.

scandal in Barcelona and reached the central political authorities in Madrid. Students, university professors, intellectuals, and journalists discussed vividly De Buen's attitude, and reflected very well the complex appropriation of Darwinism in late 19th century Spain.

After more than two months of public controversies, De Buen was allowed to continue with his regular teaching activity at the University. As a result, he became a very active propagandist of evolutionism. He regularly gave public lectures in workers' associations, and in primary and secondary schools; he published natural history 'popular' books, and favoured a positivistic approach to Natural History, linked to scientific materialism, and empirical observations – science in the field –. He efficiently contributed to the popularisation of a 'positive' science, which he wanted to act as an intellectual weapon against the authority and intellectual influence of the Spanish Catholic Church.

In the context of the polarised tension between science and religion in late nineteenth-century Spain, this paper will try to reconstruct De Buen's 'expository' strategies and the variety of reactions of his audiences.

'Fresher than fresh'. Remarks on consumer attitudes towards the development of the Cold Chain in post-2WW Greece.

Faidra Papanelopoulou, University of Athens

In 1933 the well-known journalist, writer and academician, Grigorios Xenopoulos, lamented in the daily *Athenian News* about the loss of fresh local products:

'Here is a satanic invention that banned almost all fresh products: the refrigerator. Because of it we eat only stale food... preserved'.

By 'local' Xenopoulos referred to products that were cultivated in the fields around Athens that were gradually turning into roads and houses. Xenopoulos was writing at a time when refrigeration was only starting to make its appearance in Greece, and when domestic refrigeration was certainly a way of life alien to the largest part of the population. This paper will attempt to give a first glimpse of consumer's attitudes towards the development of the Cold Chain in Greece and the radical changes it brought to the habits of eating. The period under examination extends from the 1950s to the 1970s, which is a period characterised by the development of the Cold Chain and the gradual diffusion of domestic refrigerators in the Greek urban household. Lacking direct sources concerning consumers' behaviour, I have considered the daily and periodical press, with their numerous news items on the cold chain, popular science articles on the history of artificial cold, advertisements of domestic refrigerators and practical advice of how to use them, as an appropriate window into both marketing strategies and consumer attitudes.

“Electricity for all”: the popularization of electricity and its applications seen in the Portuguese press, 1880-1910.

Ana Cardoso de Matos, CIDEHUS – Universidade de Évora

Since the second half of the 19th century, electricity and its applications became an area of technology commanding a wide interest among technicians and industrialists as well as the population in general. As a result many technical monographs and periodicals on the topic appeared. Furthermore, widely read journals as the *Diário de Notícias* published many news about electricity and its applications on diversified topics.

This paper offers a content analysis of the main monographs published from mid-19th century to the first years of the 20th century, journals which appeared specifically devoted to the topic, and news appearing in journals such as *Occidente*.

The use of images in the popularisation of science and technology in *Ilustração Portuguesa*

Fernando Egídio Reis, Centro Interuniversitário de História das Ciências e da Tecnologia (CIUHCT)

Until the advent of photography, many scientific and general periodicals used to present engravings as a more or less important complementary element to the informational texts. With the introduction of photography, engravings continued to be used but they were more and more complemented and even substituted by photographed images.

This paper aims not only to identify the scientific and technological information presented in the first edition of the Portuguese weekly periodical *Ilustração Portuguesa* (1903-1906), but also to understand the use of images in this communicational process. This periodical was, as clearly expressed in its title, an illustrated periodical, and it considered illustration as a way of making an archive of the Portuguese social, political, artistic, and literary activities.

To analyse and understand the significance of the image and its role as a means of spreading scientific and technological information in the content of an illustrated generalist periodical, is the main driving idea of this specific research, integrated in the broader CIUHCT research project, whose purpose is to analyse the representations of science and technology stemmed from the Portuguese generalist press, published between the end of the monarchy and the end of the first Republic.

Riding the wave to reach the masses: natural events in early twentieth-century Portuguese daily press

Ana Simões, Ana Carneiro, Maria Paula Diogo, CIUHCT

This paper brings together science communicated in newspapers in Portugal by looking at how news on natural events were communicated in two different newspapers— the capital newspaper *Diário de Notícias* (*Daily News*) and the

Diário dos Açores (Azores Daily). In particular, we look at how the 1900 solar eclipse, a hot topic throughout Europe, was reported by the capital newspaper, and how news on seismology were conveyed in the period 1907-1910 in the newspaper published in Azores, an archipelago with a significant seismic and volcanic activity.

We argue that the importance conceded to these scientific news was related to their overwhelming features, that their dissimilar presentation stemmed from their local relevance allied to their different nature, predictable in the case of eclipses, and unpredictable in the case of earthquakes, and that behind these two instances of science journalism laid an attempt by the scientific and political communities to gain the support of the general public to such an extent that these two specific instances of science journalism transcended their usual features to become successful forms of expository science.

The German system of science communication and its (intended) audiences. Media, formats, institutions and actors in the 1920s and 1950s.

Arne Schirmacher, Max Planck Institute for the History of Science (MPIWG)

My talk will approach the field of popular science and its audiences from a structural perspective and I will in particular be looking at structural changes in systems of communication of scientific knowledge as well as its dependencies on cultural conditions.

In the time period "after popularization" that I understand to start in Germany (but also elsewhere) around 1900 the main reorganization of science communication took place with the economic struggle of hyperinflation in 1922/23. It thus can be seen as part of the emergence of a radiant Weimar culture so often coined as exemplar of modernity. At the same time with the advent of radio a completely a new medium found its audience quickly and was active in communicating science and technology from its start.

How did this media change and the new media competition alter the late Kaiserreich system of science communication? This system had been consolidated in the years before the Great War which is exemplified by the 1904 foundation of journal *Kosmos* that soon was reaching extraordinary 100.000 readers. A couple of other journals like *Umschau* also were founded (or greatly modified) around 1900 and were selling around 10.000 copies each. Here an interesting hierarchy of audiences and genres of popular science can be found.

The Weimar period also exhibits rather a superposition of both modern and liberal as well as reactionary and autocratic elements that show up clearly in the media with respect to its structures of freedom and control which were at work simultaneously. While the Weimar period may be characterized by a penetration of conflicting efforts of promoting and politicizing science communication the post-war German development is marked by rather separated developments in West and East Germany. I will sketch how in rather identical media systems and organizations still political influence on science communication found very different expression and impact.

