

## ANALYSING THE PRODUCTION OF UK NEWSPAPER COVERAGE: THE CASE OF EVOLUTION/CREATIONISM

Joachim Allgaier

Centre for Research in Education and Educational Technology, The Open University, UK.

### Abstract

The question of whether religious explanations about the origin of life should be taught alongside scientific accounts in compulsory science education has sparked controversy in several countries for decades. An important and visible site for these controversies is media reporting. For example, in spring 2002 a case of teaching creationist ideas alongside evolution theory in schools generated extensive coverage in the UK press. The research in this paper focuses on the role of expertise in news production. The methods used are semi-structured interviews conducted with media professionals that reported this issue in UK newspapers. The research tries to answer questions about how media professionals select and assess the credibility and information provided by their sources and experts, as well as what makes this issue newsworthy for these journalists. The paper presents some illustrative results from this part of the research, investigating questions of news production about teaching creation/evolution from the point of view of the media professionals. The paper therefore informs ongoing debates about how scientific controversies come to be represented in newspaper coverage.

**Keywords:** News media production; creation/evolution controversy; expertise

### 1. Introduction

The relationship between science and society has often been described as difficult and complex. Different sciences meet different publics and audiences under varying circumstances. Writers [1] that draw on social theory to investigate and examine the heterogeneous relationships between sciences and publics add further complexity by stating that many of the pre-established dichotomous categories such as e.g. between lay and expert audiences [2], or between the local and the global [3], are too simple to paint an adequate picture. Furthermore, if one has a closer look at scientific controversies or so-called socio-scientific issues one will rarely find that the 'science' is neatly separated from other 'non-science' factors (e.g. economics, ethical issues and regulation). One will rather find complex amalgamations of different actors, opinions, resources and objects. And these actors will also have various local knowledges or scientific expertise, forming heterogeneous coalitions or alliances with actors from several other fields and other forms of scientific or expert knowledge [4].

The case of teaching evolution/creation is an example of a complex scientific controversy, one that is played out in schools classrooms, media reporting and public policy debates. At its core is a very prominent and influential scientific theory; that of Charles Darwin's theory of evolution by the means of natural selection [5]. In terms of science education it has been argued that the controversy could influence the future of the (re)production of scientific knowledge and maybe even the way science is seen and conducted by future scientists. At the same time public debates about this controversy refer to the education system and a new school type in Britain, the curriculum, authorities and textbooks, teachers, pupils, religion and faith, as well as several campaigners and lobby groups.

The way most of us are informed about a multi-faceted issue like this is through the mass media [6]. Indeed, the 2005 Eurobarometer survey [7] suggests that the media play a key role in informing European citizens about recent developments in science and technology. The issue of teaching creation/evolution generated extensive media coverage in the United States of America, where this controversy has been debated since decades and led to a number of high-profile law cases [8], but also in the UK [9] and elsewhere [10]. The idea of this paper was therefore to investigate media professionals that have written articles about this controversy in the UK press what they think is relevant in this controversy; which experts they consult and how they evaluate newsworthiness, information and credibility of their sources. The paper will offer some illustrative examples from four interviews conducted with media professionals that reported the controversy in the UK context.

### 2. Background

On 25 January 2002 the weekly specialist newspaper *The Times Educational Supplement* reported that a school in Gateshead had hired out its lecture hall for a creationist conference [11]. The school, Emmanuel College, had let the

venue to a local clergyman for the conference that was described on the website of *Answers in Genesis* [12] as a day conference. The principal of Emmanuel College, Nigel McQuoid, is quoted in this article defending the school for so doing. Also, the scientist Richard Dawkins is quoted in the same article criticizing the policy of creationists of hiring high prestige institutions for propaganda reasons. Furthermore, the education officer of the British Humanist Association, Marilyn Mason, is cited saying that creation stories should not be treated as serious hypotheses about the origins of the universe and life.

On Saturday 9 March 2002, the weekend that the conference was held, the elite newspaper *The Guardian* reported that “fundamentalist Christians who do not believe in evolution have taken control of a state-funded secondary school in England” [13]. This article that is supplemented by background information on the controversy on evolution versus creationism in the USA and statements by scientists and educators. The article also claims that the teaching staff at Emmanuel College were teaching evolution theory alongside creationist theories, ideas and explanations in science classes.

## 2.1 The importance of City Technology Colleges and the National Curriculum

Emmanuel College in Gateshead is new type of school; a City Technology College. These are technically independent schools that are funded by the government and the private sector. City Technology Colleges were set up in the UK in 1988 by the then Conservative government to improve the financial situation of failing inner-city schools. City Technology Colleges are outside local authority control but are inspected by OFSTED (Office for Standards in Education), the British education inspectorate responsible for raising standards in British schools. The Labour government has extended this policy through the introduction of City Academies, which fulfil broadly the same criteria. Science is a compulsory core subject in the education system in England and Wales until children are 16 years of age. The National Science Curriculum states that the theory of evolution and the fossil record as evidence for evolution must be taught in compulsory schooling at Key Stage 4 (the 10<sup>th</sup> and 11<sup>th</sup> year in English schools). However, there is also a formulation in the curriculum that states that scientific controversies can arise from different ways of interpreting empirical evidence and that students should be taught about this as well. Charles Darwin’s theory of evolution is hereby mentioned as a specific example [14]. City Technology Colleges, as partly privately-funded schools, can opt out of aspects of the National Curriculum for England and Wales [15].

## 2.2 The emergence of newspaper reporting of the controversy

Emmanuel College is a school with a Christian ethos which achieved outstanding academic results and received a very positive report from OFSTED. The outstanding results that the schools achieved designated it a beacon school by the government [16]. It is sponsored by the Vardy Foundation (which has later been renamed the Emmanuel Schools Foundation due to the controversy around creationism), a charitable organisation with a Christian ethos which has been set up by the successful car dealer Sir Peter Vardy in 1989. It has also been reported in the British press that members of staff of Emmanuel College have close relationships to the Christian Institute in Newcastle, a Christian organisation that promotes a conservative interpretation of the Bible when it comes to the origins of life [13].

Emmanuel’s head of science, Stephen Layfield, is reported to have given a talk in which he emphasised the superiority of creationist beliefs, theories and explanations, also in science teaching [13].

In many of the statements issued out by spokespersons of Emmanuel College or the Vardy Foundation it was stressed that the teaching at Emmanuel College follows the requirements of the National Curriculum, which has been confirmed by the Department for Education and Skill as well as by OFSTED. In this case that means that evolution theory is taught in science classes. However, the wording of the science curriculum leaves room to present alternative theories, such as creationist explanations about the origin of life, as well.

After the issue of teaching creationist theories and explanations alongside evolution in science education in a school in Britain had been reported in *The Guardian*, other print publications as well as national TV and radio programmes also covered the issue. For example, the *Times Higher Education Supplement*, a UK weekly specialised publication for academic and educational issues, devoted its front page to the issue on 22 March 2002. Scientific journals also started reporting about the issue [17].

The issue was also taken up in Parliament when the Prime Minister was confronted by a member of the Liberal Democrats, asking him if he would be happy with creationism being taught in science classes of state schools. Tony Blair supported the school arguing that he thinks that some of the newspaper reports might have been exaggerated. He also pointed to the good results that the school achieved in the inspection through authorities [18].

One issue here was that the credibility of the school and its educational practices has been contested [19]. Laypeople and experts from outside the educational world got involved, scientists like Richard Dawkins and Peter Atkins argued vehemently against the idea of creationist explanations being taught alongside scientific theories at school. Further to this, several action groups were mobilised, generating petitions concerning the issue. For instance, a group of scientists including the zoologist Richard Dawkins and the geneticist Steve Jones called for a re-inspection of the school by OFSTED, but the authority replied that the inspection was conducted more than a year ago, that would be too late to do

a re-inspection [20] .

Further to this in March 2002 the British Humanist Association organised a petition that was signed by 43 scientists and philosophers. It was sent to Prime Minister Tony Blair and the then Education and Skills Secretary Estelle Morris and other educational authorities. The petition wanted legal requirements in the National Curriculum Science to be tightened to prevent creation stories being taught as anything else than religious myths 'science' [21].

In addition, another group, consisting of six bishops and several scientists such as Richard Dawkins, the Royal Astronomer Sir Martin Rees and the prominent TV naturalist Sir David Attenborough wrote a letter to the Prime Minister warning of the danger of creationism being taught in British schools, stating that evolution is a scientific theory of great explanatory power and not to be equated with being a faith position and advised to strictly monitor the curricula of schools such as Emmanuel College [22].

A few weeks after that another group of scientists and academics, led by the Professor of Thermodynamics and Combustion Theory Andy McInstosh, wrote to the Education Secretary advocating the teaching of alternative theories alongside evolution theory. This group stressed in their letter that they find it most inappropriate to give the impression that there can only be one view concerning the origins of life [23].

Experts and laypeople from various fields such as teachers, religion experts, local authorities, pupils and parents got involved and commented on the issue, arguing for or against Emmanuel College and its teaching practice, but many also criticized the new school type of City Technology Colleges and the government's educational policies. Newspapers and other media played a key role in the emergence and mediation of the debate but also provided a forum for various individuals and organisations to comment on the issue by publishing many letters that were related to the case of teaching evolution/creation at Emmanuel College.

### **2.3 Controversy and news production**

The production of news stories about controversial issues with scientific content have to be seen as selection and mediation processes that mustn't be understood as neutral and objective ways of representing the issues at stake [24]. The example of teaching evolution/creation shows that many different actors and issues are involved in this debate. Media professionals are working under several limitations in producing news stories, for instance time and space are limited resources. Therefore they have to select which issues and sources they want to focus on and also which of those might be of interest to their readers [25]. Here it is also important to stress that some organisations and institutions have better access to media professionals and institutions because they employ, for instance, press officers or PR agencies and send out press releases. Miller [26] therefore understands such organisations as 'resource-rich' and therefore privileged in comparison to others organisations and individuals that have no established formal contacts to newsrooms. Scholars such as Dornan [27] and Goodell [28] stress that science reporting is also often one-sided because of an over-reliance of journalists on only a few scientific sources which have established and close relationships with the media professionals. Conrad [29] confirms this observation and notes that what makes some scientists especially 'good sources' has sometimes less to do with scientific expertise on the subject but with easy availability and the known ability to deliver 'punchy' quotes. Here it is important to note that science journalists have quite a different approach to writing about scientific issues than the scientists themselves. The science editors Radford [30] and Wilkie [31], for instance, stress that one of their main aims is to write science stories that manage to attract the interests of their readers and to pass the news editors and therefore often have a human interest or entertainment angle. Wilkie argues that it cannot be the function of newspapers to educate the public about science since they are commercial enterprises confined to their own modes of operation and the determination to sell as many newspapers as possible. In contrast, it could be argued that scientists are well aware of the instrumental value of public exposure, using media professionals to promote scientific findings, and the work of scientific institutions. Peters [32] therefore portrays the interaction between journalists and scientific experts as a clash between two professional cultures with different priorities, hierarchical structures, modes of operation and standards of objectivity. The production of news stories and the selection of sources becomes even more complex when the issue of interest not only has a scientific side but might also involve political, ethical, educational, religious or social issues and content and correspondents with different specialisms and different priorities of stance and sources report the issue. Holliman [33], for instance, illustrates that a range of actors and issues were involved in producing coverage of cloning, including scientists, scientific journals, media professionals and politicians. The story about Dolly the cloned sheep therefore made not just a big science story, but also a political and ethical controversy.

## **3. Methods**

The research in this paper is part of a wider research project which investigates representations of science education and the controversy around teaching evolution/creation in the UK press [34]. As part of this research 287 articles published in the UK from 1 January 2002 until 20 February 2004 relating to the controversy around teaching evolution/creation have been collected and systematically analyzed using quantitative and qualitative methods. One of the findings from this analysis is that the articles have been written by general news reporters as well as by specialist

correspondents, e.g. such as science, education, politics or religious affairs correspondents.

In this paper some illustrative results from current research on the production of media stories about teaching creation/evolution through interviews with media professionals that reported the issue and other experts are presented. The media professionals have been contacted by letters, asking if they wanted to participate in this research. The interviews took place either in a face to face situation or over the phone. A semi-structured guideline was used for conducting the interviews.

The interviews intended to shed some light on how media professionals evaluated the newsworthiness of the issue; how they approached the story; where they got their information from concerning this issue and how they assessed the gained information. Questions that were asked in this regard were, for instance: "Which sources and experts are in your opinion of particular importance in this story?"; "How do you assess information provided by your sources?" and "How do you select which quotes get in the reports?".

The interviews were recorded for transcription purposes and documents for each interview have been created that summarized the interviews. These documents provide the basis for the analysis in this paper. For this paper examples from interviews with four specialist correspondents that have reported the controversy around teaching evolution/creation in the UK context have been selected. The first interviewed correspondent is the science editor of an elite UK national Sunday newspaper. The second correspondent is a specialist correspondent on education and educational policy writing for a weekly newspaper specialized on educational issues. The third special correspondent was the education editor of a regional newspaper that reported the case at the time when the controversy reached its peak in 2002/03. The fourth correspondent is the education correspondent of another UK elite Sunday newspaper.

## **4. Findings**

Media reporting happens under several constraints. Many of the interviewees stressed two factors that especially concerned their work and the way of writing for news media: *time* and *space*. This may also influence the choice of experts and quotes that appear in the news reports. The following sub-sections describe some themes that appeared in the interviews in more detail.

### **4.1 Newsworthiness of the story**

Concerning the newsworthiness of the issue the education correspondents share the view that it was simply a new story in the UK. It had not been reported before in the UK that a state-school was teaching creationism. One educational correspondent saw the newsworthiness of the issue therein that normally Darwinism was taught and that it was thought for creationism to be "off the wall." That would be why it was a new and interesting story.

All interviewees agree that the major issue behind this controversy had to do with the new school type of City Technology Academies. Here it would be the connection of state-schools with the private sector and the degree of influence that the sponsors have over teaching practices, curriculum content or selection of pupils and staff that would be the major issue behind the story about teaching evolution/creation in the UK context. In the case of Emmanuel College it was the fact that the school is sponsored by a Christian charity, the Vardy Foundation, that generated suspicion and criticism. Not all of the interviewees are necessarily opposed to the new school type or to bringing private money into state education. But all of them agreed that the influence of the sponsors need to be carefully monitored and watched and the developments needed to be assessed. The story if and where creationist explanations were taught in this particular school would follow from this issue of new privately sponsored state-schools and provide an illustrative example for the consequences of sponsorship influence in education.

### **4.2 UK science education not under threat through creationism**

Asked about the situation of science education in the UK and if creationism could be a threat in the UK all of the interviewed correspondents stated that they were not worried about it. That would have to do mainly with the difference of the structure of the education system in the UK. In the UK there is a compulsory science curriculum that includes evolution and fossil evidence for it. One of the education correspondents said that there might be some more schools in the UK that teach creationism and that have not been picked up by the media but all of the interviewees saw it as a minority approach that wouldn't concern the majority of the UK pupils. Another education correspondent said that science education and teaching in the UK is very good and surveys show that the UK is at the top with all the other very good science teaching countries. All interviewees seemed to be confident that the National Curriculum for England and Wales protects the teaching of evolution theory.

### **4.4 Sources and expertise**

As one might expect the science editor names scientists and education policy makers as his main sources. Most of

them would be academics and he says that most of them are hostile to the idea of creationism. The science editor has a list of established contacts; a pool of sources. These expert sources are the people the science editor trusts. Two of the educational correspondents, as well as the science editor, note the importance of trust in their expert sources. Therefore media professionals have established contacts or a contact book that they can rely on and that have a good track record in the accuracy and reliability of the information they provided. Trust in expert sources builds up through their ability of providing reliable and accurate information over time. Personalized relationships are often the connection between specialist correspondents and their sources. Credibility and reliability, as well as personal acquaintance, are determining factors in the relationship between established expert and media professional. The science editor, for instance, says that it is not unusual to get different perspectives on an issue but it's his established contacts that he trusts most.

It is also not surprising that the educational correspondents name experts and actors mainly from the educational sector as their sources. Here they name directors and schools boards, teachers and teacher's unions and also scientists such as Richard Dawkins, who have a reputation for being very critical towards religion in education in general and creationism in particular. One educational correspondent said that the expertise of teachers' unions would have been especially important in this case because they would be the experts of how and what should be taught. Another education correspondent said it would also be of interest to talk to pupils and students, especially of the school of concern. Other sources that would be of particular interest in this story would be educational authorities such as the Department for Education and Skills, OFSTED and other educational authorities to the represent the official view on the issue. Furthermore, all of the educational correspondents mention in one way or another that they get their information also from the media, especially from other newspapers. One educational correspondent mentions that he first read about the issue in his own newspaper, the two others mention that they followed up the press coverage in other papers; here one regional newspaper from the geographical area of Emmanuel College in Gateshead is mentioned as well as *The Guardian* which ran the first big story about Emmanuel College in March 2002. Additionally the educational correspondents note that also politicians and officials had to be quoted in this particular story since Prime Minister Tony Blair and other high-profile politicians had touched the issue in Parliament. One educational correspondent said that the internet provided also a central research tool but it would be necessary to carefully evaluate and double-check the credibility of this information. This correspondent mentions that the website of the Department for Education and Skills is seen as a reliable and trustworthy source.

When it comes to the selections of quotes the science editor says that there are the ones that are dramatic and that give a bit of life to the story. These would have to go into the story. Less exciting bits needed to be paraphrased. The most colorful quote is taken to make the piece as lively as possible. One of the educational correspondents says that quotes by sources are selected by mainly two criteria: relevance and how interesting they are for the actual story.

All of the educational correspondents noted that they also approached Emmanuel College, the school the controversy was about and the openness of the school towards journalists is a reoccurring theme. They stress that it has been easy to get access to the school and that the representatives of the school were willing to talk to journalists. One of the educational correspondents stresses that he visited schools sponsored by the Vardy Foundation several times and that they would deserve credit for their openness. One educational correspondent also approached the Vardy Foundation that sponsored Emmanuel College and said the journalists there encountered well briefed press officers who answered the journalists' questions. Schools sponsored by the Vardy Foundation have been controversial also for other reasons than the creationism story and have been subject of media coverage before. The fact that the school was willing and prepared to deal with the journalists and that the Vardy Foundation had press officers who dealt with the issue suggests that the school and especially the Vardy Foundation had means and experience in facing inquiries by the journalists and could draw on resources and strategies how to deal with the media.

One particular exception in approaching stories and sources is the view of the educational correspondent of a regional newspaper. This correspondent emphasizes the importance of regional newspapers being part of local communities. This is described as an essential factor of difference in comparison with national newspapers. Being part of a local community also provides the opportunity to report diverse views from within that community.

As consequence this would mean that the newspaper should also provide a forum for actors who might be considered "resource poor". This education correspondent of a local newspaper says that the media can be very powerful in that regard when, for instance, a group of parents is mobilized to campaign against a privately sponsored school. In part, the initiative became very successful because it was reported in the media. This would explain why there are more non-expert sources such as pupils and parents are cited in regional newspapers.

## 5. Conclusions

These four examples can, of course, not claim to be representative or to offer more than snapshots of some of the circumstances of news production in this special case of teaching evolution/creation in the UK. However, these snapshots suggest that a range of actors such as politicians, educators, scientists, a Christian charitable trust, pupils and parents and issues such as a new school type, similar controversies in other countries, the science curriculum and sponsorship in state education were involved in producing coverage of this controversy.

Furthermore, it is interesting that some of the issues appeared several times in the statements. For instance, it is worth

nothing that none of the special correspondents argued that science education in the UK context was under threat from creationists. This view contrasts for instance that of the Royal Society [35], one of the oldest and most important scientific institutions in the UK, who argued recently that there is not only a danger in Christian version of creationism and literal interpretations of the Bible but also from fundamentalist Muslim believers and literal interpretations of the Qur'an. *The Guardian* [35] reported in February 2006 that the organization was alarmed about the threat of creationism to science education in the UK. The article quotes Professor David Read, vice-president and biological sciences secretary of the Royal Society, who said that they felt it was essential to address the issue now:

"We have asked Steve Jones to deliver his lecture on creationism and evolution because there continues to be controversy over how evolution and other aspects of science are taught in some UK schools, colleges and universities. Our education system should provide access to the knowledge and understanding gained through the scientific method of experiment and observation, such as the theory of evolution through natural selection, and should withstand attempts to withhold or misrepresent this knowledge in order to promote particular beliefs, religious or otherwise."

Another issue that consistently appeared in the statements is the importance of trust for instance in the relationships with the sources and experts that provide information. This is also true for internet homepages of governmental agencies, statements by authorities and the education inspectorate and it is interesting that trust is mentioned as an important factor in using and quoting them. It is also worth noting that the education correspondents were very confident in the institution of the National Curriculum relying on its rigorous requirements in guaranteeing the teaching of evolution theory and preventing religious or alternative explanations from being taught in science classrooms. Here it has to be thought about what this could mean for the reception of news stories and which role trust and existing attitudes play for the recipient in evaluating the news story, the journalist and the newspaper [36].

It is also worth noting that the media themselves count as an important source of information for the media professionals. This points to what Luhmann [6] calls the 'self-referentially' of the mass media as a social system; media professionals constantly monitor and observe what is being published and broadcast in other media with the effect that news stories picked up by one media channel are soon also reported by other newspapers or media channels. Here it has to be thought about the consequences of unclear or uncertain information once implemented in news coverage and the potential of it being reproduced in further news coverage. In these case studies it is furthermore worth mentioning that for example in one of the key issues, if creationist theories have been taught in science classes (or for instance in religious education classes or school assemblies), there has sometimes been contradictory information in the press coverage and amongst the different correspondents that reported the case in the UK press.

Another conclusion that could be drawn from this research is that the specialist correspondents and their personalized relationships to their sources do have an influence on the way the news story is produced, which voices are heard in the coverage and what kind of expertise appears in the news. For example, science journalists are more likely to be in regular contact with scientific experts whilst educational correspondents talk to teachers' unions and follow up announcements by the Department for Education and Skills. But it is very interesting in this context that the education correspondent from a regional newspaper states that the representation of diverse voices from the local community, including resource poor sources who might otherwise be overlooked, is part of her role of being employed at a local newspaper. Another factor that might play a role in the representation of voices might be the access to resources such as PR agencies and press officers as mentioned in the case of the Vardy Foundation. As an example of a resource rich organization this source could be relied upon for providing information pertinent to the issue being reported.

It seems fair to say that correspondents with different specialisms have established contacts with experts concerning their field of interest. Therefore it is likely that correspondents with different specialisms will quote these different experts they have built up trustful relationships with. So it is possible that the correspondents with different fields of interest have covered different aspects of the controversy and provided statements by different experts and sources. The question behind this is how and according to which criteria different disciplines and specialisms stories are assigned to specialist correspondents in the hectic life of news production and who it is that makes these decisions.

## 6. References

- [1] See for instance A. Irwin, *Citizen Science. A Study of People, Expertise and Sustainable Development*. London und New York, 1995; J. Urry, "The complexity turn," *Theory, Culture & Society*, Vol. 22, No. 5, pp. 1-14, 2005; U. Beck, *Risk Society, Towards a New Modernity*, London, 1992 or B. Latour, *We have never been modern*, Cambridge, MA, 1993.
- [2] B. Wynne, "May the sheep safely graze? A reflexive view of the expert-lay knowledge divide," in: S. Lash, B. Szerszynski, and B. Wynne (eds.), *Risk, Environment and Modernity. Towards a new ecology*, London, pp. 44 – 83, 1996.
- [3] R. Robertson, "Globalisation or Glocalisation?," *Journal of International Communication* Vol. 1, No 1, pp. 33-52. 1994.
- [4] A. Irwin and M. Michael, *Science, Social Theory and Public Knowledge*, Maidenhead, Philadelphia 2003.
- [5] C. Darwin, *The Origin of Species*, London, New York, 1976 reprint. First published 1859.
- [6] N. Luhmann, *The Reality of the Mass Media*, Cambridge, 2000.

- [7] European Commission, *Europeans, Science and Technology. Eurobarometer 2005*. Brussels, 2005.
- [8] D. Nelkin, *The creation controversy*, San Jose, New York, 2000
- [9] J. Allgaier, "Opening up the controversy about teaching creation/evolution", *The Pantaneto Forum*, Issue 17, January 2004. Available online at [www.pantaneto.co.uk](http://www.pantaneto.co.uk); last checked 23 March 2006.
- [10] S. Coleman and L. Carlin (eds), *The cultures of creationism*. Aldershot, Burlington, 2004.  
R.L. Numbers, *The Creationists: From Scientific Creationism to Intelligent Design*. Cambridge, MA, 2<sup>nd</sup> edition, forthcoming.
- [11] C. Dean, "CTC to host creationists," *Times Educational Supplement*, 25 January 2002. p. 2.
- [12] Answers in Genesis is an international organisation that promotes a literal interpretation of the Bible. For more information, see: <http://www.answersingenesis.org/>; last checked 24 March 2006. The announcement of the 'Newcastle Day Conference at Emmanuel College, Gateshead' can be found in their newsletter *Answers Prayer News*, Jan.-Mar. 2002. p. 8, available online at: <http://www.answersingenesis.org/uk/newsletters/uk-january2002.pdf>; last checked 24 March 2006.
- [13] T. Branigan, "Top school's creationists preach value of biblical story over evolution. State-funded secondary teachers do not accept findings of Darwin," *The Guardian*, 9 March 2002. p. 3.
- [14] For the complete National Curriculum of England and Wales, see [www.nc.uk.net](http://www.nc.uk.net); last checked 22 March 2006.
- [15] For a full description of City Academies and City Technology Colleges, see the relevant page of the Department for Education and Skills (DfES): <http://www.standards.dfes.gov.uk/academies/>; last checked 22 March 2006.
- [16] A. Norfolk, "Creationists planning to open six new schools," *The Times*, 28 April 2003. p. 4.  
G. Olwen and T. Halpin, "Success is divine for creationist college", *The Times*, 22 August 2003. p. 14.  
The whole report of OSTED can be accessed online at: <http://www.ofsted.gov.uk/reports/108/108420.pdf>; last checked 22 March 2006.
- [17] E.g. M. Gross, "US-style creationism spreads to Europe," *Current Biology*, Vol. 12, No. 8, pp. 265 -266, 2002.
- [18] M. Kallenbach, "School creationism is exaggerated, says PM," *The Daily Telegraph*. 14 March 2002. p. 12.
- [19] E.g. No author, "Leader: Matter of Faith – Creationism at the taxpayers' expense," *The Guardian*, 9 March 2002, p.19.
- [20] J. Clancy, "CTC's creationist talk enrages scientists," In: *Times Educational Supplement*, 15 March 2002. p. 5.
- [21] J. O'Leary and R. Jenkins, "Academic criticises creationist school," *The Times*, 15 March 2002. p. 1.
- [22] C. Dean, "PM asked to intervene in creationism row," *Times Educational Supplement*. 29 March 2002, p. 11.
- [23] C. Dean, "Let's teach science pupils how to think," *Times Educational Supplement*, 26 April 2002, p. 14.
- [24] D. Miller and P. Beharrell, „AIDS and Television News." In: D. Miller, J. Kitzinger, K. Williams and P. Beharrell (eds). *The Circuit of Mass Communication Media Strategies, Representation and Audience Reception in the AIDS Crisis*. London, pp. 69 - 90.1998.
- [25] T. Wilkie, "Sources in Science: Who can we trust?" *Lancet* Vol. 347, No. 9011, pp. 1308 - 1311. 1996.
- [26] D. Miller, "Mediating Science. Promotional strategies, media coverage, public belief and decision making" In: E. Scanlon, E. Whitelegg and S. Yates (eds), *Communicating Science: Contexts and Channels* London, New York, pp. 206 - 226. 1999.
- [27] C. Dornan, "Some problems in conceptualizing the issue of 'science in the media'," In: E. Scanlon, E. Whitelegg and S. Yates (eds), *Communicating Science: Contexts and Channels*. London, New York, pp. 179 - 205. 1999.
- [28] R. Goodell, "Problems with the Press: Who's responsible?" In: D. E. Chubin and E.W. Chu (eds) *Science off the Pedestal: Social Perspectives on Science and Technology*. Belmont, Cal., pp 31 - 40.1989.
- [29] P. Conrad, "Use of expertise: sources, quotes, and voices in the reporting of genetics in the news." *Public Understanding of Science* Vol. 8, pp. 285 - 302. 1999.
- [30] T. Radford, "Science for People who don't want to know about science," *Accountability in Research*, Vol. 5, pp. 39 – 43, 1997.
- [31] T. Wilkie, "Does science get the press it deserves?" *International Journal of Science Education*. Vol.13, No. 4, pp. 575 – 581, 1991.
- [32] H. P. Peters, "The interaction of journalists and scientific experts: co-operation and conflict between two professional cultures," *Media, Culture & Society*, Vol. 17, pp. 31 – 48, 1995.
- [33] R. Holliman, "Media coverage of cloning: a study of media content, production and reception." *Public Understanding of Science* Vol. 13, pp. 107 - 130. 2004.
- [34] See for instance J. Allgaier, "Representing science education in the UK press: The case of teaching evolution/creation". SEH806 *Contemporary Issues in Science Learning* Symposium. The Open University. Milton Keynes. 2005. Available online at: <http://www.open.ac.uk/science/SEH806/Symposium/JoachimAllgaier.html>, last checked 23 March 2006.  
J. Allgaier, "Representing Science Education in the Media: Newspaper Coverage of Evolutionary Theory and Creationist Explanations." 8th International Conference on Public Communication of Science and Technology (PCST): *Scientific Knowledge and Cultural Diversity*. Barcelona, 2004, Parallel Session 14: Science in daily press: a cultural question? Available online at: [http://www.pcst2006.org/upload/pcst8\\_paper/Parallel\\_Session\\_14.pdf](http://www.pcst2006.org/upload/pcst8_paper/Parallel_Session_14.pdf), last checked 24 March 2006.
- [35] D. Campell, "Academics fight rise of creationism at universities", *The Guardian*, 21 February 2006, p.11.
- [36] H. P. Peters, "Moulding public opinion – truth and myth," *RTD info*, No. 39, pp 35 – 36. Available online at: [http://europa.eu.int/comm/research/rtdinfo/pdf/rtd39\\_en.pdf](http://europa.eu.int/comm/research/rtdinfo/pdf/rtd39_en.pdf), last checked 23 March 2006.