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ROMANIAN MEDIA COVERAGE
ON BIOETHICS.
THE ISSUE OF STEM CELLS

In the last decades, scientific developments are largely discussed and debated mainly at the media level. Based on the agenda setting model, the importance of a certain theme is given by the frequency of its appearances in mass-media. Within this context, this paper focuses on the issue of stem cells and its media coverage in Romania. Using content analysis of the most read national newspapers, the research aims to emphasize two relevant aspects: the stem cells issue is only partly visible in the written media and the debate between ethics and science is rather non-existent.

Introduction

In the last decades, scientific developments are largely discussed and debated. Mass-media is considered to be responsible for the quantity and quality of the information and for the approached subjects. Thus, based on the agenda setting model, the importance of a certain theme at the public level is given by the frequency of its appearances in mass-media.

Within this context, this paper deals with the issue of stem cells and its media coverage in Romania. Considering the opportunities that stem cells treatments implies, this research aims to measure how well media covers this subject and what are its main features. The issue of stem cells is considered to be extremely important mainly in the context in which 80% of the citizens consider that the problems of Romania are connected to health and medical problems.¹

The support of the analysis is represented by the main national newspapers.² The main research question of the paper is how the most important national newspapers deal with the issue of stem cells.

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Specifically, we are interested in two aspects. First, this paper aims to analyze the level of visibility that the issue of stem cells has in the written media. Second, within a more in depth study, this research puts forward the debate between ethics and science. Based on these two interests, we claim that the issue of stem cells is not only insufficiently discussed, but the traditional opposition between religion and science is not sufficiently debated either.

The issue of this research can be considered new and interesting mainly because an era of scientific discoveries has started and because people are becoming aware of its importance in daily life. Moreover, this paper aims to raise journalists' interest on writing more about the issue of stem cells and on the possibility of healing previously incurable diseases.

Theoretical Background

The Agenda-Setting theory comes to stress the importance of media in contemporary society and the influence it has both on the audience and on the politicians. Taking this into consideration, this model stresses the way media selects and structures its messages and questions the awareness of media responsibility. Moreover, it focuses both on the issues media insistently presents and on those that are overlooked. These are just a few questions that, even if not directly connected to the agenda model, are provoked by it. **Agenda Setting** is the process through which the public opinion and receivers in general are influenced their mental perception of reality by placing certain themes in the media, and by their place in the media presentation. **Agenda Building** is the process through which certain themes of diverse natures (political, economical, cultural, social etc.) are included on the media agenda and are specifically presented. **Inter-media-Agenda-Setting** is the process through which certain types of media are influenced by the thematic offer of other types in building the agenda.

The agenda model uses a complex methodology that allows relating objective reality and media reality. McCombs and Shaw, the authors of the initial model call the main themes and the secondary themes treated by the media *major items* and *minor items* respectively.

Only a few years after publishing the initial theory, a distinction can be made between the following manifestation models of the AS effect:

- **The Awareness model** – the media effect is produced at the level of the perception, of the receiver's attention, which depends not only on his/her interest for a theme, but in the first place on the fact that the theme is presented by the media.
- **The Salience model** – the stronger a theme is treated by the media, the more important it is perceived to be by the receivers. In other words, the media create a themed universe.
- **The Priorities model** – the importance of the themes for the receiver is determined by the place the theme takes in the

broadcasting order of the news. The media first act by attracting attention, then by furnishing information.³

The Rogers-Dearing model, named after the two researchers that contributed to its development, is based on the initial model, proposed by McCombs and Shaw, the fundamental difference being the description of the three agenda types: **public agenda**, **media agenda** and **policy agenda**. According to this new model the media directly influences the public agenda. In addition, due to the fact that politicians are interested in voters' issues, the public agenda influences the policy agenda. Moreover, given that the role of media in structuring political life has increased lately, the policy agenda can be influenced by the media agenda. At the same time, reflecting the events on the political scene, we can claim that the media agenda can be influenced by policy agenda.

The media agenda is influenced by objective reality, showing events that take place in the media. From what was stated above, it can be seen that the themes that enter the media are filtered by so called *gatekeepers*, concept discussed in the chapter on theories of selecting information, and are influenced by other factors. These factors had been omitted until Rogers and Dearing⁴. From a methodological point of view, the document analysis of laws, decrees and even parliamentary debates are added to the media content analysis, opinion polls and indicators in determining the policy agenda.

In synthesis, the results of research regarding agenda setting reveal the following: variables that can intervene in the agenda setting process can be found both at the receiver level, and at the media level, the themes' level. At the receiver level, the frequent use of media, the addiction to media, leads to a stronger effect. In the case of people that show a certain sensibility, in other words an increased interest towards a theme (issue-sensibility), an even stronger effect can be seen. It is a cumulative effect – the more a theme is present in the media, the greater will be the importance given to it by receivers. A certain intensity threshold must be passed in presenting a theme for us to be able to speak of the possibility of an agenda effect. If there is a direct experience with an event, it will create a stronger agenda effect than its presentation in the media. National media have a stronger agenda effect than local media. The role of interpersonal communication on agenda setting processes is not very clear, because some studies assess it as positive, while others, on the contrary, consider the interpersonal communication processes inhibit the agenda effect on certain themes. The German researchers Brosius and Weimann carried out a study in 1995 in which they tried to create a link between the two step flow model and the agenda-setting model⁵.

Referring to the media, studies have shown that newspapers have a stronger agenda setting effect than television (at least this was the result of the initial study, result contradicted by current changes in human

behavior), the credibility of a medium being reflected on the agenda effect. Concerning the characteristics of the presentation, the positioning of a story in news broadcasts or in the newspapers is considered to be the most important agent for the agenda setting effect (e.g. the first story is considered to be the more important). Thus, the themes influence the agenda setting effect. Usually, the negative themes, about scandals and catastrophes, lead to a stronger agenda setting effect, clear circumstances and facts lead to a stronger effect than unclear ones and the evolution of a theme depends very much on the other *competing themes*. The echo effect represents the fact that, over time, a theme whose presence in the media has been clearly reduced is still of importance to the receivers. Rogers and Dearing notice an effect in associating public persons with a high degree of notoriety with important problems, as was the case with the public unveiling of the fact that the famous basketball player Magic Johnson was HIV-positive. They call these *trigger events* and find a very strong agenda effect in these cases.

Priming means that certain themes are privileged by the media. Iyengar and Kinder proved this drawing from the idea in experimental psychology according to which an individual does not judge a person considering all existing information, but only the information available to him. These value judgments can be influenced by the media, as can be seen in election campaigns. When voter form an opinion about a certain candidate they don't carry out a systematic research of the whole volume of existing information, but use the information available to them selectively⁶.

Many times the *Second-Level-Agenda-Setting* theories, also known as *Attribute-Agenda*, have been identified with the *framing* theory. Frames are those interpretational structures that work as cognitive structures in the journalists' minds in the case of mass-media. These structures have the role of contributing to the processes of selecting and presenting information. Frames are selective points of view in certain themes or events.

Iyengar and Simon, for example, reference one of the fathers of communication sciences, Walter Lippmann, to define frames: as Walter Lippmann noted nearly seventy years ago, we tend to know little about what is happening, why it happened and what ought to happen. But in modern times we do have pictures in our heads courtesy of ABC, CBS, CNN and NBC⁷.

For Entman framing is appeals to the selection and salience of the information and is a process that has several dimensions. Some themes are preferred by the media, others are downright ignored. Cognitive and emotional elements can give a certain weight to a theme. Thus: "*to frame is to select some aspects of a perceived reality and make them more salient in a communication text (...). Frame (...) define problems-determine what a causal agent is doing with what costs and benefits, usually measured in terms of common*

*cultural values; diagnose causes-identify the forces creating the problem; make moral judgments-evaluate causal agents and their effects; and suggest remedies-offer and justify treatments for problems and predict their likely effects”.*⁸

Gitlin emphasizes the role of framing for journalists. The frames are for him metaphors for the cognitive structures that allow journalists to work faster and rely on routine. Gamson and Modigliani mark out the dynamic and unstable character of media frames, these being dependent on social discourse.

The multidimensionality of framing phenomena must not be neglected. There are: framing by selecting thematic aspects, framing by internal structuring, by creating links between different aspects of the theme and not lastly framing by external contextualization, by creating links with other themes, what the literature calls frame-bridging⁹.

Methodological Framework

Based on agenda setting theoretical framework, the empirical part of the paper aims to analyze the visibility of the stem cell issue within media coverage and to discuss the debate between ethics and science. Specifically, this study stresses not only that the issue of stem cells has a relatively low visibility in the written media, but also that the debate between ethics and religion on this issue is very poor. Although research on media agenda is both an analysis of media coverage and an analysis of public opinion, this investigation aims only to refer to the first part. Thus, research on the way audience perceives the issue of stem cells is part of a further study.

The research method used is content analysis. The main unit of registration is *the article*. The study relies on the main daily national newspapers: *Adevărul*, *Cotidianul*, *Evenimentul Zilei*, *Gândul*, *Jurnalul Național* and *România Liberă*. Due to their number of copies sold, these newspapers can be considered the most relevant resource in the context of the analyzed issue.¹⁰ The research comprises all the articles on stem cells from January 2007 to October 2008. The main reason of choosing this period is that the issue of stem cells has become visible in the media mainly at the beginning of 2007.

The visibility of the stem cell issue in the Romanian written press

The first part of the analysis considers general quantitative issues that characterize media coverage on the stem cell problem. Based on the analyzed newspapers, there are similar numbers of articles published in 2007 as in 2008: approximately 55 articles in 2007 and 42 articles in 2008. This situation may signify that the stem cells issue has preserved its importance during the last two years, given the fact that the last two months of 2008 (November and December) are not included in the analysis.

However, this statement may be interpreted negatively as well. Both in 2007, and in 2008, the international research on stem cells progressed spectacularly¹¹, at every three month being reported a new discovery or an improvement of the existing framework. Very few of these discoveries are reflected in the analyzed sample. At the same time, it is interesting to observe that while in *Adevărul* there is only one article on stem cells published in 2007, in *Evenimentul Zilei* there is only one single article published in 2008 that deals with the same issue. Moreover, related to the number of articles, the newspaper that has published the most numerous articles on stem cells in 2007 and 2008 is *Gândul* (25), while the newspaper that have published the fewest articles on this issue is *Cotidianul* (12). Thus, the number of stem cells related articles published in one newspaper can be even double that the number of similar articles published in another newspaper. Hypothetically, this situation can be explained by the fact that different newspapers have different targets and they publish only subjects they perceive to be important and that fit the audience. However, newspapers targets are not as specific as the targets of TV channels, for instance. Their aim should be to pass the information on stem cells to everybody – adapting it to the specificities of each age, education level or social status.

On average, the frequency of articles related to stem cells is one every month. The exceptions refer to the fact that there are either more than two articles (even five articles in July in *Adevărul*) in a month or that there are a few consecutive months in which there is no article on stem cells.

From the same perspective, it is important to emphasize the part of the newspaper in which stem cell articles are published. Due to their subjects, these articles are placed on the pages dedicated to health, science, future or society, which can be found in the last part of the newspapers. Given the fact that the stem cells can bring significant health improvements and that individuals need to know all related information, at least some of the articles that present the issue of stem cells deserve to be place on the front page. As it can be presumed, the front page of any newspaper is the one that mainly attract readers' attention.

The length of the articles dedicated to the stem cell issue varies. Thus, there are articles that measure less than 100 words. They can be perceived as announcements and they usually refer to the opening of a new stem cell bank. The number of such articles is around five, which represents only a very small amount from the total of approximately one hundred articles. At the same time, the majority of stem cell articles are longer than 150-200 words and can reach even 1700 words. This type of articles is a very complex one by presenting the definition and utility of stem cells, the research results in the field, the costs and the procedures implied, and the illnesses that can be cured.

While many people are supposed to choose reading a certain article based on its title, it is interesting to emphasize how many articles include

in their title the words “stem cell”. If the articles will have attractive titles that can guarantee that the audience will read them. In this context, we are implying that it is more likely for a person that has heard about stem cells to read an article that contains this expression in the title. Thus, from the total number of analyzed articles, 56 articles have the word “*stem cells*” in the title, which means 58% of the total number of analyzed articles. Besides that, there are a number of 7 articles that contains in the title only the word “*cells*”. The conclusion of these results can be debated.

On the one hand, the aforementioned percentage might be considered a relevant one due to the fact that includes the majority of articles written on this issue. On the other hand, for individuals that have never heard about this subject, one should give a more explicit overview, or use other key words that can be understood by anybody and that can stimulate the reader’s interest in the article. In this regard, there can be used either strong expressions, as “*Children will develop in artificial uterus*” (Cotidianul, 18th of July 2008) or simple and explicit ones as, for instance, “*Stem cells can heal diabetes, genetic diseases, tumors and heart illnesses*” (Gândul, 13th of February 2008), “*One birth for many lives*” (Adevărul, 24th of October 2008), or “*Stem cells, the chance of perfect man*” (România Liberă, 20th of February 2008). All these types of titles can be considered attractive for a person that knows almost nothing about stem cells. Thus, it can be claimed that the number of articles is not the only thing that matters in influencing public opinion, but also the attractiveness of the titles.

Almost half of the analyzed articles (55) are general ones that present the issue of stem cells. The main aspects that can be found in these articles are related to the gathering procedure of the cells, the costs of the procedure, the conditions in which the blood should be preserved, and the main illnesses that can be healed using stem cells. The other half of the articles refers to specific cases. There are either presentations of specific individuals’ situations, the way they have benefit from treatments with stem cells, or a certain type of illness that can be cured with this kind of cells is emphasized, as, for instance, liver disease, hearing problems, infarction remedies, or eye disease.

In the same context, it is important to stressed that during almost two years, in the most important Romanian newspapers, the word “stem” has appeared only for 556 times. In addition, a very important aspect that can underline the visibility of stem cells problem in the written media is the frequency of definitions given to this concept. From a total of 97 articles, only in 16 articles a relatively complex definition of stem cells is given. While some of these definitions are very complex and explain the entire range of stem cells types, others are very simplified and talk about the fact that stem cells have the capacity to multiply and transform themselves in any other types of cells. The table below presents some complex examples of definitions given in certain newspapers and the main elements they emphasize.

Table no.1 – Examples of stem cell definitions as they appear in Romanian newspapers

General types of definitions	The main elements	The frequency of similar definitions
<i>Stem cells are cells that are harvested from placenta after the birth of a child</i>	Placenta	15
<i>Stem cells are cells that have the capacity to divide and differentiate themselves</i>	The capacity to regenerate, the characteristic of being unspecialized	11
<i>Stem cells are cells that have both the capacity to regenerate themselves through mitotic cellular division and to differentiate into different types of specialized cells. Stem cells can be of three types: embryonic stem cells, adult stem cells and stem cells prevailed from placenta. They are used in medical research being an extraordinary opportunity for replacing organs with problems through their regeneration.</i>	The capacity to regenerate, the type of stem cells, the usage of stem cells	4
<i>Stem cells can be found in most of the multicells organisms and are characterized by the capacity to divide and differentiate themselves in a lot of types of specialized cells. The cells of multicellular organisms can be divided in different categories depending on their capacity to regenerate and differentiate: pluripotent, which have the biggest capacity to differentiate; multipotent, which can differentiate only in certain cellular lines (for instance, hematopoietic stem cells that can give birth only to blood cells); unipotent, which can differentiate only in one single type of cells (for instance, muscular stem cells). All these cells have the potential to renew themselves, which makes them different from other types of cells.</i>	the capacity to divide, the capacity to differentiate, the types of stem cells	1

Based on this analysis, we may conclude not only that the concept of “stem cells” is not represented frequently enough, but its definitions have a lot of gaps. Thus, individuals that only read newspapers might have problems both in receiving important information and in understanding it.

Ethics and religion versus science

Scientific discoveries, mainly in the medical domain, started a large number of controversies related to the human capacity of playing a major role in creating life. The most problematic issue is cloning. This issue intervenes in the one related to cell stem because one of the main technical procedures in which stem cells are produced is from cloned embryos. In this context, the second part of the analysis deals with a more sensitive aspect of the stem cell issue. As mentioned in the introductory part of the paper, we aim to study if the debate between ethics, religion and science discoveries is constantly and consistently presented in the Romanian newspapers in the last two years.

We build this analysis by treating ethical and religious aspects separately. Although they represent similar values, it is more adequate to underline in how many cases and in what contexts the ethical perspective appears compared to the Church's intervention in the debate.

Regarding the ethical issue of using stem cells, it is important to note that, in all the analyzed newspaper's articles, the word "clone", or derived concept, appears 17 times, while the words "ethic", "ethical", "moral", "morality" appear 25 times. From a total of more than 38.000 word considered in the analysis, the numbers presented above seem to be irrelevant.

The exhaustive range of formulations presented in the analyzed media related to the ethical behavior is presented below. While the first table (Table no.2) emphasizes the way stem cells issue is perceived as a problematic aspect of ethical behavior, the second one (Table no.3) shows that, due to scientific discoveries, this problematic approach is becoming less and less plausible everyday.

Table no. 2 – The issue of ethics presented as a problematic approach

The newspaper	The issue of ethics
Gândul, 13 th of February 2008	Embryonic stem cells raise moral problems.
Gândul, 13 th of February 2008	The problem of this solution is that, from a moral point of view, it is unacceptable for a lot of people.
România liberă, 20 th of February 2008	The access to such embryonic stem cells, even for science, is limited because of ethical reasons related to using and cloning human embryos.
Evenimentul Zilei, 18 th June 2007	The harvesting process raises an ethical issue because the embryo must be destroyed in the lab.

As it can be observed, in all presented examples the ethical issue is related to embryonic cells and to the necessity of destroying them after being used. However, in this controversial context, the issue of stem cells harvested from placenta or from different parts of the body, and not from embryonic cells, seems to be the main alternative to cloning.

Table no. 3 – The issue of ethics presented as a non problematic approach

The newspaper	The issue of ethics
România liberă, 10 th of October 2008	The discovery leads to the end of human bioethical controversies related to embryonic stem cells.
Cotidianul, 21 st of November 2007	A new technology, that determines skin cells to behave as veritable stem cells, will end the era of experiments with human embryos.
Cotidianul, 21 st of November 2007	Scientists hope that technology will allow doctors to create artificial organs and tissues without using cells prevailed from cloned human embryos.
Cotidianul, 8 th of April 2008	The procedure [...] could eliminate the ethical issues imposed by using embryonic stem cells.
Cotidianul, 8 th of April 2008	It is important that scientists are not obliged to destroy embryos in order to create stores of such cells that can heal from diabetic problems to Parkinson.
Adevărul, 22 nd of November 2007	This discovery [...] allows obtaining stem cells without destroying embryos, in a context in which this was the subject of a vast ethical debate, mainly in United States.
Evenimentul Zilei, 13 th of December	Although, the research field of stem cells remains disputed, last month, scientists have transformed human skin in cells that looked and behaved like embryonic

2007	stem cells, without using human embryos.
Evenimentul Zilei, 21 st of November 2007	Not only that the new technique will eliminate the need of human cloning in order to create embryos in labs, but the procedure is simpler and easier to be controlled than actual technology of cloning.
Jurnalul Național, 3 rd of July 2008	The research on stem cells obtained from embryos is disputed from ethical reasons because the sampling process of stem cells requires the destruction of embryos. The majority of countries have forbidden this procedure. However, scientists have reached a solution that does not imply an ethical problem: nuclear transfer. The procedure consists of putting the nucleus of adult stem cells in an ovule from which the nucleus has been extracted. Through this procedure there are created copies of adult stem cells [...].

Besides these positions, there are situations in which scientists adopt a neutral position. They argue that recent developments have proven that people learn to accept new things. The main example is related to the *in vitro* fertilization process. Thus, for instance, Alan Trounson, the director of Institute of Regenerative Medicine from San Francisco, stresses that “what today seems to be immoral and dangerous will become, in time, acceptable. (...) The ethics modifies in time.”¹²

However, it can be argued that the ethical dispute is not visible enough in the written media. First, the number of situations in which the issue of ethics is mentioned is very low given the studied period of time. Second, the articles that draw attention to the fact that the stem cell issue might create ethical and moral controversies are much fewer than the articles that sustain the fact that stem cells issue is not an ethical issue. Thus, having much more sustaining situations than opponent ones, the debate seems mostly irrelevant.

The distinction between ethical and non ethical issues can be more subtle mainly due to the fact that it usually refers to two distinct situations. On the one hand, ethical complaints are frequently formulated when the issue discussed is that of stem cells harvested from embryos that need to be destroyed afterwards. On the other hand, the non ethical verdict is given in situations when stem cells are harvested from the placenta (a part of the body that is not used anymore). Compared to the first situation, the latter one does not imply an ethical value.

The conclusion is sustained by the fact that, in the last two years, in the analyzed newspapers, the Church’s position is mentioned only in two articles. The first one, although related to terrorism and nuclear weapons, raises the issue of stem cells. Beginning with general statements, as “*the new discoveries from bioethics need a moral code of science*”, or “*the new limits of bioethics do not oblige people to choose between science and morality, but rather to morally use science*”, the main position of the Catholic Church on stem cells issue is a favorable one, with the condition of not destroying embryos.¹³

The second article presents the position of Romanian priests from Christian Orthodox Church on stem cells issue, specifically related to the possibility of producing sperm from women’s marrow.¹⁴ This process is called “*genetic heresy*” or “*genetic manipulation*”. The main problem that is

presented is related to the fact that the biological role of father is threatened.

The two articles that present the Church's position on stem cells issue are representative and limited at the same time. Although both the view of the Catholic Church and of the Orthodox Church are emphasized, they refer to different aspects of the same problem. While the first view represents the general opinion on embryonic stem cells, the second view represents the opinion on adult stem cells in a context in which the role of men in life is underestimated. Moreover, the presence of only two newspapers' articles that underline the Church's view on stem cells issue seems to be problematic in a society in which public opinion is formed based on media information.

Conclusion

This paper aims to analyze media coverage on stem cells issue. The six most important Romanian daily newspapers were considered and the analyzed period referred to the last two years. The research planned to emphasize two relevant aspects: the stem cells issue is only partly visible in the written media and the debate between ethics and science is rather inexistent. The results of the content analysis confirm these suppositions.

We have based the entire research on agenda setting theoretical background. The main feature of this model is that media can influence public opinion mainly if they insist on presenting certain aspects of reality. Thus, the more in depth a subject is treated by media, the more important it is perceived by the audience to be. This paper underlines only the first part of this hypothesis, namely the importance given to the stem cells issue by the written media. The analysis showed that, in two years time, the number of related articles is less than one hundred. Moreover, the way these articles are placed in the newspapers emphasizes that, although it is an important and a vital problem, the stem cells issue has not yet gained an important place on the media's agenda. In fact, scientific research develops quickly and the majority of people can reach information on the new discoveries only from the media. Thus, it was expected that the number of complex definition on stem cells to be higher. We must admit that a large part of the articles contains data on the procedures of harvesting and preserving the cells and on the costs of the procedure. However, the general public must first understand what stem cells are.

Being a sensitive issue, the usage of stem cells in order to create other types of cells is considered a debatable subject. The analysis stresses that, although present in a few articles, the debate between ethics or religion and science is not fully developed in Romania. In addition, the most striking aspect is that, in two years time, the Church's position on the stem cell issue is discussed in only two articles.

The main conclusion of the paper is that Romanian written press still does not have a fully updated agenda. While the most important news on the first pages are mainly related to political events, the health related information that can decrease the number of people with medical problems are still presented as a secondary aspect of life.

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Notes

¹ Mircea Comșa et al., "Perceptions on mass-media", *Public Opinion Barometer*, Open Society Foundation, May 2006, 11.

² The reason of choosing this type of media is two-fold. First, although there are a relatively small percentage of people (31%) that have daily contact with the written press, the information received has a written form and can be consulted anytime the reader wants. Second, being a retrospective research, from 2007 till

present, the online version of newspapers is the main tool in finding the articles that deal with the issue of stem cells, other media, as, for instance, radio or TV, could not be used in this context. In this article we analyze only newspapers and we do not address Romanian academic journals that bring diverse perspective, such as theological perspective (as in *Bioethica*), or medical and applied ethics perspectives (as in *the Romanian Journal of Bioethics*), as well as interdisciplinary perspectives (such as in *JSRI*). Our paper is not concerned with these academic perspectives. See for instance: Ioan Chirilă, "Interogații despre Bio-etică", *Bioethica. Studia Universitatis Babes-Bolyai*, nr. 2 (2007): 3-5; Alessio Musio, "La contingenza dell'uomo nell'epoca della sua manipolazione genetica", *Bioethica. Studia Universitatis Babes-Bolyai*, nr. 2 (2007): 45-55; Simona Alice Vicolescu, Bogdan Carasevici, "Aspecte etice ale cercetării pe subiecți umani", *Revista Română de Bioetică*, vol. 5, nr. 2 (aprilie-iunie 2007); Mihaela Frunză, "O perspectivă etică asupra xenotransplantului", *Revista Română de Bioetică*, vol. 5, nr. 1 (ianuarie-martie 2007): 89-93; Zoltan Ambrus, "Applying Alfred Adler's Principles And Ideas To Religious Studies", *Journal for the Study of Religions and Ideologies*, No.16 (spring, 2007): 30-39; Mihaela Frunză, "Ethical Aspects of Spiritual Medicine. The Case of Intercessory Prayer Therapy", *Journal for the Study of Religions and Ideologies*, No. 17 (summer 2007): 101-115.

³ Jäckel, Jörg. *Medienwirkungen. Ein Studienbuch zur Einführung*. 4th edition. Wiesbaden: VS Verlag, 2008, 174-175.

⁴ Denis McQuail, Sven Windhla, *Modele ale comunicării pentru studiul comunicării de masă* (București: Editura Comunicare.ro, 2004), 90.

⁵ Bonfadelli, Heinz. *Medienwirkungsforschung I. Grundlagen*. Konstanz: UKV Verlag, 2004, 246-248.

⁶ Jäckel, Jörg. *Medienwirkungen. Ein Studienbuch zur Einführung*. 4th edition. Wiesbaden: VS Verlag, 2008, 185.

⁷ Iyengar, Shanto, Simon, Adam. "News coverage of the Gulf Crisis and Public Opinion. A study of Agenda Setting, Priming and Framing". Iyengar S./ Reeves, R., *Do the Media Govern? Politicians, Voters and Reporters in America*, Thousand Oaks, 1997, 256.

⁸ Entman, Robert M. "Framing: Toward clarification of a Fractured paradigm". *Journal of Communication*, 43/(1993), 52.

⁹ Jäckel, Jörg. *Medienwirkungen. Ein Studienbuch zur Einführung*. 4th edition. Wiesbaden: VS Verlag, 2008, 185.

¹⁰ Biroul Român de Audit al Tirajelor, BRAT, <http://www.brat.ro/index.php?page=compare> accessed on November 2008.

¹¹ See: http://en.wikipedia.org/wiki/Stem_cell#Key_research_events

¹² Cotidianul, "Children will develop in artificial uterus", 18th of July 2008.

¹³ Adevărul, "The Pope sustains that terrorist can obtain nuclear weapons", 7th of May 2008.

¹⁴ Gândul, "The Church is against the sperm production from bone marrow prevailed from female donors", 2nd of February 2008.