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News Reporting about Genetically Modified Organisms in the Context of Different Journalistic Ideologies

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SUMMARY

The aim of this article is to research how Slovenian journalists carry out the professional ideology of objectivity, which is prevalently founded on the Anglo-American model of journalism and demands that journalists devote the same amount of space or time to all actors involved in an event. The study was performed on a case of news reporting about one of the most controversial biotechnological topics, i.e., the introduction of the cultivation of genetically modified organisms (GMOs). All previous studies about news reporting on this topic in European media showed that journalists were mostly constructing the anti-GMOs discourse, based on sources which put the risks of GMOs at the forefront. Because these studies used only quantitative methods and analysed only the elite press, our study combines methods and includes diverse media in the sample. Both quantitative analysis (content analysis) and qualitative analysis (critical discourse analysis) of news items about GMOs, published in the Slovenian press, television programs and the press agency in 2009 and 2010 revealed that journalists predominantly cited sources which opposed the introduction of the cultivation of GMOs, and they explicitly expressed their own opinions, which were against GMOs. Journalists of tabloids were particularly negative in their views; they tried to mobilize the audience to boycott GMO-products. The research indicated that journalists did not follow the American tradition of equally citing different opinions about the topic and not express-

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ing journalists' own opinions. Instead, their reporting was closer to that of the European tradition. The research also proved that in this case the journalistic practice did not correspond to the ideological concept of journalism formally adopted by the Slovenian journalistic community. Therefore, each analysis of journalistic professionalism should include research of everyday journalistic practice in addition to analysis of journalists' ideology.

Key words: news reporting, journalistic ideology, objectivity, genetically modified organisms, Slovenia

Introduction

Numerous authors in the field of communication and journalism studies (e.g., Splichal, 1992; Jakubowicz, 2001) argue that journalism in Slovenia and other Eastern-European countries has adopted the Anglo-American interpretation of professional ideology, which is based on the concept of objectivity, meaning that journalists devote the same amount of space or time to all actors involved in an event, with the intention of giving readers an opportunity to create their own opinions about the event. According to these authors, such journalism is not founded on the European tradition, which allows journalists to express their opinions more openly (Conboy, 2004; Mitschel, 2006; Muhlmann, 2007). Has Slovenian and other Eastern-European journalism actually been realizing the Anglo-American professional ideology in practice? The aim of this article is to answer this question with a case study of news coverage of one of the most controversial biotechnological topics (Gaskell et al., 2006), i.e., the introduction of the cultivation of genetically modified organisms (GMOs).

In the last two decades, several studies on journalistic representation of GMOs have been performed on the level of the European Union (EU). The most extensive project was titled *Biotechnology and the European Public*, which was a longitudinal analysis of news reporting in the elite press from 14 EU member states between 1973 and 1999 (Durant & Linsey, 2000; Gaskell & Bauer, 2001; Bauer & Gaskell, 2002). Some research analysed news reporting in the press on the level of EU member states (e.g., Castro & Gomes, 2005; Maeseele & Schuurman, 2008; Augoustinos et al., 2010). However, the studies neglected to analyse news coverage in heterogeneous media, as they only focused on news reporting in the elite press. The majority of studies are quantitative, with the exception of the analyses of the Belgian press (Maeseele & Schuurman, 2008) and the British press (Augoustinos et al., 2010). Because qualitative analysis of popular media has been

overlooked by the existent research, our intention is to fill this research gap. In this article, we present results of a quantitative (content analysis) and qualitative (critical discourse analysis) analysis of news coverage of GMOs in all Slovenian press and television media which published or broadcast news items on GMOs in 2009 and 2010. Our goal is to research how the Slovenian journalists covered the topic of GMOs.

In the first chapter, a theoretical approach to the analysis of news coverage of science will be described. This will be followed by a review of relevant studies of journalistic representation of GMOs and its social context. After the methodology chapter, results of the analyses will be presented and later interpreted in the broader context of journalism and society.[1]

Theoretical framework and social-journalistic context

Journalistic Ideology, Media Legitimation of Science and GMOs

Even though several scholars (e.g., De Beer & Merrill, 2004; Muhlmann, 2007; Davies, 2008; Bobek-Ostrowska, 2010) have argued that in the global society the Anglo-American journalistic model has become more and more dominant, we will – for the purpose of this study – focus on the primary differences in interpretation of journalistic ideology, which "primarily means understanding journalism in terms of how journalists give meaning to their newswork" (Deuze, 2005: 444). While the liberal Anglo-Americana dominant journalistic ideology puts the role of a journalist as a neutral mediator of (political) communication who does not argue for particular interests and who tries to be as unbiased as possible, the European professional ideology refers to the advocacy role of a journalist, who explicitly strives for particular interests (Hallin & Mancini, 2004). In the European ideology, explicit ideological and political orientations of individual media can be recognized. This may be attributed to a historical background, as in the European media tradition a parallelism between media and politics has been established, while the American tradition is characterized by a market-driven orientation which goes beyond ideological and political limitations (ibid.). Contrary to the European model, the Anglo-American model of professionalisation is primarily based on objectivity and political neutrality; or, to put it more precisely, while the prevailing Anglo-American journalistic ideology is based on the assumption that all sources should have the same access to news discourse, critical European tradition diverges (Conboy, 2004; Mitschel, 2006; Muhlmann, 2007). According to the European approach, social legitimation of science is not attrib-

uted in advance and mediated to the public, but is created in the communication process itself (Wynne, 1992).

In the context of news discourse, the recognition of a particular social actor as the strategic one is of crucial importance. Journalists attribute the status of a regular news source to an individual or a social group that expresses an interest recognized by the public regarding GMOs. This means that they understand this source as an actor with a voice, that is, a group or an individual who offers the key interpretation of a particular subject of coverage. Thus, a journalist makes it possible for a source to put forward his/her interpretation package/discourse about GMOs in which a complex linguistic message is convincingly exposed in such a way that one interpretation is emphasized and a clear dividing line between the essential and non-essential is set (Nisbet & Huge, 2006). A particular discourse can succeed in prevailing, i.e., in taking the hegemonic position – if we paraphrase Gramsci – only if it includes a combination of cultural consensus, media compatibility and extensive promotion (Maeseele & Schuurman, 2008).

The prevalence of a particular discourse is linked to the distribution of economic, political and cultural resources, i.e., to the political, economic and cultural power. This is why journalism is always a competing field of struggles between different discourses: journalists reflect and, at the same time, give power to a particular discourse. That is, they reflect and raise the position of a particular promoter of a discourse when they present him/her as an important social actor, and they serve as a criterion of cultural and social power. Because journalists construct ideological meanings, which are concordant with the interests of influential elites (Van Dijk, 1988), it is important to analyse which news discourse takes a hegemonic position in a society.

Social Context and Journalistic Representation of GMOs in the U. S. and European Media

With the development of industrial genetic engineering in the 1970s, news coverage of GMOs began in the USA (Lewison, 2007). The initial doubts of scientists in the field of biotechnology about the effects of GMOs were banished in 1975 at a conference in Asilomar (USA), where they came to a unanimous conclusion that GMOs have no negative effects on people, animals and the environment. Even though the majority of biotechnologists changed their negative, or strengthened their positive, attitudes toward GMOs, the views of consumers and the media remained prevalently negative (ibid.). Negative views of the media about GMOs stimulated scientists in the field of biotechnology to partake in jointly organized

presentations of information about GMOs, while some multinational companies and governments, particularly the US government, began to carry out promotional campaigns during which they presented the benefits of GMOs (ibid.). This promotional activity contributed to a very positive representation of GMOs in the American journalists' coverage in the 1980s (Priest & Talbert, 1994; Priest & Gillespie, 2000; Nisbet & Lewenstein, 2002). In the 1990s, negative coverage of GMOs increased; this was based on the comparison of the effects of the nuclear catastrophe in Chernobyl and BSE ("mad cow disease") on people with the effects of GM corn on monarch butterflies (Jesse & Obrcycki, 2002). Despite slight oscillations, we can claim that American journalists constructed a "pro-GMOs" discourse; they used multinational companies in the field of GMOs, government representatives and scientists as their sources on the one side and environmentalists on the other.

In Europe, a lot of media attention was attracted by the publication of a study conducted by Arpad Pusztai in 1999, despite the fact that its results have been rejected by the professional public (Lewison, 2007). Pusztai claimed that eating GM potatoes is harmful to rats and named GM food "the Frankenstein food" (Ewen & Pusztai, 1999). Non-governmental organisations launched an extensive campaign against GMOs, and they attracted a lot of media attention (Lewison, 2007). Journalists and the public responded with a prevalently negative view on GMOs, and in June 1999 they attained the introduction of an EU moratorium on the import of GMOs (Durant & Linsey, 2000). Studies (Gaskell et al., 1999, 2006) show that a negative view on GMOs prevailed in the European press in the 1990s, and it culminated in 1999, when the media published more news items on the GMOs than ever before. Products containing GMOs, including those that were selling well, such as a sauce made from GM tomatoes in the United Kingdom, were removed from the European shopping centres (Mitchener in Lewison, 2007). Some schools and restaurants began to promote themselves as "non-GMOs" (Kalaitzandonakes et al., 2004). Journalists, who had previously cited scientists from the field of biotechnology in their news items, began to use representatives of non-governmental organisations as their sources from the end of the 1990s onwards (Lewison, 2007). Studies (e.g., Maeseele & Schuurman, 2008; Augoustinos et al., 2010) of news coverage of GMOs in the new millennium show that environmental groups and social movements have managed to shake the hegemonic position of the scientific-industrial complex, which in its "pro-GMOs discourse" put to the forefront the development of science, economic development, the development of society, little costs and big benefits. As their main sources, journalists were using representatives of non-governmental environmental groups, who put forward the "anti-GMOs discourse" by

discussing the scientific uncertainty, long-term risks and emphasis on the public's role in making decisions about the introduction of GMOs.

Different public opinion surveys about GMOs (e.g., Bonny, 2003; Gaskell et al., 2003; European Commission, 2005, 2010; Koivisto Hursti & Magnusson, 2002) revealed that the majority of Europeans are opposed to GMOs, especially in food, while they have a more positive attitude toward the use of GMOs in medicine. Slovenia falls into the category of those EU member states in which citizens have the most negative views on GMOs (ibid.).

Methodology

To establish how the media cover GMOs, we performed a quantitative content analysis, which is the systematic and replicable examination of symbols of communication that have been assigned numeric values according to valid measurement rules and the analysis of relationships involving those values using statistical methods, in order to describe the communication and draw inferences about its meaning (Riffe, 1998). Content analysis has a descriptive goal, which is to identify patterns and frequencies of their appearance (Carlson, 2008). For a statistical analysis, we used the chi-square (χ^2-test).

To be able to codify the sources, we first performed a pilot study in which we identified categories of sources. Analysis of sources is an important part of researching news coverage, as it reveals what social groups or individuals have such social power that journalists recognize them as important interpreters of social reality (Van Dijk, 1988). Then, sources were classified into the following categories: EU institutions, non-governmental organisations, established Slovenian politicians, scientists in the field of genetics and biotechnology, press agencies, agricultural institutions and unions, multinational companies in the field of GMOs, the food industry, scientists in the field of environmental protection and agriculture, state officials and governments of EU member states.

To research media views on GMOs, we used Lewison's (2007) categorization of media views on GMOs. Media views on GMOs are the positive or negative attitudes toward GMOs arising from the prevailing meaning of a news item (ibid.). In the category "very negative" we included news items in which a clear opposition to GMOs, including a frightening meaning, prevailed. The category "negative" includes news items which were moderately opposed to GMOs. In the category "balanced", there are news items which equally presented the benefits and risks of GMOs. In the category "positive", we included news items which presented GMOs

positively. In the category "very positive", there are news items which expressed a highly positive attitude toward GMOs and promoted them.

We also performed a critical discourse analysis (CDA) of news coverage. Because CDA is a method that enables a clear identification of different discourses at a specific linguistic level (Fairclough, 2005), we used it as a method for revealing discourses about GMOs in Slovenian news media. Textual analysis has been carried out on three levels: analysis of macropropositions, analysis of key words, and analysis of sources.

The analysis includes 230 news items which prevalently dealt with GMOs (GM plants, animals, food, genetic engineering, gene technology) and were published between 1 January 2009 and 31 December 2010. We included all Slovenian dailies (*Delo* (39), *Dnevnik* (12), *Večer* (14), *Primorske novice* (13), *Finance* (9), *Slovenske novice* (19), *Žurnal24* (9)); weeklies (*Jana* (21), *Mladina* (9), *Kmečki glas* (22)); and television programs (daily news shows *24ur* on the commercial program POP TV (9) and *Dnevnik* and *Odmevi* on the public television *TV Slovenija* (15)) that published or broadcast at least five news items on GMOs in the selected period, which means that they demonstrated a clear journalistic interest in covering this topic (Kalaitzandonakes et al., 2004). We also included the Slovenian press agency *STA* (39), because it is the key supplier of information about domestic affairs for the Slovenian media (Poler Kovačič & Erjavec, 2008).

Results of the quantitative analysis

Analysis of the views presented in news items in different media shows that all analysed media prevalently published a (very) negative view on GMOs (see Chart 1). Tabloids have the highest share of very negative views, especially *Jana*, which has 16 items with a very negative view on GMOs out of 21 items altogether, and four items with a negative view; this is followed by *24ur*, which has four items with a very negative view out of a total of nine items, *Slovenske novice* with seven out of 19 and *Žurnal24* with three out of nine. The small share or even nonexistent share of balanced news items in tabloids also points to the extremity of published views. The other non-tabloid media published the majority of news items which presented a negative view on GMOs. For example, *Delo* published 31 items with a negative view out of 39; *Dnevnik,* eight out of 12; *Finance,* six out of nine and *Večer,* nine out of 14; *Primorske novice,* eight out of 13; and *TV Slovenija,* eight out of 15 news items. Among all analysed media, the largest share of news items with a positive view on GMOs, namely four out of five items, was published by *Mladina*.

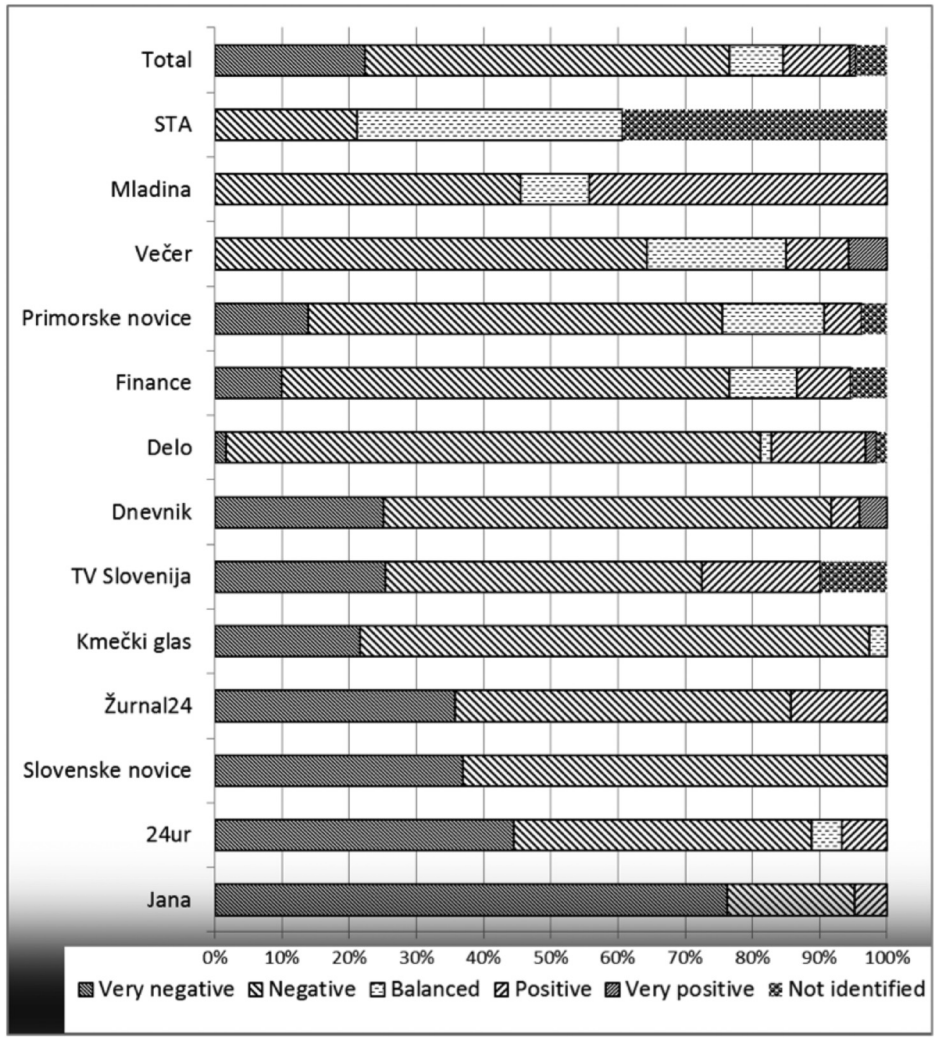

Chart 1 – Share of views on GMOs in news items compared by the media (in %), χ^2 test, N=230, sig. p<0.001.

STA published news items which could not, for the most part, be classified in any category, as a view on GMOs was not clearly expressed. These items were short announcements, short news and reports about regular activities of state officials.

Analysis of sources (see Table 1) showed that most of the sources that journalists from all analysed media cited were from non-governmental organisations. Political

sources were also frequently used. With regard to particular sources, *Jana* used the largest share of scientists in the field of environmental protection and agriculture. Other media mainly included sources from non-governmental environmental organisations: *Dnevnik* published 10 such sources out of 24; *TV Slovenija,* seven out of 17; *Primorske novice,* 11 out of 28; *Večer,* 12 out of 31; *Finance,* nine out of 26; *Delo,* 20 out of 62; and *Kmečki glas,* 10 out of 37 sources.

Table 1 – Share of sources on GMOs compared by the media (in %), χ^2 test, N=352, sig. p<0.001.

Media	Sources on GMOs											
	EU institutions	NG environmental organisations	Slovenian politicians	Scientists in genetics and biotechnology	Press agencies	Agricultural organisations	Multinational companies	Food industry	Scientists in environmental protection and agriculture	Officials	EU member states	Together
24ur	6,7	33,3	46,7	0	0	0	0	0	0	0	13,3	100
Delo	3,2	32,3	16,1	10,7	11,1	6,5	1,6	0	6,5	2,3	9,7	100
Dnevnik	4,2	41,7	39,9	8,3	0	4,2	0	0	0	0	1,7	100
Finance	0	34,6	11,5	0	23,1	13,1	0	10	0	0	7,7	100
Jana	0	30,4	0	3,6	0	0	7,1	10,7	32,1	16,1	0	100
Kmečki glas	2,7	27	10,8	0	18,9	24,3	0	0	5,4	2,7	8,2	100
Mladina	18,2	9,1	8	36,3	9,1	9,1	10,2	0	0	0	0	100
TV Slovenija	5,9	41,2	5,9	9,2	11,6	0	11,8	0	2,3	0,3	11,8	100
Primorske novice	0	39,3	28,6	7,1	7,2	3,6	0	0	0	3,5	10,7	100
Slovenske novice	4,8	71,4	4,8	9,5	4,7	4,8	0	0	0	0	0	100
STA	15,8	23,7	21,1	10,5	15,8	5,2	0	0	0	0	7,9	100
Večer	9,7	38,6	25,8	6,5	0	6,5	0	0	0	3,2	9,7	100
Žurnal24	5,1	36,4	18,5	8	9,4	8,2	1,4	1,4	2,3	1,7	7,6	100

Mladina published the largest share of scientific sources in the field of biotechnology and genetics, i.e., four out of 11, but it did not use any scientific sources in the field of environmental protection and organic agriculture. The majority of such sources were used by *Jana* (nine out of 28).

Out of 352 sources, 312 sources (88,6%) stated four different types of risks. Among risks, the sources most often cited the environmental risk (27,6% of all published sources), and they most often referred to the factors of scientific uncertainty and loss of biodiversity. A total of 24,7% of all sources cited the political risks, particularly the lack of appropriate regulation within the EU. Sources citing the medical risks (19%) mostly referred to the worsened food safety for the population. Sources citing the financial risks (17,3%) mostly spoke about the dependence of countries and farmers on multinational companies and about the loss of the status of an organic farm.

Chart 1 – Share of sources with regard to categories of risks-benefits, χ^2 test, N=352, sig. p<0.001.

Media	Risks				Benefits				Together
	Environmental risk	Economic risk	Medical risk	Political risk	Environmental benefit	Economic benefit	Scientific benefit	Medical benefit	
EU institutions	16,7	0	0	72,2	5,6	5,5	0	0	100
NG environmental organisations	50	7,8	28,1	13,3	0	0	0,8	0	100
Slovenian politicians	32,3	12,3	15,4	35,4	0	0	1,5	3,1	100
Scientists in genetics and biotechnology	14,3	0	7,1	3,6	28,6	7,1	35,7	3,6	100
Press agencies	30,3	21,2	21,2	24,2	3,1	0	0	0	100
Agricultural organisations	65,5	17,2	3,5	6,9	6,9	0	0	0	100
Governments of other EU member states	70,4	0	11,1	18,5	0	0	0	0	100

Table 2 shows that sources from EU institutions prevalently cited political risks (13 sources). Non-governmental organisations expectedly referred to the environmental risks (64 sources), Slovenian politicians to the political risks (23 sources), and scientists in the field of biotechnology and genetics to the scientific benefits (10 sources). Press agencies (10 sources), agricultural organisations (19 sources) and governments of other EU member states (19 sources) mostly discussed the environmental risks.

Results of the qualitative analysis

Analysed Slovenian media prevalently used sources that expressed a negative view on GMOs. However, the negative view refers to the use of GMOs in the agriculture and food industry, and not in the field of medicine, where a positive attitude toward using GMOs prevailed.

Research of sources showed that among all analysed items, there were only four items in which the only source was an actor speaking in favour of the introduction of GMOs in Slovenia and elsewhere. In three cases, the sources were scientists from a university in the field of biotechnology and genetics, and in one case it was a representative of a multinational company in the field of GMOs. In 38 news items the only sources consisted of actors who were against the introduction of GMOs. Journalists prevalently used the majority of sources (usually two or three) who were against GMOs and then added another source that supported GMOs.

In the following subchapters, we will present the key elements of "pro-GMOs" and "anti-GMOs" discourse, i.e., the use of key macropropositions and typical words.

Anti-GMOs Discourse

a) Scientific uncertainty about the long-term effects of GMOs

A comparison of macropropositions showed that all analysed media included the following key message in the majority of their news items: "Since independent science still has no long-term studies which would explain effects of GMOs on people, animals and the environment, it is necessary to prevent the introduction of GMOs in Slovenia." This prevalent macroproposition is based on the meaning of uncertainty in contemporary independent science, which is not capable of giving an answer about the impact of GMOs on people, animals and the environment. As science does not offer this answer, the Slovenian government should not approve the introduction of GMOs in Slovenia. The following is a typical example:

> There are still not enough studies about what it actually means for the safety of food. Namely, the consequences will not be seen for several generations.

> /…/ This is why in Slovenia we must say "no" to GMOs. ("Tihi sovražnik vsepovsod", *Jana*, 26. 10. 2010)

To strengthen the key meaning, journalists emphasized the ignorance or uncertainty of scientists who supported GMOs when citing them. Here is a typical example:

> But today Dr. Bohanec, just like during the last interview two years ago, does not answer the key question: What are the eventual long-term consequences of GMOs? ("Čigav gen našel pot do paradižnika", *Slovenske novice*, 8. 3. 2010)

The research of key words revealed that journalists of non-tabloid media prevalently used the term "GMOs" to designate GMOs, while journalists of tabloid media used words with very negative connotations, describing them as invisible pests, e.g., "the silent enemy" (*"Tihi sovražnik vsepovsod*", *Jana*, 26. 10. 2010) and "the silent threat" (*24ur*, 14. 2. 2010) on the one side, and as direct destroyers of people, animals and the environment on the other, e.g., "poison for people, animals and the environment" (*"Tihi sovražnik vsepovsod*", *Jana*, 26. 10. 2010), "destroyers of human beings", "genetic polluters" (*"Zahtevajmo izdelke brez GSO*", *Jana,* 16. 11. 2010) and "a catastrophe for us" (*"Čigav gen našel pot do paradižnika*", *Slovenske novice*, 8. 3. 2010).

Journalists divided science into the categories of corporate and independent. Scientists in the field of biotechnology were prevalently characterized as "sold" (e.g., *"Čigav gen našel pot do paradižnika*", *Slovenske novice*, 8. 3. 2010) as they support GMOs out of economic interest (they serve multinational companies), while independent science does not have the financial resources to carry out long-term studies on the impact of GMOs (e.g., *24ur*, 14. 2. 2010). Scientists who work for the European Food Safety Authority (EFSA), which has the task of assessing and communicating all risks associated with the food chain, were also labelled negatively, as though they were subordinate to multinational companies when making decisions about the approval of GMOs based on the research performed by multinational companies. Here is a typical example:

> Scientists in the agency, which is competent to give an opinion as to whether a particular GMO is harmful for our health or not, most often make decisions based on studies carried out by multinational companies, which also want to make their way with their GMOs in the EU. ("EU podira meje za GSO: demokratično metanje peska v oči", *Delo*, 13. 11. 2010)

b) Supremacy of multinational companies and the World Trade Organisation

The second key meaning included by all analysed media was: "Because multinational companies in the field of GMOs and the World Trade Organisation want to overpow-

er the EU and individual countries, especially the undeveloped ones, it is necessary to prevent the introduction of the cultivation of GMOs in Slovenia and elsewhere." This macroproposition implies in its origin that the introduction of the cultivation of GMOs is an object of competition between actors with different types of power, where the formal and the informal power define the way in which GMOs will be regulated. This meaning implies that multinational companies, with their key intention to take advantage of smaller farmers and (poor) countries, and the World Trade Organisation, as the crucial organisation which demands the deregulation of global trade of GM products (Maeseele, 2009), have more power than the EU and individual countries. It also implies that the existent institutional context is not responsible, transparent and democratic enough to allow the marketing of GMOs. This message is also important because influential Slovenian social actors, such as politicians (e.g., the Minister of Agriculture, representatives of political parties, representatives of crucial agricultural institutions), are the ones who put it forward. For example:

> The president of the agricultural-forestry chamber, Ciril Smrkolj, is worried that we do not know enough about the consequences of using and eating GMOs. "I also have doubts because gene technology is in the ownership of big world concerns and monopolies that want to get the most money out of it, which will make the situation of small farmers and poor countries even worse and will increase their dependence on the concerns." ("GSO: kmetje se lahko samo prilagajajo", *Finance*, 20. 8. 2010)

Within this meaning, journalists also cite sources which negatively evaluate the EU proposal regarding a regulation in which each country decides for itself on the introduction of GMOs, claiming that it means the loss of a common regulation framework for the EU and subordination to multinational companies and to the World Trade Organisation, as with this regulation, each member state will be faced with their pressure. Making decisions on the level of member states means that the EU no longer represents a common market. A typical example:

> "I have never seen such a bad EU directive before; so ambiguous and hypocritical as is this one about the possibility of member states restricting or prohibiting the cultivation of GMOs on their territory. Why do we have the EU? We have it to protect member states. Regarding GMOs, will it leave them by themselves, when the World Trade Organisation and individual multinational companies, which are already stronger than ten Slovenias together, begin to fight with them?", asked Cveta Zalokar Oražem, the member of parliament representing Zares, to herself. ("Evropa je glede GSO počepnila pred WTO", *Dnevnik*, 5. 11. 2010)

The study of key words showed that multinational companies in the field of GMOs were labelled extremely negatively, as "exploiters of weaker countries, especially the non-developed ones" (e.g., *"Raje lačni kot siti dvomljivega pridelka*", *Kmečki glas,* 24. 6. 2010) and exploiters of farmers (e.g., "eat small farmers", *24ur*, 14. 2. 2010). Journalists used a bipolar presentation: placed on one pole were multinational companies in the field of GMOs and the World Trade Organisation, which were represented as institutions with "an enormous economic interest" (*24ur*, 14. 2. 2010); on the other pole were poorer countries (including Slovenia) and people (mostly consumers, small farmers and individual politicians), represented as those who defend public interest and "protest against GMOs on our behalf" (ibid.).

c) GMOs destroy biodiversity

The third key meaning found in the majority of media was: "Because cultivation of GM plants destroys biodiversity, it is necessary to prevent the introduction of the cultivation of GMOs in Slovenia." This meaning contains no doubt about the negative impact of GMOs, but categorically claims that GM plants destroy biodiversity. The following is a typical example:

> Slovenian farmers mostly oppose genetically modified organisms. Above all, they point to the negative impact they have concerning the destruction of autochthonous plants. ("GSO: kmetje se lahko samo prilagajajo", *Finance*, 20. 8. 2010)

This meaning implies that the introduction of the cultivation of GM plants indicates the introduction of industrialized agriculture which destroys the environment. As a typical example:

> Slovenia cannot stand the industrialized cultivation of monocultures with GMOs which destroy our diversity. This is particularly unacceptable in light of the contemporary climate changes. ("Zahtevajmo izdelke brez GSO", *Jana*, 16. 11. 2010)

In this context, GMOs are designated as destroyers of biodiversity, above all autochthonous plants. A typical statement along these lines is: "Introduction of GMOs is the beginning of the destruction of our cultural plants." ("Zahtevajmo izdelke brez GSO", *Jana,* 16. 11. 2010)

d) The key measure against the cultivation of GM plants is consumers' loud opposition

The following macroproposition was published exclusively in tabloid media (*Slovenske novice, Jana*): "Because European consumers' opposition is the only reason European merchants do not import GM food, consumers must loudly oppose

GMOs in food and fodder in the EU and Slovenia." This meaning puts the power of consumers as opposed to politicians, multinational companies and scientists to the forefront. As a typical example:

> For now, it is difficult to find food with a GMO label here, as merchants are afraid that they cannot sell it to our buyers. This is the only reason they still have not begun with mass sales. /…/ What then remains for us Slovenians to do? Above all, we, the consumers, must loudly oppose GMOs in food products as well as fodder for animals. ("Tihi sovražnik vsepovsod", *Jana*, 26. 10. 2010)

The tabloids were already using alarming vocabulary in their headlines; for example in *Jana*: "Warning: Did you know that we already eat genetically modified food and the meat of animals fed with GMOs?" ("Tihi sovražnik vsepovsod", *Jana*, 26. 10. 2010), as well as mobilising vocabulary with a declarative form of speech that commands a way of behaviour (Van Dijk, 1988), such as the headline stating, "Let's demand products with a non-GMO label!" (*Jana,* 16. 11. 2010).

Pro-GMOs Discourse

a) GMOs make for less chemistry in agriculture and less environmental pollution

The first key meaning, which included reasons for introduction of GMOs and was published by all the media, was: "Because the use of GMOs reduced the use of chemistry in agriculture and thus reduces pollution of the environment, cultivation of GM plants should be introduced in Slovenia and elsewhere." A typical example:

> On the 2nd of March this year, the European Commission approved Amflora potatoes for commercial use in Europe. /…/ If we cultivated sorts with the mentioned characteristics here, those who cultivate corn would not have to use insecticides, weeds would be exterminated with a more environmentally friendly herbicide, cultivation could be carried out across the whole country without worrying about ruined crops because of drought; groundwater, lakes and rivers would be less burdened. Cultivation of GM plants needs to be introduced as soon as possible … ("Pravzaprav smo dobili zastarel izdelek", *Delo*, 11. 3. 2010)

This discourse includes a strategy of naturalization. The media cited scientists in the field of biotechnology and representatives of multinational companies, who presented the introduction of cultivation of GM plants as a process that has always been and still is in harmony with nature and for the benefit of nature. The starting-

point meaning is that all present-day plants that we use for food are genetically modified if compared to the primary plants, as all cultivated plants have been subject to the process of selection. Biotechnology is represented as a thousand-year natural process of human mastering of nature. For example:

> By all means this is not unnatural. Bacteria insert their genes into plants. There is evidence of highly mobile genetic elements in plants, which originate from fungi, from protozoa. Gene flow is natural. ("Pogled od znotraj", *Mladina*, 30. 4. 2010)

Supporters of GMOs designate all Slovenian media as well as all opponents of GM plants as biased. Analysis of key words also showed that GM plants are positively characterized as "natural" and "better" than the usual ones. Here is a typical example: "People who have lived in rural places for several years with genetically modified plants know that they are not bogeymen, as they are portrayed by opponents; they are plants like all others, only a little better." ("Gensko spremenjena Brazilija", *Mladina,* 19. 6. 2010)

b) Produce of GM plants is bigger than the usual and it brings economic advantages

The second crucial meaning published by all media was: "Because the produce of genetically modified plants is bigger than the usual and it brings economic advantages, introduction of cultivation of genetically modified plants should be allowed in Slovenia and elsewhere." A typical example:

> So far, it has turned out that genetically modified plants, beside placing less burden on the environment, also bring economic advantages to farmers; therefore, their introduction makes sense. ("Zaradi hajke proti GSO evropska komisija predlaga kompromis", *Dnevnik*, 19. 7. 2010)

While the anti-GMOs discourse includes negative representation of regulation institutions and processes, the pro-GMOs discourse indicates trust in regulation. The evaluation of risks of the introduction of GM plants is the domain of scientists and not the public. These sources express an attitude marked by an underestimation of the public, who are represented as the ones that do not understand the regulation procedures and functioning of GMOs:

> Evaluating risks is a very specific field of science. This is not about some basic studies; it is about their application to particular questions regarding the protection of individual matters. And this is something that many scientists, and the majority of the public, don't understand. ("Gensko spremenjena Brazilija", *Mladina*, 19. 6. 2010)

This discourse refers to the right of each consumer to choose genetically modified food, which the EU consumers are lacking at present. By introducing the cultivation of GM plants, the life of EU consumers would be improved.

> I'm more concerned about the question of equal opportunities for people, when we talk about access to technology to produce food and thus to improve their life in the European Union. This actually doesn't exist today. ("Gensko spremenjena Brazilija", *Mladina*, 19. 6. 2010)

Discussion and conclusion

The research showed that journalists devote a relatively large amount of attention to GMOs, which means that they understand them as a socially important topic that attracts public attention. The second main finding is that journalists of analysed media prevalently have a (very) negative view on GMOs. As expected, tabloids have mostly negative news items and the most negative news items compared to other media, and publish controversial views on the topic (Maeseele & Schuurman, 2008). The third key finding is that journalists in all analysed media mostly cited sources from non-governmental environmental organisations. These organisations, both Slovenian and international, regularly provided the media with "information support" and thus (co)created the media agenda, since journalists recognised them as the crucial source for interpreting the topic of GMOs. Other important sources were Slovenian politicians (the government, the parliament and its institutions, individual politicians); they have been known as a routine source that has established a strategic position in the media (Erjavec & Poler Kovačič, 2004). Additional analysis of individual sources showed that journalists cited those who prevalently dealt with risks.

The results of critical discourse analysis showed that the discussion about GMOs was represented in a very controversial and polarized way by the Slovenian media; they confirm the thesis that journalism is always a competing field of struggles between different interest groups to put forward their discourse. At this point, the difference between the tabloid and the non-tabloid media was particularly evident in that the tabloids turned out to be explicit promoters of anti-GMOs discourse through the use of negative, alarming and mobilising vocabulary.

Slovenian journalists offered two contradicting discourses to their audiences. The anti-GMOs discourse was prevalent; it was founded on the potential risks which the introduction of GMOs, especially cultivation of GM plants, could bring. This discourse included the following crucial arguments against the introduction of

GMOs: a lack of results from independent science about the impact of GMOs on people, animals and the environment (scientific uncertainty); the strong and non-transparent influence of multinational companies and the World Trade Organisation, which want to overpower the EU and its individual member states, as well as the non-developed world; and the destruction of biodiversity. In this discourse, the mobilization meaning is of key importance: the European merchants do not import genetically modified products because the European consumers are opposed to them; therefore, loud resistance to the introduction of GMOs in Slovenia and the EU is necessary.

By citing sources who discussed the risks of introducing GMOs and by including their own explicit opinions, journalists in Slovenia clearly declared themselves as being against the introduction of GMOs. By doing so, they neglected to follow the American tradition of equally citing all involved actors' opinions and of not expressing their own opinion; instead, these results point to the journalistic practices of the European tradition. How can the difference between the prevailing journalistic ideology and the practice of Slovenian journalists be explained? According to Hachten (2001: 18–9), since the fall of communism, the so-called Western concept of journalism has become dominant around the world. After the collapse of socialist regimes in the East-Central European states, in the media sphere, the Anglo-American model of journalism has been widely accepted as a norm of professional attitude and quality journalism. However, as Jakubowicz suggested, normative concepts of journalistic performance operate at two levels – the ideal and the real, which may have little in common, as these concepts are strongly influenced by the traditions and goals pursued by Central and Eastern European journalists: "whatever lip service is paid to the ideal, in practice the view of journalism as politics conducted by other means dies hard." (2001: 75) According to the author, journalism in these countries remains highly politicized, with limited independence from the political elite, paternal and didactic, partly as a result of the traditional position of intellectuals in that region which is reflected in a type of journalism that is conviction-driven. We can conclude that although Slovenian journalists may be dedicated to the Anglo-American tradition of objectivity on the level of their self-presentation (including the *Code of Slovenian Journalists*), the results of this study demonstrate that, in practice, journalists are explicitly biased.

This research also indicates that despite a general trend toward the domination of the Anglo-American model in journalism, as recognized by several authors (e.g., De Beer & Merrill, 2004; Muhlmann, 2007; Davies, 2008; Bobek-Ostrowska, 2010), there are also particular journalistic practices which are not part of this

trend. Therefore, it is important for scholars to avoid making over-generalised conclusions too quickly and without sufficient scientific evidence.

NOTES

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REFERENCES

Augoustinos, M., Crabb, S. & Shepherd, R. (2010) "Genetically modified food in the news", *Public Understanding of Science*, 19 (1), 98–114.

Bauer, M. & Gaskell, G. (Eds.) (2002) *Biotechnology – The making of a global controversy.* Cambridge: Cambridge University Press.

Bonny, S. (2003) "Why are most Europeans opposed to GMOs?" *Electronic Journal of Biotechnology*, 6 (1), 50–71.

Carlson, L. (2008) "Use, Misuse, and Abuse of Content Analysis for Research on the Consumer Interest", *The Journal of Consumer Affairs*, 42 (1), 100–105.

Castro, P. & Gomes, I. (2006) "Genetically Modified Organisms in the Portuguese Press", *Journal for the Theory of Social Behaviour,* 35 (1), 1–17.

Conboy, M. (2004) *Journalism.* London: Sage.

Davies, N. (2008) *Flat Earth News.* London: Vintage books.

De Beer, A. & Merrill, J. C. (2004) *Global Journalism.* Boston: Pearson.

Deuze, M. (2005) "What is journalism?", *Journalism,* 6 (4): 442–464.

Dobek-Ostrowska, B., Glowacki, M., Jakubowicz, K. & Sükösd, M. (Eds.) (2010) *Comparative Media Systems.* Budapest: Central European Press.

Durant, J. & Linsey, N. (2000) "The 'Great GM Food Debate' – A Survey of Media Coverage in the First Half of 1999", Parliamentary Office of Science and Technology, Report 138, http://www.parliament.uk/post/report138.pdf, January 20th, 2011.

Erjavec, K. & Poler Kovačič, M. (2004) "Rutinizacija slovenskoga novinarstva u razdoblju društvene tranzicije", *Medijska istraživanja,* 10 (1), 5–21.

European Commission (2005) "Special Eurobarometer 225 – Social values, science and technology", http://www.infoeuropa.ro/ieweb/imgupload/Social_Values,_Science_and_Technology_report_00001.pdf, January 5th, 2011.

European Commission (2010) "Special Eurobarometer 154 – Europeans, science and technology", http://europa.eu.int/comm/research/press/2001/pr0612en-report.pdf, January 5th, 2011.

Ewen, S. & Pusztai, A. (1999) "Effect of diets containing genetically-modified potatoes expressing *Galanthus nivalis* lectin on rat small intestine", *The Lancet*, 354 (October 16th), 1353–1354.

Fairclough, N. (2005) *Media discourse*. London, New York: Routledge.

Gaskell, G. & Bauer, M. W. (Ed.) (2001) *Biotechnology 1996–2000.* London: Science Museum.

Gaskell, G., Allum, N. & Stares, S. (2003) "Europeans and Biotechnology in 2002", Eurobarometer 58.0, http://ec.europa.eu/public_opinion/archives/ebs/ebs_177_en.pdf, January 5th, 2011.

Gaskell, G., Bauer, M. W., Durant, J. & Allum N. C. (1999) "Worlds apart?", *Science*, 285 (July 16th), 384–387.

Gaskell, G., Stares, S., Allansdottir, A., Allum, N., Corchero, C., Fischler, C., Hampel, J., Jackson, J., Kronberger, N., Mejlgaard, N., Revuelta, G., Schreiner, C., Torgersen H. & Wagner, W. (2006) "Eurobarometer 64.3 – Europeans and Biotechnology in 2005", http://www.ec.europa.eu/research/press/2006/pdf/pr1906_eb_64_3_final_report-may2006_en.pdf, January 20th, 2011.

Hachten, W. A. (2001) *The Troubles of Journalism.* Mahwah, New Jersey, London: Lawrence Erlbaum.

Hallin, D. C. & Mancini, P. (2004) *Comparing Media Systems.* Cambridge: Cambridge University Press.

Jakubowicz, K. (2001) "Rude Awakening", *Javnost/The Public*, 8 (4), 59–80.

Jesse, L. C. H. & Obrycki, J. J. (2000) "Field deposition of Bt transgenic corn pollen", *Oecologia*, 125 (2), 241–248.

Kalaitzandonakes, N., Marks, L. A. & Vickner, S. S. (2004) "Media coverage of biotech foods and influence on consumer choice", *American Journal of Agricultural Economics*, 86 (5), 1238–1246.

Koivisto Hursti, U.-K. & Magnuson, M. K. (2002) "Swedish consumers' opinions about gene technology", *British Food Journal,* 11 (4), 860–872.

Lewison, G. (2007) "The reporting of the risk from genetically modified organism in the mass media, 2002–2004", *Scientometrics,* 72 (3), 439–458.

Maeseele, P. (2009) *On media and science in late modern societies*. Gent: Universiteit Gent.

Maeseele, P. A. & Schuurman, D. (2008) "Biotechnology and the Popular Press in Northern Belgium", *Science Communication,* 29 (4), 435–471.

Mitschell, S. (2006) *A History of News.* New York: Oxford University Press.

Muhlmann, G. (2007) *A Political History of Journalism*. Cambridge: Polity.

Nisbet, M. C. & Huge, M. (2006) "Attention cycles and frames in the plant biotechnology debate", *Harvard International Journal of Press/Politics*, 11 (2), 3–40.

Nisbet, M. C. & Lewenstein, B. V. (2002) "Biotechnology and the American media", *Science Communication*, 23 (4), 359–391.

Poler Kovačič, M. & Erjavec, K. (2008) "Mobi Journalism in Slovenia", *Journalism Studies,* 9 (6), 874–890.

Priest, S. H. & Gillespie, A. (2000) "Seeds of discontent", *Science and Engineering Ethics*, 6 (4), 529–539.

Priest, S. H. & Talbert, J. (1994) "Mass media and the ultimate technological fix", *Southwestern Mass Communication Journal*, 10 (1), 76–85.

Riffe, D., Lacy, S. & Fico, F. G. (1998) *Analyzing Media Messages*. Mahwah: Lawrence Erlbaum.

Splichal, S. (1992) *Izgubljene utopije?* Ljubljana: ZPS.

Van Dijk, T. A. (1988) *News as Discourse*. Hillsdale: Lawrence Erlbaum.

Wynne, B. (1992) "Misunderstood misunderstanding", *Public Understanding of Science*, 1 (3), 281–304.