

Spanish newspapers' treatment of conflicts between science and religion

The relationship between religious beliefs and scientific knowledge is complex. In contemporary culture, conflicts between the two are inevitable. This study analyzed the strategies employed by three newspapers, ABC, El Mundo, and El País, in treating these conflicts. A content analysis was performed to determine whether these newspapers employed a confrontation or conciliation strategy. Our results show how the newspapers held various editorial orientations regarding science and religion. In conclusion, their general strategy was to avoid explicit confrontation by steering the discussion on conflicting views between science and religion toward academic fields, such as historiography, and debates about their sociopolitical and cultural effects.

Keywords: Catholicism; religion; science; scientific communication; scientific journalism; Spain

Introduction

Public controversy between science and religion has gained significant media attention in some countries. A notable example of this is the *Dawkins-Collins* debate in the *United States*. On one hand, this debate demonstrates the vision of the inevitable epistemological conflict between science and religion. On the other hand, it displays a more integrative stance in which *Collins'* approach is more effective in gaining public empathy compared to *Dawkins'* radical attitude (Scheitle and Ecklund 2017; Johnson et al. 2018).

In this vein, tensions between the traditionally different views of scientific and religious authorities have also intensified. There are differences among countries and religious faiths regarding whether to reject scientific knowledge for specific issues, such as genetic engineering (Scheufele et al. 2009) and evolution. For example, 56% of educators in *Spain* claim to be agnostic and against *creationism* (Clement 2015). New scientific knowledge is increasingly located in "gray areas of morality" (Cacciatore et al. 2018, 12). Other works have emphasized that an individual's knowledge has an insignificant influence on their general attitude toward or in support of science (Bauer, Allum, and Miller 2007). Nevertheless, in some controversial scientific issues (e.g., medical applications of genetics), religious acts serve as "a perceptual filter through which citizens acquire and use scientific knowledge in the formation of attitudes" (Allum et al. 2014, 833). Previous studies (Ecklund et al. 2016) have also examined the perceptions of the scientific community regarding the conflicting relationship between science and religion, and this perspective applies to the minority and generally prevails in most *Western* countries. It is most common in the *United States*, the *United Kingdom*,

France, Italy, and Turkey, among others, where conflicting views are publicly discussed. Meanwhile, more collaborative views are observed in *India, Hong Kong, and Taiwan*. Studies involving these countries note that the scientific community understands the lack of harmony between science and religion (Ecklund et al. 2016, 7).¹ Conflict and open debate are avoided, especially in bioethics. The conflicting issues in this field are a result of the progress scientific knowledge has made, while traditional religious beliefs are maintained. An example is the theory of evolution; in countries like the *United States*, this theory is discussed in the public arena (Keel 2013).

Religion could be defined, following Allen and Allen (2016, 559), as a shared system of activities organized around *transcendental signifiers* that are identifiable, which means that religion can be delimited and observed. Religion is also part of the public discourse that stems from interactions between institutional and governmental discussions that contain practices produced, shared, and consumed by individuals within communities that share these religious transcendental signifiers. Religious discourse is created as a shared and public *aprioristic* practice based on the existence of some form of spirituality, often managed from some form of higher deity, as an *unquestionable* and *true* principle. Conversely, scientific discourse is a public activity that produces a *final* discourse. Religion is criticized for reinventing itself and promising unlimited technoscientific progress since its inception (Merton 1938). Science, on the other hand, remains a product of complex, shared, and institutionalized practices that are subjected to constant review and are changeable (Kuhn 1962).

In our contemporary society we live a *media life*, in Deuze words: "media cannot be conceived of as separate to us, to the extent that we live in media, rather than with media. There are extensive social and cultural repercussions occurring primarily due to the way media are becoming invisible, as media are so pervasive and ubiquitous that people in general do not even register the presence of media in their lives" (Deuze, 2011, 143). As for journalism, Evans (2012, 238) states that the general way news media portrays the relationship between science and religion indicates that "journalists covering religion tend to focus on unrepresentative controversies and scandals and often simplify the complex realities of religion on the ground, despite the increasing connections between religion and the media in contemporary society."

In contemporary political debates, religious discourse is often not presented as a proper political actor, while scientific discourse is clearly regarded as an authority that will neither affirm nor deny the claims on the matters being discussed, for example, regarding homosexuality (Wilcox 2010). At any rate, the mediatization of religion is changing the public representation of religion in late modernity, "evoking both a decline and a transformation of religious organizations, practices, and beliefs" (Hjarvard 2012, 22). Meanwhile, scientific journalism itself is facing profound challenges as it attempts to adapt old practices to the digital environment and new preferences among the public (Amend, Capurro, and Secko 2013).

Religion is, overall, a public discourse that is consumed ultimately "by embodied and emplaced individuals" (Vasquez 2011, 321). Moreover, a general consensus is that religious beliefs work as a *perceptual filter* (Brossard et al. 2009; Brewer and Ley 2013; Peifer, Khalsa, and Ecklund 2016) and propose an *interpretative framework* enabling believers to make sense of scientific knowledge.

There is a degree of controversy over religious beliefs being a valid predictor of how people, except for fundamentalists,² interpret scientific knowledge and trust science (Evans 2012). The widespread belief that religion is the origin of contemporary armed conflict (Hene 2012) is also questioned. However, as it has been shown, when it comes to interpreting controversial issues in which scientific discourse and religious beliefs compete publicly, religiosity “does not push people away from science information sources when they have a question about science, but it might push them to also look towards religious information sources with the same question” (Scheitle, Johnson, and Ecklund 2018, 71).

In a similar vein, two universal and opposite constants have been identified to facilitate the understanding of how individuals approach religious discourse. Specifically, individuals’ personalities are sorted as *communal* or *agentic* (Gebauer, Paulhus, and Neberich 2013). The motivation of communal individuals is related to the importance they place, among others, upon kinship and morality. They are considered more prone to religiosity and conformism. Conversely, agentic individuals are competitive and ambitious, and emphasize individuality. As such, they act independent of their beliefs and religious institutions, while generally leaning against religions.

Analyzing religious attitudes within newspapers presents a challenge that is “derived from the notion of event and the presentation of opinions, as well as from treatment and journalistic genres” (Pou 2008, 561). Religious culture in *Spain* is widespread in that open criticisms of religious beliefs, *Catholicism*, or the *Catholic Church* are practically a taboo; there is a need to conduct research in this regard. An example of this is the process of modernization and adaptation of the *Catholic Church* to digital culture (Diez-Bosch, Micó-Sanz, and Sabaté-Gauxachs 2018).

For *Spain*, this controversial relationship between science and religion has not attracted much attention in newspapers in the last few decades. Some studies have suggested that this is due to lack of news media attention toward the adverse aftermaths of the popularization of the *Galileo Affair*, or the unsuccessful attempts of the *Catholic Church* to refute *Darwinian* theories, and the disastrous consequences these refutations have had in maintaining popular credibility in *Catholic* beliefs (Artigas, Glick, and Martínez 2006).

Given this context, and as a contribution to the recent but still reticent interest in analyzing religious culture in *Spanish* news media, we conducted this research on the relationship between science and religion in newspapers. We started from the main hypothesis of this work (H1): that a specific model of journalism is already established in our country, and such a model avoids public debate when treating issues that may be controversial such as the questioning of religious beliefs, especially those of *Catholicism*; the latter remains deeply rooted in *Spanish* culture today.

In this sense, this study analyzed the way the three major *Spanish* newspapers (*ABC*, *El Mundo*, and *El País*) treated controversies between science and religion from *November* 2013 to 2018. All three newspapers involved in the analysis supported different political orientations in *Spain*, ranging from progressive (*El País*) to conservative (*ABC*) and liberal (*El Mundo*). The study hypothesizes that a specific model of journalism is already established in our country and such a model avoids public debate when treating issues that may be controversial.

Scientific Communication and the Relationship Between Science and Religion in Spanish Society

In recent years, several studies have examined the public discussions surrounding science and scientific journalism in *Spain* (Moreno-Castro 2011; Elías 2015; López-Cantos 2017a; Cassany, Cortiñas, and Elduque 2018). For other countries, there is a steady and widespread growth of publications of information related to science and technology by the *Spanish* news media, and of developments in the scientific community and institutions (González-Pedraz et al. 2017; Alonso-Flores and Moreno-Castro 2018). However, the number of science sections in newspapers has clearly declined over recent years (Cortiñas-Rovira and Alonso-Marcos 2014). A clear tendency toward the widespread medicalization of communicative content has also been observed (Groves, Figuerola, and Quintanilla 2016). This is probably associated with the popularization of a specific model of *therapeutic culture* (Illouz 2008), which increasingly permeates contemporary society. Critically speaking, this is related to the expansion of the neoliberal system (Lipovetsky 2007) that enforces what has been denominated as *MIT ideology* (Morozov 2013). As the highest cultural expressions change around the supposedly unstoppable improvements promoted by science and technology, a discursive current that has been known as *transhumanism* is also developing as a new cult of fundamentalist features. This is confronted in an intense debate with religious traditions (Hefner 2009); its discourse in *Spain* is also generating controversy (Postigo 2010; Coenen 2016; Arruga 2017), even in religious circles (Vallverdú 2016; Génova 2017; Nuñez 2018).

The *Centro de Investigaciones Sociológicas*'s (Center for Sociological Research; CIS) latest survey showed a generational crack in *Spanish* traditional political parties (*Partido Popular* [People's Party; PP] and *Partido Socialista Obrero Español* [Spanish Socialist Workers' Party; PSOE]) that have experienced a pronounced decline of more than 20 points in the last 40 years (the series started in 1978). Nevertheless, the number of *Catholic* members has remained constant (PP at 90% and PSOE at 81%) compared to new groups, such as *Podemos* (We can) or *Ciudadanos* (Citizens) (CIS 2018), and beyond the clear impact of transition on the process of secularization of *Spanish* society (Requena and Stanek 2014), *Franco*'s national-*Catholicism* cultural practices continued to exist. Except for recent years, the percentage of citizens who hold religious beliefs and tend to follow conventions has decreased. *Catholicism* in *Spain* has maintained its influence, although it is mostly cultural, given that it is defined as non-practicing. Only 10 years ago, 72.6% of citizens were in favor of having religion classes as part of their education, which was justified by the desire of their parents to pass on their religion to their children (CIS 2008). The latest report of the *Fundación Española de Ciencia y Tecnología* [Spanish Foundation for Science and Technology] (FECYT 2016) indicated that 31.7% of the total population claimed to be atheist or agnostic, compared to 63.8% who held religious beliefs. However, non-believing *Catholics* were the majority, representing 45.1% of the *Spanish* population.

Nevertheless, in an environment with a seemingly more notable cultural presence of techno-scientific knowledge, debates regarding controversial scientific content are almost non-existent. This is especially the case for those related to religious beliefs, which continue to be treated marginally. In addition, as shown in recent studies,

although issues related to climate change and biomedicine seemingly draw increasing attention (Dominguez, Lafita, and Mateu 2017; Erviti 2018; Moreno-Castro 2015; Alcibar 2017), the challenges faced by the newspapers in treating scientific content are evident (López-Cantos, 2017b). This can be observed in topics that are extremely sensitive to the confrontation of religious ideas; although they require in-depth debate, they are reported at a superficial level. For example, reports on human evolution accounted for only 2% of the scientific information that appeared in *Spanish* newspapers. This follows the general tendency of contemporary journalism worldwide to avoid conflict and present scientific information “without entering into debates about its social, political, or moral implications” (Groves, Figuerola, and Quintanilla 2016, 701).

The way news media handles religious topics is different in every culture. For instance, religious beliefs and other factors, such as the rate of violence in a country, were found to shape how images of death are used (Hanusch 2012). In countries with the most *Protestant* population, the newspapers displays these images in moderation. Conversely, in countries with the most *Catholic* population, such as *Spain*, the newspapers shows such images more explicitly. In the *Spanish* newspapers, humor regarding religious issues is practically absent, despite *Spain's* long tradition of satiric and explicit press that is against *Catholicism* (Llera 2003). *Spain* is also home to several people who have maintained their opposing attitudes toward religion, even during the most repressive period of the *Franco* regime (Requena and Stanek 2014). Undoubtedly, the results of a recent survey conducted among *Spanish* journalists and readers are informative with regard to this issue (Mauri-Rios, Perez-Pereira, and Figueras-Mas 2014), and showed that, although there seems to be a consensus that religion should not receive special treatment, at least it is an issue that confronts the defense of free speech, which is a priority for journalists and the opinions of readers. They may consider, for example, offensive humor and prioritizing respect for their religious beliefs, with certain differences between the two groups among different autonomous communities.

Roos (2014) shows the complexity of analyzing the relationship between communication, science, and religion and how difficult it can be to measure such variables. In the case of *Spain*, data from FECYT's latest report pointed to similar findings in previous years. These findings indicated that the greatest interest in being informed by science is positively related to higher levels of education and those who consider themselves to be atheist, agnostic, or non-practicing *Catholics* (FECYT 2014, 66). The report also highlighted the negative influence of religious beliefs on *Spanish* society regarding controversial scientific questions, especially bioethical issues (e.g., benefits of human cloning). Citizens preferred to discuss the genetic manipulation of plants. The report focused on the population group that has the greatest interest in scientific activity, which is a study called *moderate pro-scientists*. This group accounted for 28% of the total population (FECYT 2016). People in this group address issues with a critical attitude and are more likely to hold pseudoscientific beliefs and maintain religious beliefs. This group comprises citizens aged 35 years and younger. They primarily use digital media and social networks to keep themselves informed; they practically do not use traditional media. They are also representative of an audience with a growing tendency to abandon the use of traditional media in favor of the *Internet* and use of thematic television (AIMC 2018).

From an optimistic perspective, only about a third of the *Spanish* population is part of that small group of non-practicing *Catholics* who are aged 35 years and younger and who are considered *moderate pro-scientists*. The most significant population group to know the interrelationship between religion and science, as well as the effectiveness of scientific communication, continues to be that of non-practicing *Catholics*, which is the majority, and they constitute 70% of the *Spanish* population. This group continues to use traditional media to obtain information. As such, communicative strategies should be aimed toward them, as they certainly compose the population group that could be fairly receptive to communicative actions related to scientific activity and effectively improve the efficiency of the resources used in the promotion of scientific culture.

Research Methodology

Measuring religiosity is complex, given that religion is a multidimensional concept that can be addressed in several ways. The literature presents many measuring strategies that can be grouped into three approaches. The first approach addresses the religious dimension as a set of *beliefs*. The second approach interprets it on the basis of *belongingness*. The third approach is centered on *behavior*, which refers to one's participation in public or private activities of religious significance (Wald and Smidt 1993, cfr.; Torres-Albero and Lobera 2017, 4). The dimension measured in this study corresponds to *behavior*, which we deemed as relevant to the analysis of the present day and the way of participation of religiosity in social media, as a discursive activity properly directed at the public sphere.

The corpus analysis was composed of content related to science and religion published over the last five years (*November 2013–2018*) in the three general *Spanish* newspapers with the highest distribution at the national level: *El País*, *El Mundo*, and *ABC*. These newspapers have 275,627 daily readers (OJD November 2018).

For preparation, in the first stage, we used a cross-search strategy in the *Factiva* database to compile all text displaying the terms “religión and ciencia” (religion and science); this search yielded 520 documents. In the second stage, we carried out a more specific search in *Factiva*'s “Sciences/Humanities” category to identify the appearance of these terms together. A more extended search in this category was conducted using the terms “religión or Catolicismo or Cristianismo or iglesia or Católico or Católico or Cristiano or Cristiana” (“religion or *Catholicism* or *Christianity* or church or *Catholic* or *Christian*” – including both masculine and feminine forms of the corresponding *Spanish* words, where appropriate). The results of this search were combined with the documents compiled in the first stage. Together, they composed the corpus of work. A total of 1,049 texts were recovered for the initial corpus of this work.

In total, 227 and 644 texts were obtained in the first and second stages, respectively; they were used to construct the initial corpus of work. These texts were initially considered valid to be part of the corpus of analysis after the database algorithm automatically excluded those identified as duplicates. As such, the corpus of work was initially comprised of 871 journalistic pieces that were significant to our analysis. Of these 871 pieces, 84 included the combination of “ciencia and religión” (science and religion) in the specific category of “Sciences/Humanities.” Subsequently, we developed a corpus for our research that is representative of the general treatment given to science/religion issues by the *Spanish* newspapers from the specific field of “Sciences/Humanities.”

Starting from this initial data, we adopted a double methodological strategy: *top-down*, from the perspective of *pragmatic linguistics*, and *bottom-up*, based on the *frame theory*. These strategies enabled us to conduct precise analyses. Based on the theoretical perspective of *pragmatic linguistics* and *speech act theory* proposed by Austin (1962) and completed by Searle (1969), discourse is considered a *performative act*. That is, as Austin titled his influential book *we can do things with words* to change the state of the world, for example using language to ask others to do something, make future commitments, or simply as a representation of the state of the world or to express opinions. and feelings.

In this sense, given the nature of scientific and journalistic discourse, it uses an enunciative strategy fundamentally based on *representative* speech acts. This study focused on the texts that use statements that are typically *expressive*, and therefore, more or less explicitly show the discursive position of the newspaper. These texts include *opinion* articles and *interviews*, which were completed by going to third parties.

To complement this methodological approach, we adopted the theoretical perspective of Frame Analysis (Goffman 1974), which explains that the framing process “essentially involves selection and salience” (Entman 1993, 52). In other words, our reading is not totally free and, on the contrary, is framed within the borders proposed by the producer of the discourse. We base our data collection on the Grounded Theory methodology (Glaser and Strauss 1967), which follows a bottom-up strategy, and, in analyzing the texts, we selected the most significant segments to determine the interpretative frameworks (Gamson and Modigliani 1989) presented to the readers to determine the relationships between science and religion.

To collect the relevant texts and construct our corpus analysis, we fully read each of the journalistic texts in great detail and refrained from only using software tools that allow for the automation of content analysis. This approach was motivated by the fact that such tools are not effective in obtaining accurate and valid results, as shown in other works (López-Cantos, 2015).³ To avoid as much interpretative bias as possible during our analysis, we performed two complete sets of reading and codification to adapt the values used in our rating scales.

Based on this theoretical perspective, we analyzed and codified every text included in the corpus of work in detail, selected the most significant ones, and, finally, used a rating scale ranging from -4 to +4 to determine *the distance or approach* with which both discursive universes are presented in each journalistic text. Values ranging from 2 to 4 were assigned, depending on whether they were presented as more or less *antagonistic* (+) or *reconcilable* (-). The values +1 and -1 were used when the text enunciated, but not explicitly, a conflict between science and religion, or if it was made in relation to third parties. If none of the previous conditions were met, the text was considered not significant and a value of 0 was assigned.

Using the *top-down* and *bottom-up* methods of analysis and rating strategy, we could obtain an adequate representation of the distance between scientific and religious discourse promoted by journalistic texts, as well as the *background* (Values +1 and -1) in which the controversy between the two was developed in the *Spanish* newspapers.

Additionally, we analyzed journalistic activities in relation to their *performative* strategy and the interpretative framework promoted among readers with respect to the compatibility or incompatibility between science and religion. We employed this process to test our hypothesis (H1): “the relationship between science and religion is not presented as a conflicting issue in the Spanish newspapers and the debate is diverted to the effects caused by the conflicts between both discourses in other fields.” Ultimately, journalism is an influential social agent. Our study identified the interpretative framework promoted among readers. We also determined the cultural model promoted by the three most representative newspapers in the *Spanish* press in a society mostly inhabited by non-practicing *Catholics*.

Research Results

After analyzing the initial corpus, we confirmed that the results of the search performed in *Factiva* were only useful as a starting point. There is a great deal of imprecision in the data that it offers. *Factiva* provides a contextual visualization tool for only the most significant fragments in which the search terms appear. However, after reading a sample of random texts, we concluded that it is not at all useful for an adequate analysis that is in line with the objectives of our research. In a similar sense, after the first random analysis, we verified that the thematic categorization of the texts and the order of the results are not useful either. This is because of their imprecision in the classification of texts. Moreover, the order of display of the results, as per their relevance, was based only on the mere accumulation of search terms in relation to the length of the text. Consequently, the results provided by *Factiva* were used as a starting point in the compilation of relevant texts and in obtaining precise and valid research results. We fully read each of the journalistic texts initially included in the corpus of work in great detail.

Science Versus Religion in Spanish Newspapers

After reading and analyzing the texts included in the initial corpus of work, out of the initial 227 texts resulting from the “ciencia and religión” (science and religion) search carried out in the *Factiva* database, 192 were considered valid (*ABC*=79, *El Mundo*=74, *El País*=39). We excluded the texts that were under the “Sciences/Humanities” category. These texts will be discussed in the next section.

The first results of the analysis showed significant differences among the analyzed newspapers with respect to their interest in addressing issues related to science/religion. *ABC* stood out and showed the highest level of attention based on the number of articles published. *El Mundo* newspaper treated the topic more extensively. *El País* devoted insignificant space to the topic, thereby showing a lack of interest in the controversy.

[Figure 1 near here]

Likewise, there was a decline in *ABC*'s attention in the last few years, whereas there was an increase in both *El Mundo*'s and *El País*'s level of interest.

[Figure 2 near here]

When analyzing the data in greater detail, we noticed that the number of articles and degree of confrontation or conciliation by which the relationship between science and religion was treated varied greatly among newspapers. *ABC* displayed a clearly more conciliatory stance (negative values) than *El Mundo*, which treated the topic as a moderate conflict with certain possibilities of conciliation. Contrary to its reputation of being progressive, *El País*'s articles had scarce definition and employed a neutral approach. The degree of confrontation or conciliation by which the *Spanish* newspapers treated the relationship between science and religion clearly showed that the *ABC*, which identifies itself as a conservative newspaper, promotes the idea that science and religion are not irreconcilable (extreme values, -4). Meanwhile, *El Mundo* and *El País* confronted the issue in a more moderate manner (central values).

[Figure 3 near here]

The opinion section and interviews were used especially for this purpose, even though significant differences were observed among the analyzed newspapers. *ABC* was more inclined to explicitly exhibit its editorial position by using the opinion section, whereas *El Mundo* preferred the interview resource and to make its editorial position less clear.

[Figure 4 near here]

As shown in the following graphs, with respect to interviews, *El Mundo* offers its readers various degrees of conflict, including extreme confrontation. Nevertheless, the testimonies collected by the interviews opted for conciliation between science and religion. Despite *El País*'s reputation of being progressive, it did not show a high degree of confrontation between science and religion and maintained a moderate position.

[Figure 5 near here]

However, in opinion articles, there was more explicit polarity between *ABC*, which opted for a clear conciliatory editorial strategy, and *El País*, which did not show a more explicit editorial position regarding the strong confrontation between science and religion and their limited possibilities for conciliation.

[Figure 6 near here]

As we already observed, the most significant aspect of the *Spanish* general newspapers is that it is more inclined to approach science and religion with a conciliatory attitude between both discursive universes, with *ABC* exhibiting an explicit interest in this respect.

Generally, when this relationship was addressed, its effects on other spheres (values +1 and -1) were the main topic of conversation, and the conflict was watered down and discussed under other fields of interest. This is especially true for conflicts caused by religious fundamentalists or with a political, social, or cultural nature; special interest was given to those in the educational field.

[Figure 7 near here]

General news articles published in the analyzed newspapers clearly showed that the initial hypothesis is supported. Issues related to science and religion were rarely discussed in the news media, and when they were, conflict was avoided, and a moderate confrontation was employed. Thus, the *Spanish* newspapers promoted conciliation between the two discursive universes.

Religion in the Field of Sciences/Humanities

For the specific analysis of science/religion-related controversies, for which an extended search of the related terms was carried out, 644 records were recovered. After carefully reading these records, 275 were considered valid. This distribution shows that *ABC* was the most interested in treating the issue, *El Mundo* presented texts of greater lengths, and *El País* dedicated a small amount of space on its pages.

[Figure 8 near here]

If we focus on the thematic classification used by *Factiva* to group the journalistic texts, it can be clearly observed that from the *Sciences/Humanities* field, religious issues can have conflicting results. This observation is especially applicable to the field of *History* and *Archeology*, with a certain presence in the category that *Factiva* calls *Space Exploration*, and few incidences from the areas of *Anthropology*, *Biology*, *Physics*, and *Sociology*.⁴

[Figure 9 near here]

The general degree of confrontation that each analyzed newspaper used when discussing this topic from the *Sciences/Humanities* field is slightly different. However, a general preference for avoiding explicit confrontation between religious and scientific discourse (values +1 and -1) was observed. In addition, the issue was watered down and clearly diverted toward the effects of such conflict. The latter was observed to be a common strategy in the *Spanish* press.

[Figure 10 near here]

If we look at the data in greater detail, for example, in the category of *Physics* (Fig. 11) or *Space Exploration* (Fig. 12), slight differences were observed in the attention given to each scientific-humanistic field by the newspapers. Nevertheless, the general preference is to adopt a position that leads to conciliation or confrontation, diluting the conflict and, as a general rule, avoiding to explicitly state the issue as science versus religion.

[Figure 11–12 near here]

As can be observed below, most compiled texts in this category of our corpus correspond to controversies around historical issues. Without a doubt, this is among the scientific-humanistic areas in which the fabrication of biased discourses is more prevalent. As such, it is the center of heated debate among historians with opposing ideological views in opinion articles and interviews. *ABC* displays a certain preference toward the use of interviews compared to the other two newspapers, especially *El País*, which preferred to use a more informative enunciative genre as news in the articles it published. This implies less interest in the polarization of the conflict. Meanwhile, *El*

Mundo showed the highest explicit involvement in the controversy with opinion articles and the use of interviews with third parties.

[Figure 13 near here]

Ultimately, in the *Science/Humanities* field, the relationship between science and religion is more controversial, specifically in the field of *History* and *Archeology*, as well as in issues related to *Space Exploration*. We found discourses in the journalistic texts dealing with *Biology*, *Medical Research*, *Oceanography*, and *Robotics* that were in favor of conciliation.

[Figure 14 near here]

When *ABC* covered specific fields, such as *Space Exploration*, *Robotics*, or *Biology*, a conciliatory stance was maintained. This is not the case for controversies related to *History* or *Archeology* where it participated in the confrontation. Similar observations were noted in the other newspapers. *El País* and *El Mundo* had a confrontational stance in matters related to the field of *Physics*, which *ABC* did not address. *El País* held a conciliatory stance in issues related to the fields of *Medical Research*, *Oceanography*, and *Sociology*. There was consensus among the analyzed newspapers for a slight compatibility in the field of *Biology*. Meanwhile, *El Mundo* showed a confrontational attitude, except in the fields indicated above, in the scientific and religious discourses, especially in topics related to *History*. The latter discipline, as we had pointed out, was the most covered among all the other disciplines in *Sciences/Humanities*.

Ultimately, the results of our analysis clearly show the general attitudes, which we referred to as a working hypothesis, of deriving and settling the controversy between science and religion in areas in which this conflict is evident, as well as explicitly avoiding addressing the compatibility or lack thereof between the foundational principles that guide both discursive universes.

[Figure 15 near here]

Interpretative Frameworks for Reading

As a result of the specific enunciative strategy of each of the analyzed newspapers, the general *Spanish* news media was more inclined to show the confrontation between science and religion only in a moderate way, and with a clear interest in conciliating both universes in *ABC* and diverting the controversy to the effects of the conflict on specific fields. In this sense, we can consider the following main interpretative framework presented to the readers:

F1: There is a historical latent conflict between science and religion in *Spanish* society, which, practically speaking, is resolved in the fields of politics and education. Additionally, despite the differences and frictions between the two discourses, the ways of conciliation can be found and, at the least, coexist socially and culturally.

Regarding the way the issue is addressed from the *Sciences/Humanities* field, different complementary interpretative frameworks (F2) are proposed for each of the analyzed newspapers and fields where the friction between science and religion is displayed:

F2a1 (*ABC*): Historically, *Spanish* society is a community of *Catholic* believers. Although the *Church* might have made some historical mistakes, these are justifiable and are the results of the context of each period. Regardless, the contribution of *Catholicism* has been fundamental to the development of the country. Therefore, it is necessary to promote it socially as part of the culture, especially in the field of education.

F2a2 (*ABC*): Other religions can be tolerated. *Catholicism* provides benefits and adequate morality compared to other religious faiths and beliefs, such as Islam, which may be more archaic and fundamentalist. Historical research will show the beneficial historical role that *Catholicism* has played in our country, as well as its clear contribution to socioeconomic and cultural development.

F2a3 (*ABC*): The profession of the *Catholic* religion and faith in *Christianity* provide transcendental spiritual nourishment, and advances in scientific knowledge must be reconciled with religious beliefs. Even though religion turned its back on science in the past, the science of today must establish a conciliatory dialogue with spirituality, always observing that religious beliefs are not only a right but also unquestionable, given that they are beyond knowledge and transcend scientific materialism.

F2m1 (*El Mundo*): The frictions between science and religion are significant in the fields of politics and education but are part of *Spanish* society and culture. The controversies are relevant from a journalistic point of view.

F2m2 (*El Mundo*): There are irreconcilable discrepancies between extreme scientific and religious discourses. Religious beliefs are respectable. Although scientific knowledge and rationality are the motors of socioeconomic development, spiritual individuality must be reconciled socially with scientific activity, even if both cultural discourses may be contradictory and, in some respects, irreconcilable.

F2p1 (*El País*): The scientific knowledge and advances that science has provided are unquestionable. There are justified disagreements between the two discursive universes. Although these frictions are constant, religious culture in *Spain* is widely spread; specifically, it promotes scientific knowledge and its incompatibility with religious beliefs. It is preferable to intervene with a not-too-belligerent attitude in political and educational issues through culture, avoiding explicit promotion of the social conflict that both discursive universes could generate.

Discussion and Conclusions

The results of our research show that the initial hypothesis (H1) that began our study is supported. This specifies that *Spanish* newspapers holds a general attitude toward presenting the conflict between science and religion but avoids explicit confrontation. Although frictions are recognized, *Spanish* journalism prefers to avoid conflict and instead diverts public attention toward its effects on sociopolitical and cultural areas. In this way, the news media promotes a discourse that, at the least, supports the non-belligerent coexistence of, if not entirely conciliatory stance between, science and religion.

All the three analyzed newspapers had different political orientations in *Spain*, ranging from progressive (*El País*) to conservative (*ABC*) to liberal (*El Mundo*). The results of

our analysis with respect to their enunciative strategies enabled us to also place them in three generic discursive stances that promote different interpretative frameworks regarding religion and science. In this sense, with respect to religion, *El País* can be defined as a more atheist newspaper, *El Mundo* as a more agnostic one, and *ABC* as more *Catholic*. When it comes to science, all three newspapers seemed to demonstrate a pro-scientific approach. However, *El País* showed the latter viewpoint less insistently but more explicitly than *ABC*, which showed more interest in the promotion of scientific knowledge but within limits; *ABC* also promoted the use of science in favor of its religious discourse, especially in the field of historiography. Meanwhile, *El Mundo* adopted a pro-scientific attitude, but the participation of both discursive universes and more open controversies were promoted. Following Wald and Smith (1993), we addressed each newspaper's editorial discursive practices through particular frames to avoid the direct epistemological confrontation between science and religion and attempted to influence and reinforce the previous reader's *behavior*, *belongingness*, and, in the end, their religious *beliefs*.

Regarding the limitations of this study, we already mentioned one previously in the text. It is inherent in using databases given their reliability and usefulness for the effective construction of a corpus of work that is representative. As such, we clearly explained the search terms used and the way we constructed our corpus analysis. Extending this research to include other newspapers that have a considerable number of readers, such as *La Vanguardia*, *El Periódico*, *La Razón*, *eldiario.es*, and *elconfidencial.es*, would have enriched the data used in the research. However, this would have also made the reading and detailed analysis of the texts unfeasible, given the available resources. Under these circumstances, we chose to develop the corpus of work using the three most read newspapers in the *Spanish* news media, considering that their different editorial guidelines are sufficiently representative for our study. Moreover, the thematic categories offered by *Factiva* are imprecise and limited. As such, we created our own to categorize the texts when it was necessary during the first stage of the corpus, which corresponded to the general newspapers, as well as for the texts classified by *Factiva* in the specific category of *Sciences/Humanities*. We used the ones that the database itself provided, which can be insufficient and highly questionable because they may not be representative of the scientific and humanistic sphere. As other works have already shown, the identification and analysis of *Humanities* in the newspapers involve many challenges (Knudsen 2017; Sum and Volpers 2015; Groves, Figuerola, and Quintanilla 2015). However, this is a debate that would exceed the ambitions of this work. For practical reasons, we decided to adopt them despite their limitations. We could have also constructed the corpus analysis using the *Lexis-Nexis* database, which has different characteristics, but the limitations of the database would have been similar. In addition, the subscription fees that our research center can afford did not allow for access to the full texts from *ABC*. Therefore, we rejected this option from the beginning, considering that its inclusion in the corpus of work was essential for our research.

Finally, the difficulties inherent in research employing qualitative content analysis are well-known. To avoid as much interpretative bias as possible during our analysis, we performed two complete sets of reading to adapt the values used in our rating scale. It is evident that content analysis comprising large collections of data has limitations that are well-known (Lewis, Zamith, and Hermida 2013). We are critical of automated analysis (López-Cantos, 2015), and therefore, chose to perform it manually. We believe that despite its limitations, our research provides valid and interesting conclusions.

Future studies must continue analyzing the religious culture in *Spain* and its role in contemporary society. In particular, future research must expand and clarify the conflict in the relationship between science and religion in more specific thematic fields, such as political communication or education.

NOTES

¹ It is important to highlight that the percentage of religious scientists in four of those regions (*India, Hong Kong, Turkey, and Taiwan*) is similar to that of the rest of the population and the percentage of people who associate themselves with a religion is estimated at around 80% of the global population, that is, 5.8 billion people.

² We adopt Steensland's classification following Obrien and Noy (215), which includes fundamentalist, *Pentecostal*, charismatic, and evangelical *Christian* traditions in a single category that we find useful for practical reasons in order to maintain the main focus on our argumentation, unless we recognize this as a controversial issue and a simplification of the question.

³ The search results of the journalistic texts in the *Factiva* database, as well as in similar databases, such as the popular *Lexis-Nexis* or *MyNews*, are only useful as a starting point, given that inaccuracies in the thematic categorization of the texts are common. Likewise, the order in which results are displayed, as per their relevance, is based only on the mere accumulation of search terms in relation to the length of the text. *Factiva* provides a contextual visualization tool for only the most significant fragments in which the search terms appear. However, after reading a sample of random texts, we concluded that it is not at all useful for an adequate analysis that is in line with the objectives of our research.

⁴ The obvious limitations resulting from the imprecision of the classification into knowledge areas carried out by databases like *Factiva* are discussed in the conclusions.

REFERENCES

- AIMC. 2018. *Resumen General (Abril a Marzo de 2018)*. <https://www.aimc.es/aimc-c0nt3nt/uploads/2018/04/resumegm118.pdf>
- Alcibar, Miguel. 2018. Information visualisation as a resource for popularising the technical-biomedical aspects of the last Ebola virus epidemic: The case of the Spanish reference press. *Public Understanding of Science*, 27(3), 365-381. doi: 10.1177/0963662517702047
- Allen, Ira & Allen, Saul. 2016. God Terms and Activity Systems: A Definition of Religion for Political Science. *Political Research Quarterly*, 69(3), 557-570. doi: 10.1177/1065912916654014
- Allum, Nick, Sibley, Elissa, Sturgis, Patrick & Stoneman, Paul. 2014. Religious beliefs, knowledge about science and attitudes towards medical genetics. *Public Understanding of Science*, 23(7), 833-849. doi: 10.1177/0963662513492485
- Alonso-Flores, Javier, and Moreno-Castro, Carolina. 2018. Does Science Communication Enhance Researcher Impact? A Survey among Scientists at Spanish Universities. *Journal of Education & Social Policy*, 5(2). https://www.jespnet.com/journals/Vol_5_No_2_June_2018/5.pdf

- Arruga, Maria Victoria. 2017. Mecanismos biológicos intrínsecos a la identidad humana: transhumanismo y poshumanismo. *Crítica*, 1024, 6-19. <http://www.revista-critica.es/2017/11/13/mecanismos-biologicos-intrinsecos-a-la-identidad-humana-transhumanismo-y-poshumanismo/>
- Artigas, Mariano, Glick, Thomas F., and Martinez, Rafael A. 2006. *Negotiating Darwin: The Vatican Confronts Evolution, 1877–1902*. Baltimore, MD: Johns Hopkins University Press.
- Austin, John L. 1962. *How to Do Things with Words*. Cambridge (Mass.): Harvard University Press.
- Bauer, Martin W., Allum, Nick, and Miller, Steve. 2007. What can we learn from 25 years of PUS survey research? Liberating and expanding the agenda. *Public Understanding of Science*, 16(1), 79–95. doi: 10.1177/0963662506071287
- Brewer, Paul R., and Ley, Barbara L. 2013. Whose science do you believe? Explaining trust in sources of scientific information about the environment. *Science Communication*, 35(1), 115–137. doi: 10.1177/1075547012441691
- Brossard, Dominique, Scheufele, Dietram K., Kim, Eunkyung, and Lewenstein, Bruce. 2009. Religiosity as a perceptual filter: Examining processes of opinion formation about nanotechnology. *Public Understanding of Science*, 18(5), 546–558. Retrived from <https://doi.org/10.1177/0963662507087304>
- Cacciatore, Michel A., Browning, Nick, Scheufele, Dietram A., Brossard, Dominique, Xenos, Michael A., and Corley, Elizabeth A. 2018. Opposing ends of the spectrum: Exploring trust in scientific and religious authorities. *Public Understanding of Science*, 27(1), 11–28. doi: 10.1177/0963662516661090
- Cassany, Roger, Cortiñas-Rovira, Sergi, and Elduque, Albert. 2018. Communicating science: The profile of science journalists in Spain. *Comunicar*, 26(55), 9-17. doi: 10.3916/C55-2018-01
- CIS. 2008. *Religiosidad (I)*. Retrived from http://www.cis.es/cis/export/sites/default/-Archivos/Marginales/2740_2759/2752/e275200.html
- CIS. 2018. *Barómetro de Marzo*. Retrived from http://www.cis.es/cis/export/sites/default/-Archivos/Marginales/3200_3219/3207/es3207mar.pdf
- Clement, Pierre. 2015. Creationism, science and religion: A survey of teachers' conceptions in 30 countries. *Social and Behavioral Sciences*, 167(8), 279–287. doi: 10.1016/j.sbspro.2014.12.675
- Coenen, Christopher. 2016. El discurso sobre la biología sintética y la innovación responsable observaciones desde una perspectiva histórica. *Isegoría*, 55, 393-407. doi: 10.3989/isegoria.2016.055.01
- Cortiñas-Rovira, Sergi, and Alonso-Marcos, Felipe. 2014. La decadencia de la sección de ciencia en lo medios tradicionales. *Prisma Social*, 12(12), 402-435. <http://www.isdfundacion.org/publicaciones/revista/numeros/12/secciones/tematica/t-12-decadencia-medios.html>
- Deuze, M. 2011. Media life. *Media, Culture & Society*, 33(1), 137-148. doi: 10.1177/0163443710386518

- Díez-Bosch, Míriam, Micó-Sanz, Josep Lluís, and Sabaté-Gauxachs, Alba. 2018. Construcción de comunidades online a partir de comunidades presenciales consolidadas. El caso de la *Iglesia Católica* en internet. *El Profesional de la Información*, 27(6), 12-57. doi: 10.3145/epi.2018.nov.09
- Dominguez, Marti, Lafita, Ingrid, and Mateu, Anna. 2017. Taking climate change seriously: An analysis of op-ed articles in Spanish press. *Public Understanding of Science*, 26(7), 861–871. doi: 10.1177/0963662516641844
- Ecklund, Elaine Howard, Johnson, David R., Scheitle, Christopher P., Mattheuws, Kristin R.W., and Lewis, Steven W. 2016. Religion among Scientists in International Context. A New Study of Scientists in Eight Regions. *Socius: Sociological Research for a Dynamic World*, 2, 1–9. doi: 10.1177/2378023116664353
- Elías, Carlos. 2015. *Big data y periodismo en la sociedad red*. Madrid: Síntesis.
- Entman, Robert M. 1993. Framing: Toward Clarification of a Fractured Paradigm. *Journal of Communication*, 43(4), 51-58. doi:10.1111/j.1460-2466.1993.tb01304.x
- Erviti, Maria Carmen. 2018. El cambio climático en la agenda mediática: alertas, silencios y controversias. In Daniel Rodrigo-Cano, Patricia de-Casas-Moreno, and Pablo Toboso-Alonso (Eds). *Los medios de comunicación como difusores del cambio climático* (pp. 67-86). Madrid: Egreguius.
- Evans, Michael S. 2012. Supporting Science: Reasons, Restrictions, and the Role of Religion. *Science Communication*, 34(3), 334–362. doi: 10.1177/1075547011417890
- FECYT. 2014. *Percepción Social de la Ciencia y la Tecnología 2014*. Madrid: Fundación Española de Ciencia y Tecnología. Retrieved from <https://www.fecyt.es/es/node/3118/pdf-viewer>
- FECYT. 2016. *Percepción Social de la Ciencia y la Tecnología 2016*. Madrid: Fundación Española de Ciencia y Tecnología. Retrieved from <https://www.fecyt.es/es/node/4137/pdf-viewer>
- Gamson, William A., and Modigliani, Andre. 1989. Media Discourse and Public Opinion on Nuclear Power: A constructionist approach. *American Journal of Sociology*, 95(1), 1-37. <https://www.jstor.org/stable/2780405>
- Gebauer, Jochen L., Paulhus, Delroy L., and Neberich, Wiebke. 2013. Big Two Personality and Religiosity Across Cultures: Communals as Religious Conformists and Agentics as Religious Contrarians. *Social Psychological and Personality Science*, 4(1), 21-30. doi: 10.1177/1948550612442553
- Génova, Francisco J. 2017. Inteligencia artificial y transhumanismo. Un reto teológico. *Revista Aragonesa de Teología*, 23(46), 77-94.
- Glaser, Barney G., and Strauss, Anselm L. 1967. *The discovery of grounded theory strategies for qualitative research*. Chicago: Edit. Aldine Pub.
- Goffman, Erving. 1974. *Frame analysis: An essay on the organization of experience*. Harvard University Press.
- González-Pedraz, Cristina, Pérez-Rodríguez, Ana Victoria, Campos-Domínguez, Eva, and Quintanilla, Miguel A. 2017. Comparative analysis of Spanish universities presence in national and local digital press. *Revista Latina de Comunicación Social*, 9(72), 861-

882. doi: 10.4185/RLCS-2017-1197

Groves, Tamar, Figuerola, Carlos G., & Quintanilla, Miguel A. 2016. Ten years of science news: A longitudinal analysis of scientific culture in the Spanish digital press. *Public Understanding of Science*, 25(6), 691-705. doi: 10.1177/0963662515576864

Hanusch, Folker. 2012. The visibility of disaster deaths in news images. A comparison of newspapers from 15 countries. *The International Communication Gazette*, 74(7), 655–672. doi: 10.1177/1748048512458560

Hefner, Philip. 2009. The Animal that Aspires to Be an Angel: The Challenge of Transhumanism. *Dialog: A Journal of Theology*, 48(2), 164–173. doi: 10.1111/j.1540-6385.2009.00451.x

Henne, Peter S. 2012. The two swords: Religion–state connections. *Journal of Peace Research*, 49(6), 753–768. doi: 10.1177/0022343312456225

Hjarvard, Stig 2012. Three forms of mediatized religion. Changing the Public Face of Religion. Stig Hjarvard, and Mia Lövheim (ed.), *Mediatization and Religion. Nordic Perspectives*, 21-44.

Illouz, Eva. 2008. *Saving the Modern Soul: Therapy, Emotions, and the Culture of Self-Help*. California: University Press Group Ltd.

Johnson, David, Ecklund, Elaine Howard, Di Di, and Matthews, R. K. 2016. Responding to Richard: Celebrity and (mis)representation of science. *Public Understanding of Science*, 27(5), 535–549. doi: 10.1177/0963662516673501

Keel, Terence D. 2013. Religion, polygenism and the early science of human origins. *History of the Human Sciences*, 26(2), 3–32.
<https://doi.org/10.1177/0952695113482916>

Knudsen, Sanne. 2017. Thinking inside the frame: A framing analysis of the humanities in Danish print news media. *Public Understanding of Science*, 26(8), 908–924. doi: 10.1177/0963662517693452

Kuhn, Thomas S. 1962. *The Structure of Scientific Revolutions*. Chicago: Chicago University Press.

Lewis, Seth, Zamith, Rodrigo, and Hermida, Alfred. 2013. Content Analysis in an Era of Big Data: A Hybrid Approach to Computational and Manual Methods. *Journal of Broadcasting & Electronic Media*, 57(1), 34-52. doi: 10.1080/08838151.2012.761702

Lipovetsky, Gilles. 2007. *La felicidad paradójica. Ensayo sobre la sociedad de hiperconsumo*. Barcelona: Anagrama.

Llera, Jose A. 2003. Una historia abreviada de la prensa satírica en España: desde El duende crítico de Madrid hasta Gedeón. *Estudios sobre el Mensaje Periodístico*, 9, 203-14. <http://revistas.ucm.es/index.php/ESMP/article/view/ESMP0303110203A/12690>

López-Cantos, Francisco. 2015. Communication Research Using BigData Methodology. *Revista Latina de Comunicación Social*, 70, 878-890. doi: 10.4185/RLCS-2015-1076en

López-Cantos, Francisco. 2017a. Cultura visual y conocimiento científico. Comunicación transmedia de la Ciencia en la era BigData. Barcelona: UOC.

- López-Cantos, F. 2017b. Comunicación pública de la ciencia y ética periodística. La representación del bosón de Higgs. *Estudios sobre el mensaje periodístico*, 23 (2), 1199-1213. doi: 10.5209/ESMP.58040
- Mauri-Rios, Marcel, Perez-Pereira, Marta, and Figueras-Mas, Monica. 2014. The Public and the Journalists' Views on the Humorous Treatment of Religion in Spain. *Journalism & Mass Communication Quarterly*, 91(3), 471–486. doi: 10.1177/1077699014538830
- Merton, Robert K. 1938. *Science, technology and society in seventeenth century England*. *Osiris*, (4), 360–632. doi: 10.1086/368484
- Moreno-Castro, Carolina. 2011. *Periodismo y divulgación científica. Tendencias en el ámbito iberoamericano*. Madrid: Biblioteca Nueva / OEI-Organización de Estados Iberoamericanos
- Moreno-Castro, Carolina. 2015. La influencia de los medios de comunicación sobre el efecto Weber: Correlación entre las noticias publicadas sobre la vacuna del VPH y las alertas registradas en farmacovigilancia. *Panacea@*, 16(42), 537-1964. http://www.medtrad.org/panacea/IndiceGeneral/n42_tribuna-CMorenoCastro.pdf
- Morozov, Evgeny. 2013. *To save everything, click here: The folly of technological solutionism*. New York: Public Affairs.
- Nuñez, Juan P. 2018. Hombres y máquinas. Futuro y límites del transhumanismo. *Razón y fe*, 278(1434), 73-82.
- OJD. 2018. Datos mensuales, *Noviembre*. https://extranet.introl.es/web_ojd/DatosMensuales_ojd.aspx?codigoclasificacion=1
- Peifer, Jared L., Khalsa, Simranjit, and Ecklund, Elaine Howard. 2016. Political conservatism, religion, and environmental consumption in the United States. *Environmental Politics*, 25, 661 689. doi: 10.1080/09644016.2016.1159604
- Postigo, Elena. 2010. Transhumanismo y posthumano. Principios teóricos e implicaciones bioéticas. *Medicina y ética*, 21(1), 65-83. <http://dspace.ceu.es/bitstream/10637/3694/2/EPostigotranshumanismo.pdf>
- Pou, Maria Jose. 2008. El hecho religioso y su tratamiento periodístico: limitaciones y dificultades. *Estudios sobre el mensaje periodístico*, 14, 561-573. <http://revistas.ucm.es/index.php/ESMP/article/view/ESMP0808110561A/12003>
- Requena, Miguel, and Stanek, Mikolaj. 2014. Religiosity and politics in Spain and Poland: A period effect analysis. *Social Compass*, 61(3), 348–367. doi: 10.1177/0037768614535704
- Roos, J. Micah. 2014. Measuring Science or Religion? A Measuring Analysis of the National Science Foundation Sponsored Science Literacy Scale 2006-2010. *Public Understanding of Science*, 23(7), 797-813. doi: 10.1177/0963662512464318
- Scheitle, Christopher P., and Ecklund, Elaine Howard. 2017. The influence of science popularizers on the public's view of religion and science: An experimental assessment. *Public Understanding of Science*, 26(1), 25–39. doi: 10.1177/0963662515588432
- Scheitle, Christopher P., Johnson, David R., and Ecklund, Elaine Howard. 2018. Scientists and religious leaders compete for cultural authority of science. *Public Understanding of Science*, 27(1), 59–75. doi: 10.1177/0963662517718145

- Scheufele, Dietram A., Corley, Elizabeth A., Shih, Thsung-jeng., Dalrymple, Kaysa E., and Ho, Shirley S. 2009. Religious beliefs and public attitudes toward nanotechnology in Europe and the United States. *Nature Nanotech*, 4, 91-94. doi: 10.1038/nnano.2008.361
- Searle, John R. 1969. *Speech Acts: An essay in the Philosophy of language*. Cambridge: Cambridge University Press.
- Secko, David M., Amend, Elyse, and Friday, Terrine. 2013. Four models of science journalism: A synthesis and practical assessment. *Journalism Practice*, 7(1), 62-80. doi:10.1080/17512786.2012.691351
- Summ, Annika, and Volpers, Anna-Maria. 2016. What's science? Where's science? Science journalism in German print media. *Public Understanding of Science*, 25(7), 775-790. doi: 10.1177/0963662515583419
- Torres-Albero, Cristobal, and Lobera, Josep A. 2017. El declive de la fe en el progreso. Posmaterialismo, ideología y religiosidad en las representaciones sociales de la tecnociencia. *Revista Internacional de Sociología*, 75(3), 1-14. doi: 10.3989/ris.2017.75.3.16.61
- Vallverdú, Jaume. 2016. Tecnología y religión. Diseño teórico de una investigación en curso. *Arxius de Sociología*, 34, 169-183. <http://roderic.uv.es/handle/10550/57368>
- Vásquez, Manuel. 2011. *More than Belief: A Materialist Theory of Religion*. New York: Oxford University Press.
- Wald, Kenneth D., and Smidt, Corwin E. 1993. Measurement strategies in the study of religion and politics. In David C. Leege and Lyman A. Kellstedt (Eds.), *Rediscovering the Religious Factor in American Politics*, 26-49. Armonk, NY: M.E. Sharpe.
- Wilcox, Sarah A. 2003. Cultural context and the conventions of science journalism: Drama and contradiction in media coverage of biological ideas about sexuality. *Critical studies in media communication*, 20(3), 225-247. doi: 10.1080/07393180302772

Figure Legends

- Figure 1. Valid items / Relative length in words
- Figure 2. Evolution of the treatment during the analyzed period (2013-2018)
- Figure 3. Degree of confrontation / conciliation
- Figure 4. Journalistic genres that were used
- Figure 5. Degree of confrontation / conciliation in the interviews
- Figure 6. Degree of confrontation / conciliation in the published interviews
- Figure 7. Thematic areas of the science / religion debate
- Figure 8. Valid items / Relative length in words
- Figure 9. Thematic areas of the science / religion debate
- Figure 10. Degree of confrontation / conciliation
- Figure 11–Figure 12. Degree of confrontation / conciliation in *Physics* and *Space Exploration*
- Figure 13. Journalistic genres that were used
- Figure 14. Thematic areas of the science / religion debate
- Figure 15. Degree of confrontation / conciliation in *Science* and *Humanities*