

Framing, Discursive Recontextualizations, and Scientific Topoi: Representing a Study of “Reparative Therapy” for Homosexuality in the Media

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Critical Discourse Analysts investigate how ideology and power are instantiated in language. Rhetoricians of science investigate the role of persuasion in the construction of scientific knowledge. I show how these approaches can be integrated. As a case study, I use media representations of a study presented to the American Psychiatric Association that concluded that “highly motivated” gay men and lesbians can “achieve good heterosexual functioning.” I trace how the original presentation of the study is recontextualized in an Associated Press (AP) article on the study, press releases from “ex-gay” organizations and gay/lesbian/bisexual/transgender (GLBT) rights organizations responding to the study, and articles written for conservative and GLBT audiences about the study. I first examine how these stories were framed in the headlines and lead paragraphs. In general, the story was framed as controversy in the AP and GLBT articles, and as groundbreaking, newsworthy research or flawed, politically motivated research in the “ex-gay” and GLBT press releases respectively. Second, I examine how scientific topoi are deployed and evaluated in defining this study as good or bad science. This analysis suggests that both “sides” define what science is in essentially the same way, but differ in how they evaluate this study with respect to scientific norms.

1. Introduction and Background

As Beacco, Claudel, Doury, Petit and Rebouil-Toure (2002) argue, scientific discourse is no longer limited to communication within scientific communities or to “didactic transmissions” from scientists to the general public via mediators. Instead, scientific discourse “circulates within many ordinary discourses, whether in the media or not” (p. 279), which “is evident in numerous debates on pollution, nuclear energy, genetics and its relation to food quality, as well as on public health (AIDS, cancer, etc.)” (p. 280). As opposed to more traditional channels of scientific communication, the interlocutors are no longer limited to the scientist and “the lay addressee or the mediator/journalist” but now also include “other enunciative roles such as the witness, the expert, the politician and the citizen” (p. 280).

One social debate in which scientific discourses circulate is over homosexuality. Since the turn of the last century, homosexuality has increasingly been conceptualized as “innate” rather than as being a “vice,” and thus has been subjected to medical and scientific explanations from degeneracy theory, to psychoanalysis, to evolutionary theory (Greenberg, 1988). Recent research has sought to determine the genetic bases of homosexuality. Brookey (2001), drawing on work by Longino and Lyne, argues that this research reflects the broader culture’s background beliefs regarding homosexuality and that this reflection is what permits this research to “be introduced into the political sphere” (p. 172). Specifically, Brookey argues that “[t]he gay gene not only rearticulates stereotypes of male homosexuality, but it also replicates some of the tenets of Freudian theory, right down to the manipulative mother” (p. 180). Despite these problems with “the gay gene,” many gay and lesbian rights activists, at least in the United States, have looked to “the gay gene” as justification for civil rights for gay men and lesbians (Stein, 1999). Thus, in the U.S., press reports on “the gay gene” were largely optimistic in terms of the research’s potential impact on gay rights. However, the British press was more skeptical, both in terms of the quality of the science and its potential social impact, for example, that a genetic test for homosexuality could result in selective abortions (Conrad & Markens, 2001).

Although not as well publicized as “the gay gene,” there has been ongoing debate over whether homosexuality is a mental disorder that can be treated. In 1973, the American Psychiatric Association (APA) removed homosexuality from the *Diagnostic and Statistical Manual of Mental Disorders*, even though only a minority of psychiatrists supported this move (Greenberg, 1988). Since that time, most major mental health organizations have followed suit, rejecting therapy for homosexuality. Nevertheless Exodus International and the National Association for Research and Therapy of Homosexuality (NARTH) (an umbrella organization for “ex-gay” ministries and a group representing “reparative therapists,” respectively) maintain that homosexuality is a mental illness and can be treated, either through prayer or therapy. In May, 2001, Robert L. Spitzer presented a paper at the APA annual convention in which he concludes “that, contrary to conventional wisdom, some highly motivated [homosexual] individuals, using a variety of change efforts, can make substantial change in multiple indicators of sexual orientation and achieve good heterosexual functioning” (p. 36). Thus, this study challenges both the official position of the mental health field and the arguments of those gay rights activists who hold that homosexuality is rooted in genetics. At the same time, it can support the position of those who contend that homosexuality should be conceptualized as a mental illness rather than as a legitimate identity.

In this essay I present a study of how Spitzer’s study was framed and recontextualized in other media texts. I draw on theory and method from Critical Discourse Analysis (CDA) and rhetoric of science (RS) in this study. In general, I hope to make a case for combining the descriptive strength of CDA with the explanatory power of rhetorical criticism. More specifically, I suggest that combining CDA with RS can be a useful way of investigating the role that science plays in public discourse. Locke (2002) argues that rhetoric can provide an alternative to the “deficit model” of the public understanding of science, but often times RS bolsters the classical distinction between technical and public spheres. Drawing on Billig’s rhetorical psychology, Locke suggests that this division is untenable. Work by Beacco et al. (2002) also suggests such a division is no longer valid and that this finding is particularly evident in social debates. CDA can contribute to RS a method for investigating scientific discourse as it is embedded in texts from non-technical sources. RS can contribute to CDA concepts that can explain the “new discursive

phenomena” that Beacco et al. (2002) identify in both media and ordinary discourse. In the next section, I briefly define CDA and overview the concepts from media CDA and RS that provide the framework for the current study.

2. Conceptual Framework from CDA and RS

Wodak (2001) defines CDA as “fundamentally concerned with analyzing opaque as well as transparent structural relationships of dominance, discrimination, power and control as manifested in language” (p. 2). In other words, CDA is a method for studying “ideology,” which is located in language, both in its “structures” and in its “events” (Fairclough, 1995a, p. 71). Discourse, according to Fairclough (1995a), consists of three elements: “social practice, discursive practice (text production, distribution, and consumption), and text” (p. 74).

With respect to media discourse, any text must be considered to be embedded or layered within a broader discourse. As Bell (1991) shows, a news story passes through a number of editorial stages between the original source and the “final copy.” Thus, in a newspaper story, interviews, wire reports, the writer’s voice, editorial changes, and so on are all embedded within the text. Fairclough (1995b) calls this embedding “recontextualization.” Mass communication is marked by “major temporal and spatial disjunctions” (p. 36). Thus, according to Fairclough, any communicative event in the mass media actually represents a “chain of communicative events” (p. 37). This chain extends to the sources for a broadcast, to subsequent stories or conversations initiated by that broadcast. The notion of “recontextualization” lends itself to a rhetorical approach to media communication. Rhetoricians discuss *topoi* (or *loci*) that rhetors can appeal to in order to induce positive or negative evaluations of some subject in discourse. According to Perelman (1982), “general *loci* are affirmations about what is presumed to be of higher value in any circumstances whatsoever, while special *loci* concern what is preferable in specific situations” (pp. 29-30). An example of a general *locus* is the “*locus of quantity*,” which can be contrasted to the “*locus of quality*.” This contrast might be highlighted in an argument in which one rhetor emphasizes “that what is good for the greatest number is preferable to what profits only a few” while another rhetor “favors the elite over the mass” (p. 30). Certainly, it behooves rhetoricians to consider the “chain of communicative events” when considering what *topoi/loci* are being appealed to in a particular rhetorical situation. For instance, we can ask: Where did these *topoi* originate? Are they designed for the exigencies of a particular text, or recontextualizations of *topoi* from previous texts or sources? Likewise, Critical Discourse Analysts may find the notion of rhetorical *topoi/loci* useful, by asking such questions as: What *topoi/loci* are being appealed to in this text? What ideology/power relation is being bolstered by this appeal? How is this appeal instantiated in the text?

RS is concerned, generally, with “the study of how scientists persuade and dissuade each other and the rest of us about nature—the study of how scientists argue in the making of knowledge” (Harris, 1997, p. xii). The Aristotelian concept of *ethos*, or “the qualities of intelligence, moral character, and good will that are held in esteem by an intended audience” (Prelli, 1997, p. 87), plays an important role in scientific rhetoric. As Gross (1996) argues with respect to specifically scientific *ethos*, “All scientific papers [...] are embedded in a network of authority relationships: publication in a respected journal; behind that publication, a series of grants given to scientists connected with a well-respected research institution; within the text, a trail of citations highlighting the paper as the latest result of a vital and ongoing research program” (p. 13). So, like mass media

texts, science can be thought of as constituting a “chain of communicative events.” For those rhetoricians of science who are interested specifically in the public representations of science, the chain would include such “events” as news stories written about published papers, editorials commenting on these articles, conversations about these articles, and academic commentaries on how these studies were represented, or misrepresented, to the general public.

Clearly, scientific ethos is recontextualized throughout scientific discourse. Prelli (1997) proposes a list of the “special” topoi that are available to establish scientific ethos. These topoi, according to Prelli, become especially salient when a scientist’s motivations are in question or when a division between “science” and “nonscience” is being debated. Prelli derives his list of topoi from scientific norms and counter-norms identified by Robert K. Merton. Table 1 lists these topoi and their descriptions. The first four are the norms based on work by Merton while the last four are oppositional counter-norms identified by Mitroff. Although identified as counter-norms, they are not necessarily negative. Depending upon the situation, the topoi derived either from these norms or counter-norms may be “virtue or vice” (p. 89). Likewise, which of these topoi will be evoked will depend upon the specific rhetorical situation. Prelli suggests that in debates over what is “good” or “bad” science, different sides will delimit the concept of “science” differently depending on which topoi they appeal to.

(1) Scientific Topoi from Prelli (1997, pp. 87-88)

<i>Topos</i>	<i>Appeals to...</i>
<i>Universalism</i>	“pre-established, impersonal criteria,” “observation and previously established knowledge”
<i>Community</i>	the availability of research to the “community of scientists”
<i>Disinterestedness</i>	“the interests of a scientific community”
<i>Organized Skepticism</i>	the “[critical scrutiny of] beliefs [...] against empirical and logical criteria of judgment”
<i>Particularism</i>	“personal criteria, such as the ability and experience of the authors”
<i>Solitariness</i>	“property rights [of scientists] regarding their work”
<i>Interestedness</i>	“special communities of interest”
<i>Organized Dogmatism</i>	scientists “assent[ing] fervently to their own findings while doubting the findings of others”

In the following sections, I present my analyses of the rhetoric and discourse surrounding the Spitzer study. The texts that I examine include the original PowerPoint presentation, along with Spitzer’s presentation notes and the AP article reporting the Spitzer study. These reports were recontextualized in a number of other media outlets. I also investigate press releases from Exodus International, NARTH, the Human Rights Campaign (HRC), the National Gay and Lesbian Task Force (NGLTF), and the Gay and Lesbian Alliance Against Defamation (GLAAD). Such press releases are important

examples of discourse in which science is embedded but that have more explicitly political purposes than typical popularizations of science. Finally, I also examine a sample of articles written specifically for conservative evangelical audiences and for GLBT audiences. The Spitzer study was reported in many outlets for these audiences, often in stories reprinting all or part of either the AP article or these press releases.¹

3. Framing in Headlines and Lead Paragraphs

In the first analysis, I examine how each of these media texts is framed. As Entman (1993) states:

To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described. (p. 52)

In the context of print media, frames are often instantiated in the headlines and leads of the articles. These features of news articles, which include the physical headline, super- or subheadlines, lead paragraphs set off from the article, or the first paragraph, constitute the “initial summary” of the news text (van Dijk, 1988, p. 53). Bell (1991) argues that these features of the news story serve the same function as an “abstract” in personal narratives. It “summarizes the central action and main point of the narrative” (p. 148) and allows the reader to “get the main point from reading a single opening sentence, and on that basis decide whether to continue” (p. 149). The headline, usually written by someone other than the author of the story, also frames the story, but at a higher level; it is, as Bell states, “an abstract of an abstract” (p. 150). The analysis of these “initial summaries” can thus allow us to see how, for these different audiences, this story was framed as something important enough to read about.

The AP article, which is written for the most general audience and is the most likely to be committed to “the rhetoric of factuality” (Fairclough, 1995b, p. 93) in news, features the following headline:

- (2) Some gays can go straight, study suggests.

This headline frames the story as a conclusion, although hedged: “some gays” rather than “gays,” “suggests” rather than “shows” or “proves.” The attribution is made to “study,” rather than to “researcher” or “psychiatrist.” With this hedged conclusion as the headline, this lead paragraph follows:

- (3) An explosive new study says some gay people can turn straight if they really want to. That conclusion clashes with that of major mental health organizations, which say that sexual orientation is fixed and that so-called reparative therapy may actually be harmful. Gay rights activists attacked the study, and an academic critic noted that many of the 200 “ex-gays” who participated were referred by religious groups that condemn homosexuality.

¹ For the sake of brevity, I focus in this paper on the AP article and on the press releases.

This lead paragraph extends upon the hedged conclusion in the headline in framing the story as a controversy. This frame is particularly evident in the adjective “explosive” and the verbs “clashes” and “attacked.” The sides of this controversy are established here as well: “major mental health organizations” and “religious groups who condemn homosexuality.”

In contrast to the controversy frame, the press releases from Exodus International and NARTH frame the study as a significant research finding. Exodus and NARTH featured the following headlines, respectively:

- (4)
 - a. “Some gays change,” says prominent psychiatrist.
 - b. Prominent psychiatrist announces new study results: “Some gays CAN change”

These headlines differ from (2) in that they represent the conclusion as a direct quote and that they attribute the findings to a “prominent psychiatrist.” Thus, this study is framed as important because of who conducted the study (although he is not named). The lead paragraphs from these press releases further frame the story as being a significant research finding by highlighting that it “is making media headlines” and by describing the study as having produced “a significant shift” and “significant success.” The lead paragraph from the NARTH press release further instantiates the significant finding frame by implying that the study’s scope is broader than it actually is:

- (5) In a report released today [...] psychiatrist Dr. Robert Spitzer announced the results of a new study on homosexuality. Efforts to change sexual orientation can—in some men and women—apparently produce significant success.

This paragraph suggests that the study is more general than it is by describing it as “a new study on homosexuality.” This description suggests that the study investigates the nature of homosexuality broadly. The construction of “[e]fforts to change sexual orientation can [...] apparently produce significant success” suggests that the study included a broad sample of those who made efforts to change their sexual orientation. However, Spitzer’s study tested whether a sample of those who had claimed to have changed their sexual orientation had actually done so according to his criteria. The qualifying phrase “in some men and women” does not make this distinction apparent.

The press releases from GLBT rights organizations, not surprisingly, frame Spitzer’s study in an almost completely opposite way, as politically motivated pseudo-science. The headlines for the GLAAD, NGLTF, and HRC press releases were, respectively:

- (6)
 - a. NGLTF responds to flawed Spitzer study on so-called “reparative therapy.”
 - b. GLAAD condemns unscientific study’s claim that sexual orientation can be “changed.”
 - c. New study of conversion therapy is biased and unscientific, says HRC.

Clearly, each of these headlines is framing the study as “bad science,” describing it as “flawed,” “unscientific,” and “biased.” Indeed, some of the basic concepts are called into question through the use of the adjective “so-called” and scare quotes around the terms “reparative therapy” and “changed.” The charge of politically motivated bias is further instantiated in the lead paragraphs of the NGLTF and the HRC press releases. In the first,

the frame is further instantiated by repeating the adjective “so-called” and by using scare quotes for “study.” It is further declared to be “snake oil packaged as science” and “tainted and biased.” Finally, this paragraph highlights data from Spitzer’s report that most of his subjects were recruited through groups like Exodus and NARTH:

- (7) The so-called “study” conducted by Robert Spitzer is snake oil packaged as science. Of the 200 people interviewed by Spitzer, 43 percent were referred to him by ex-gay ministries. Another 23 percent were referred to him the anti-gay National Association for Research and Therapy of Homosexuality (NARTH). To say the very least, the data is tainted and biased.

The HRC’s lead paragraph utilizes similar methods as the NGLTF, but is both less loaded in its word choices (“unscientific and profoundly biased”; “validity [...] is questionable”) and is less specific in its charges (unspecified “ties to right-wing political groups and lack of objective data”):

- (8)
 - a. (sub-heading) Researcher has ties to anti-gay religious extremists, says HRC.
 - b. (lead paragraph) A new study claiming some people can become heterosexual through prayer, and mentoring relationships is unscientific and profoundly biased, according to the Human Rights Campaign. The validity of the study is questionable because of the author’s ties to right-wing political groups and lack of objective data, HRC said.

4. Scientific Topoi

The second analysis explores the scientific rhetorical topoi that are deployed in these various texts. There are two main goals in this analysis. The first is to identify which topoi identified by Prelli are employed in these texts. Thus, this analysis will extend and amplify the preceding analysis by showing how, specifically, the general frames evoked in the headlines and leads are instantiated throughout the texts and shape how the “science” is interpreted and evaluated. The second is to consider how these topoi are constructed discursively. Thus, I will consider how specific features of discourse instantiate specific topoi. Following Fairclough (1995b), this analysis considers text representations at two levels: the structure of propositions and the sequence of propositions. The first level is concerned with process (i.e., verb), participant (nouns and noun phrases) and circumstance (adverbials). The second is concerned with local coherence and global text structure (Fairclough, 1995b, pp. 104-105). In general, I conducted this analysis first from a “top-down” perspective, using the topoi as a heuristic, for a rhetorical analysis. I then approached these texts “bottom-up,” using CDA. As Fairclough (1995b) states, it “make[s] sense to combine such ‘microanalysis’ with other forms of text-oriented analysis” (p. 195).

Before discussing the topoi that are appealed to in the public discourse about this study, it is important to begin with the topoi that are appealed to in Spitzer’s original presentation. Spitzer appeals to the topoi of dogmatism, which he negatively evaluates on the part of the APA, and skepticism, which he positively evaluates on his part.

- (9) There is professional consensus that homosexual behavior can be resisted, renounced or relabeled. However, homosexual orientation can never be changed. (Spitzer, 2001, p. 3)

- (10) I certainly shared this viewpoint, so how did Bob Spitzer, who played a central role in eliminating homosexuality as a mental disorder from DSM-II in 1973, come to have doubts about this consensus. (Spitzer, 2001, p. 4)

Twice, Spitzer refers to the APA's position as "consensus" and once as "viewpoint," as opposed to a "finding" or "conclusion," suggesting that this consensus is perhaps not "scientific." His skepticism is established by establishing that he had "doubts about this consensus." In (10) Spitzer also appeals to the topos of "interestedness" in an interesting way. He refers to himself in the third person, thus shifting from agent to subject in a rhetorical question, which in an embedded clause places Spitzer in an historical role that would suggest that his self-interests would lie in findings opposite of those that he is presenting. So, not only is Spitzer positively evaluating his skepticism but he is also working against his own self-interests. Although these are not the only topoi that Spitzer appeals to in his presentation, they play an important role in how the study is recontextualized.

The AP article appeals to virtually all of the topoi that Prelli proposes. Dogmatism is suggested on the part of the APA (as well as other mental health organizations) by using the verb "says," rather than "argues" or "concluded" when presenting their positions. Skepticism and disinterestedness were both evoked and positively evaluated on Spitzer's part:

- (11) Spitzer, who said that *he does not offer reparative therapy and began the study as a skeptic*, said *the research was paid for out of department funds*.

Interestedness is evoked in much the same way that Spitzer does himself, by establishing his role in removing homosexuality from the DSM:

- (12) Spitzer spearheaded the APA's 1973 decision to remove homosexuality from its list of mental disorders. At the time, he said that homosexuality does not meet the criteria for a mental disorder, and he called for more research to determine whether some people can change their sexual orientation.

The above example attributes a great deal of agency to Spitzer in the verb choice "spearheaded," and also positively evaluates Spitzer's universalism by suggesting that he appealed to "the criteria for a mental disorder" in his decision and that "he called for more research" on this question. Although universalism is valorized, so is particularism elsewhere in the article, by attributing the findings to Spitzer rather than to "the study" or "the research" and in active sentence constructions such as "He conducted 45-minute telephone interviews" and "He concluded," rather than passive constructions such as "45-minute telephone interviews were conducted" or "It was concluded."

Also, in keeping with the controversy frame, the "other side" of the story is represented by presenting criticisms of the study. The critics' particularism is positively evaluated when an academic, by establishing his credentials:

- (13) *Psychologist Douglas Haldeman, who is on the clinical faculty of the University of Washington and has published evaluations of reparative therapy.*

These criticisms appeal to and negatively evaluate the universalism of Spitzer's study ("no convincing evidence"; "no credible scientific evidence"). The only figures accompanying these criticisms are the percentages of subjects referred by NARTH and by ex-gay ministries, so these criticisms may not seem credible by the side of the many other figures that are recontextualized from Spitzer's report. Non-academic critics are negatively evaluated in terms of interestedness by being identified as "activists" and by the verb choices of "attacked" and "criticized" rather than "noted" or "said."

The Exodus Press release is interesting in that it mimics the structure of a newspaper article and is "objective" in presenting both sides of the story. The lead paragraph appeals to both particularism and community, by listing Spitzer's credentials quite forcefully and that he "announced his results." Universalism is evoked by attributing the findings to "the study":

- (14) A study released today which shows that some gays and lesbians can experience a significant shift in sexual orientation is making media headlines across the nation. Dr. Robert L. Spitzer, Chief of Biometrics Research and Professor of Psychiatry at Columbia University in New York City announced the results of his research in a presentation today at the annual meeting of the American Psychiatric Association.

In presenting the criticisms of Spitzer's work, this press release evokes and negatively evaluates interestedness on the part of the critics, by attributing the criticism solely to "pro-gay organizations" which are undifferentiated in the first sentence of (15), and then attributed to Wayne Besen in the second. The verb choice for the criticism is "discredit," and the objects of this verb are both Spitzer and the study, thus appealing to particularism and universalism, and the quote from Besen further evokes these topoi: "little scientific value because of the sample" and "reflection of the researcher's personal bias." The response to these criticisms is with a positive evaluation of Spitzer's skepticism, which is instantiated in religious, rather than scientific, terms:

- (15) Spokespersons for various national pro-gay organizations issued statements today attempting to discredit both Dr. Spitzer and the study's results. "This study has little scientific value because the sample was largely drawn from organizations with strong anti-gay missions and appears to be a reflection of the researcher's personal bias," said Wayne Besen, Human Rights Campaign's Associate Director of Communications. Bob Davies, Executive Director of Exodus North America, dismissed these protests as invalid. "Dr. Spitzer is a self-identified humanistic atheist," Davies said. "At the beginning of this study, he was skeptical that change was possible. If anything, his bias is against change, not that change is possible."

The final paragraph of this press release features a quote from Dr. Joseph Nicolosi, president of NARTH, in which he negatively evaluates critics of the study, again in terms of their interestedness and particularism, by describing their position as an "assumption" and as "a political conclusion rather than a scientific conclusion." The critics are identified as "gay lobbyists within the profession" rather than as psychiatrists or psychologists. It concludes with another appeal to Spitzer's interestedness as a resource to establish his credibility:

- (16) But when Spitzer issues this, it has to be listened to because of his track record as a gay advocate.

While the Exodus press release negatively evaluates Spitzer's critics in terms of interestedness and particularism, each of the gay rights organizations' press releases, in keeping with the politically motivated frame, negatively evaluates Spitzer's interestedness. The NGLTF press release accomplishes this by listing gay rights measures that Spitzer "opposes" and by associating him with NARTH (which also negatively evaluates Spitzer in terms of community, by suggesting that his research was released through improper channels):

- (17) Indeed, a look at Spitzer's own comments reveal [sic] his bias on the topic. Spitzer opposes same-sex marriage, opposes the right of gay and lesbian people to adopt children, opposes the right of gay and lesbian people to serve in the military and believes that homosexuality 'is not a normal condition.' A visit to NARTH's web site turns up 16 different mentions of Spitzer, including a press release trumpeting Spitzer's so-called 'study,' which NARTH mysteriously received in advance.

Also, in the GLAAD press release, Spitzer's particularism is negatively evaluated, or at least contrasted to universalism, by attributing the research to Spitzer specifically by using a possessive ("Spitzer's conclusions" rather than "the conclusions") and by using the active voice with Spitzer as the subject ("Spitzer defines them" rather than "they were defined as"), both of which suggest that the findings are more due to Spitzer's personal criteria than to objective criteria. The HRC press release negatively evaluates the study in terms of universalism, by making "the study" the agent and by using the passive voice, and his interestedness, by referring to Spitzer's "personal bias":

- (18) This study has little scientific value because the sample was largely drawn from organizations with strong anti-gay missions and appears to be a reflection of the researcher's personal bias," said HRC Associate Director of Communications Wayne Besen. "This study makes it clear that until society is free from anti-gay prejudice, people will feel compelled or can be coerced into attempting to change and claim success even if it has not occurred.

5. Conclusion

This analysis shows that in media messages about science, frames and topoi are integrally related. In this case, frames, as established in the headlines and leads, suggest a macro-level interpretation for a story while the topoi show how these general frames are instantiated throughout the text for specific rhetorical purposes. For instance, the AP article, which was framed generally as "controversy," appealed to skepticism and dogmatism, in effect pitting Spitzer against the APA. Although dogmatism is not necessarily a "vice" in Prelli's framework, these appeals set up Spitzer as a more credible scientific source. Also, although it presented criticisms of Spitzer, which appealed to negative evaluations of Spitzer's interestedness, these criticisms were not balanced in terms of figures (themselves appeals to universalism), and non-academic critics were negatively evaluated in terms of their interestedness. Thus, the story was balanced in form but not in rhetorical force.

These analyses also suggest that, in contrast to Prelli (1997), science is not necessarily delimited by different sides in debates by the topoi that they appeal to. In general, in all of these texts, “real science” displays both universalism and particularism. That is, scientific ethos can be evaluated with respect to both impersonal and personal criteria. Community is favored over solitariness, disinterestedness over interestedness, and skepticism over dogmatism. Opposing sides in the scientific debate do not attempt to define science differently. Instead, they draw distinctions based on how they evaluate these topoi. What is more, these topoi may be evoked with respect to any of the roles in this sort of public discourse of science. In other words, scientific ethos is not merely a requirement of either science or scientist, but also of organizations, critics, and even the subjects of the research.

Finally, this analysis shows some of the ways that rhetorical topoi can be instantiated in specific linguistic choices, such as passive voice for universalism and active voice for particularism, or in specific verb choices such as “attacked” versus “noted” or “lobbyist” versus “psychiatrist.” Thus, CDA, guided by the lens of RS, appears to be a useful tool for investigating how science becomes embedded in public discourse and what ideologies and power relations are produced or reproduced in this discourse. In this paper, I have focused on establishing this conceptual and methodological integration as a fruitful avenue for research. Future work will consider other kinds of texts within this domain with a consideration of how the concept of science is negotiated in these texts and how ideology is related to science in public discourse.

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