

Chapter 16

Global Warming as a Socioscientific Controversy

Craig O. Stewart

University of Memphis, USA

Claire Rhodes

University of Memphis, USA

ABSTRACT

Socioscientific controversies are “extended argumentative engagements over socially significant issues ... comprising communicative events and practices in and from both scientific and nonscientific spheres” (Stewart, 2009, p. 125). While global warming is not controversial among the vast majority of climate scientists, socioscientific controversies over global warming abound in various media, as citizens, politicians, journalists, and others discuss and weigh the scientific evidence for and appropriate policy responses to global warming. In this chapter, the authors investigate the lexical choices used in the New York Times in straight news articles reporting on controversies about global warming from 2001-2006, as partisan differences on this issue became more pronounced. Specifically, using DICTION 5.0, the authors analyze 87 news reports, comparing those focused on science issues with those focused on policy issues. These statistical lexical comparisons are supplemented with qualitative discourse analyses.

INTRODUCTION

In 1975, Wallace Broecker introduced the phrase “global warming” to the scientific community. Almost 40 years later, this phrase has become part of mainstream discourse both in the United States and on a global level. Although the United States’ federal regulation of air pollution began as early as 1955, the concept of global warming was not introduced to the political arena until 1988 when NASA scientist James Hansen announced to the Senate that “global warming is now large

enough that we can ascribe with a high degree of confidence a cause and effect relationship to the greenhouse effect” (Hansen, 1988, para. 2). Hansen’s words sparked widespread media and political interest in the environment, with global warming becoming a key term in news media discourse through the end of the 1980s (McRight and Dunlap, 2000). In the subsequent decades, media discourse about global warming shifted from a focus on scientific issues to ones emphasizing political policies and controversies.

DOI: 10.4018/978-1-4666-5003-9.ch016

Global warming has become the subject of socioscientific controversies, which Stewart (2009) defines as “extended argumentative engagements over socially significant issues ... comprising communicative events and practices in and from both scientific and nonscientific spheres” (p. 125). Socioscientific controversies represent chains of communicative events that draw upon a variety of orders of discourse, which are “relatively stabilized configurations of discourse practices” (Fairclough, 1995, p. 2) whose elements include “genres, styles, activity types, and [ideological] discourses” (Fairclough 1992, p. 70). The methodological approach to these controversies is built on three layers—text, discursive practice, and social practice (Fairclough, 1992). The text layer involves close attention to details of “vocabulary, grammar, cohesion, and text structure” (Fairclough, 1992, p. 75). The text layer is embedded within the discursive practice layer, which involves the analysis of how orders of discourse shape “processes of text production, distribution, and consumption” (p. 78). Both of these layers are subsumed by the social practice layer, which refers to the analysis of the broader social and ideological contexts for texts and discursive practices. In socioscientific controversies, various orders of discourse are interwoven both intertextually, combining “snatches of texts...which may be explicitly demarcated or merged in” (Fairclough, 1992, p. 84), and interdiscursively, drawing on broader elements of discursive practices, and not only specific bits of text. Socioscientific controversies over global warming comprise texts and discourse practices from a variety of orders of discourse, including scientific, technical, political, policy, and media, as well as competing ideological commitments between these orders of discourse.

While we use the term “controversy” here, we do not mean to imply that there are significant technical disputes about global warming, at least within the scientific community. Instead, we use the term here to denote “a large-scale, amorphous event involving ill-defined parties” (Cramer, 2008,

p. 280), which can include scientists, politicians, activists, citizens, etc. This chapter analyzes how the *New York Times* represented this amorphous socioscientific controversy in the early years of the 21st Century. The texts analyzed therefore comprise both ongoing news events, spanning multiple articles (e.g., ratification of the Kyoto treaty), as well as news events that may be represented by only a single article, all of which can be denoted by journalists as part of an ongoing controversy news event (cf. van Dijk, 1988).

The purpose of the study is to use DICTION 5.0 to analyze the lexical composition (i.e., the text layer) of the broad global warming controversy in the United States’ “newspaper of record,” comparing this discourse against lexical norms developed within two orders of discourse relevant to this controversy. Specifically, the texts comprising this socioscientific controversy draw on a variety of orders of discourse, including both political and scientific orders of discourse. Thus, we wish to examine how the lexical composition of this controversy is potentially influenced by these orders of discourse by comparing these news reports against lexical norms for both political reporting and science communication. Additionally, because the texts comprising this controversy do not draw on these orders of discourse in equal measure, we are interested in differences in the lexical composition of texts that draw primarily on scientific/technical orders of discourse and those that draw primarily on political/policy orders of discourse. Thus, we compare those news reports that focus primarily on scientific issues related to global warming (thus drawing more heavily on scientific/technical orders of discourse) with those that focus primarily on policy issues (thus drawing more heavily on political/policy orders of discourse). Before presenting the results of our analyses, we first provide an overview of the science of global warming, as well as some of the objections to global warming that have helped to shape how this socioscientific controversy is constructed in news discourse.

12 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/global-warming-as-a-socioscientific-controversy/96783

Related Content

Cross-Cultural Competences in the New Economy

Irene Martin-Rubio, Drew Rodgers and Erik Døving (2014). *Cross-Cultural Interaction: Concepts, Methodologies, Tools, and Applications* (pp. 495-513).

www.irma-international.org/chapter/cross-cultural-competences-in-the-new-economy/97486

Code Glossing as a Strategy for Writing and Translation: Explorations Through English, Spanish, Portuguese, and Danish

Anne Lise Laursen and Birthe Moustén (2018). *Multilingual Writing and Pedagogical Cooperation in Virtual Learning Environments* (pp. 364-384).

www.irma-international.org/chapter/code-glossing-as-a-strategy-for-writing-and-translation/202602

Observations From Word Roots About the Dysfunction of the Human Cognitive System

(2019). *Deep Semantics and the Evolution of New Scientific Theories and Discoveries* (pp. 204-232).

www.irma-international.org/chapter/observations-from-word-roots-about-the-dysfunction-of-the-human-cognitive-system/227115

Bridging the Gap: 21ST Century Media Meets Theoretical Pedagogical Literacy Practices

Divonna M. Stebick and Mary L. Paxton (2014). *Innovative Methods and Technologies for Electronic Discourse Analysis* (pp. 1-18).

www.irma-international.org/chapter/bridging-gap-21st-century-media/76983

Analysis of Speeches by the Former President of the US, Barack Hussein Obama, Regarding the Middle East and Northern Africa

Aleign Aschale Wudie (2020). *International Journal of Translation, Interpretation, and Applied Linguistics* (pp. 20-32).

www.irma-international.org/article/analysis-of-speeches-by-the-former-president-of-the-us-barack-hussein-obama-regarding-the-middle-east-and-northern-africa/245798