

Distribution Agreement

In presenting this thesis or dissertation as a partial fulfillment of the requirements for an advanced degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis or dissertation in whole or in part in all forms of media, now or hereafter known, including display on the world wide web. I understand that I may select some access restrictions as part of the online submission of this thesis or dissertation. I retain all ownership rights to the copyright of the thesis or dissertation. I also retain the right to use in future works (such as articles or books) all or part of this thesis or dissertation.

Signature:

John A. Bernau

Date

Talk of Death: American Discourse in Three Spheres

By

John A. Bernau
Doctor of Philosophy

Sociology

Dr. Timothy J. Dowd
Advisor

Dr. Frank J. Lechner
Advisor

Dr. Ellen L. Idler
Committee Member

Dr. Gary M. Laderman
Committee Member

Accepted:

Lisa A. Tedesco, Ph.D.
Dean of the James T. Laney School of Graduate Studies

Date

Talk of Death: American Discourse in Three Spheres

By

John A. Bernau
B.A., The University of Iowa, 2013

Advisors:

Dr. Timothy J. Dowd
Ph.D. Princeton University, 1996

Dr. Frank J. Lechner
Ph.D. University of Pittsburgh, 1985

An abstract of
A dissertation submitted to the Faculty of the
James T. Laney School of Graduate Studies of Emory University
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy
in Sociology
2019

Abstract

Talk of Death: American Discourse in Three Spheres By John A. Bernau

This dissertation is a study of how modern America talks about death. I examine these discussions in roughly three spheres (popular, professional, and personal) by analyzing the release and reception of the best-selling book on death and dying in the past fifty years, over seventy years of professional journal articles, and in-depth interviews with practicing healthcare chaplains. The concern with death as a social problem draws on broad theoretical and historical concerns, from the sociology of religion and secularization, to cultural sociology and the theory of professional systems. In addition, I employ and extend recent techniques for computational text analysis, from structural topic modeling to word vector representation, to better understand the role of language as a rich and meaningful source of sociological data. Ultimately, I demonstrate how the social structural changes in modern religiosity affect the availability and efficacy of cultural meanings as people look to their society for ways to understand humanity's long-standing existential struggles.

Talk of Death: American Discourse in Three Spheres

By

John A. Bernau
B.A., The University of Iowa, 2013

Advisors:

Dr. Timothy J. Dowd
Ph.D. Princeton University, 1996

Dr. Frank J. Lechner
Ph.D. University of Pittsburgh, 1985

A dissertation submitted to the Faculty of the
James T. Laney School of Graduate Studies of Emory University
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy
in Sociology
2019

Acknowledgements

In his discussion of narrative history, Andrew Abbott provides the following cautionary note:

“We know that the further we go up or down a genealogical tree, the wider the tree gets. This doesn’t mean that the whole human race of twenty generations ago was directed towards producing some one individual, any more than it means that one individual twenty generations ago produced all those progeny of today. Rather, each full generation produces the next full generation. Reproduction is a woven net, not a tree. As with people, so with events. To search for all the causal ancestors, or causal descendants, of a given event is merely rhetorical convenience” (Abbott 1988: 280-281).

All this to say that the people and events that led me here are many. To entertain the rhetorical convenience described above, I would like to highlight a few important people. First, I am grateful to my committee members Timothy J. Dowd, Frank J. Lechner, Ellen L. Idler, and Gary M. Laderman for their gracious support and thoughtful feedback. Many thanks to Tammie Quest, Molly Perkins, and George Grant for help navigating the IRB process and all the folks at ECDS for years of support and stimulation. I want to thank Mr. Buchman for teaching my first sociology course in high school and Steve Hitlin for being a fun and patient mentor who showed me there was hope after philosophy. Stephen Vaisey, Chris Bail, and Brice Acree each offered inspiration (and R scripts) to renew my intellectual excitement in times of trial. To my brother Joe and friends in Adel, Durham, EAV, New Jersey, and here at Emory. To Dad, Debbie, Mom, and Tracy for making sure I always had a home to return to, and to Anne for helping me build one in Atlanta. Thank you. Lastly, to my grandfather Gary. Thanks for everything.

Table of Contents

1. Introduction.....	1
a. References	13
2. Study 1: The Institutionalization of Kübler-Ross’s Five Stage Model of Death and Dying	16
a. References	58
b. Tables and Figures	67
3. Study 2: From Communion to Compassion: The Changing Language of Pastoral Care	78
a. References	110
b. Tables and Figures	117
4. Study 3: The Language of Religion and Spirituality in Modern Medical Institutions: Evaluating the Efficacy of Small-Corpus Word Vector Representations	124
a. References	156
b. Tables and Figures	162
5. Conclusion	181
a. References	185

Tables and Figures

Study 1: The Institutionalization of Kübler-Ross's Five Stage Model of Death and Dying

Figure 1: Public and personal culture. Adapted from Lizardo (2017:94) and Wood et al. (2018)	67
Figure 2: Scientific and Academic Literature on Death (adapted from Lamers 2012)	67
Figure 3: All Kübler-Ross mentions in the <i>New York Times</i> 1969 – 2014	68
Figure 4: Academic citations for <i>On Death and Dying</i> 1969-2017	68
Figure 5: Diffusion of Kübler-Ross in both popular and professional contexts	69
Figure 6: Global diffusion of 3,065 citations of <i>On Death and Dying</i> in 62 countries 1969-2018	70
Figure 7: Five emergent themes from the <i>New York Times</i> 1969 – 2014	71
Figure 8a: Topic composition and longitudinal trends	72
Figure 8b: Topic composition and longitudinal trends	73
Figure 8c: Topic composition and longitudinal trends	74
Figure 8d: Topic composition and longitudinal trends	75
Figure A1: Diagnostic measures and selection criteria for topic model	76
Figure A2: Corpus Coverage Weighting (CCW)	77

Study 2: From Communion to Compassion: The Changing Language of Pastoral Care

Figure 1: Journal of Pastoral Care and Counseling 1947-2018.....	117
Figure 2a: Topic composition and longitudinal trends	118
Figure 2b: Topic composition and longitudinal trends	119
Figure 3a: Topic composition and longitudinal trends	120
Figure 3b: Topic composition and longitudinal trends	121
Figure 4: Average word frequencies per year: <i>priest</i> , <i>pastor</i> , <i>clergy</i> , and <i>chaplain</i>	122
Figure A1: Corpus Coverage Weighting (CCW)	123

Tables and Figures (continued)

Study 3: The Language of Religion and Spirituality in Modern Medical Institutions: Evaluating the Efficacy of Small-Corpus Word Vector Representations

Figure 1: Top loadings on <i>death</i> word vector by cosine similarity	162
Figure 2: Top loadings on <i>dying</i> word vector by cosine similarity	162
Figure 3: Top loadings on <i>religious</i> word vector by cosine similarity	163
Figure 4: Top loadings on <i>spiritual</i> word vector by cosine similarity	163
Figure 5: <i>Death</i> and <i>dying</i> two-dimensional semantic space by cosine similarity	164
Figure 6: <i>Religious</i> and <i>spiritual</i> two-dimensional semantic space by cosine similarity	165
Figure 7: <i>Dying</i> and <i>religious</i> two-dimensional semantic space by cosine similarity	166
Figure 8: <i>Dying</i> and <i>spiritual</i> two-dimensional semantic space by cosine similarity	167
Figure 9: <i>Patient</i> and <i>chaplain</i> two-dimensional semantic space by cosine similarity	168
Figure 10: <i>Patient</i> and <i>doctor</i> two-dimensional semantic space by cosine similarity	169
Figure 11: <i>Nurse</i> and <i>doctor</i> two-dimensional semantic space by cosine similarity	170
Figure 12: <i>Patient</i> and <i>death</i> two-dimensional semantic space by cosine similarity	171
Figure 13: <i>Patient</i> and <i>dying</i> two-dimensional semantic space by cosine similarity	172
Figure 14: <i>Chaplain</i> and <i>religious</i> two-dimensional semantic space by cosine similarity	173
Figure 15: <i>Chaplain</i> and <i>spiritual</i> two-dimensional semantic space by cosine similarity	174
Figure A1: Date of interview (2013) and total word counts for the nine chaplain interviews	175
Figure A2: Date of interview (2013) and lexical diversity for the nine chaplain interviews	176

Dissertation Introduction

John A. Bernau
Emory University

“Before us there is certainly left only nothing; but that which struggles against this flowing away into nothing, namely our nature, is indeed just the will-to-live which we ourselves are, just as it is our world. That we abhor nothingness so much is simply another way of saying that we will life so much, and that we are nothing but this will and know nothing but it alone.”

– Arthur Schopenhauer, *The World as Will and Representation* (v1, 1818: 411)

“Every human society is, in the last resort, men banded together in the face of death. The power of religion depends, in the last resort, upon the credibility of the banners it puts in the hands of men as they stand before death, or more accurately, as they walk, inevitably, towards it.”

– Peter Berger, *The Sacred Canopy* (1967:51)

“So Carter, if you can hear me, rest in peace. Someday this earth I’ll no longer roam. We’ll be together once again, side by side, in the hills of home.”

– Ralph Stanley, *Let Me Rest on a Peaceful Mountain* (1974)

This dissertation is a study of how modern America talks about death. I examine these discussions by analyzing the release and reception of the best-selling book on death and dying in the past fifty years, over seventy years of professional journal articles, and in-depth interviews with practicing healthcare chaplains. The concern with death as a social problem draws on broad theoretical and historical concerns, from the sociology of religion and secularization, to cultural sociology and the theory of professional systems. In addition, I employ and extend recent techniques for computational text analysis, from structural topic modeling to word vector representation, to better understand the role of language as a rich and meaningful source of sociological data. In what follows, I outline the unifying theoretical, historical, and empirical concerns that are woven through each of the three empirical chapters.

Prelude: On Sociology

As the general social science, sociology is a broad discipline. With many epistemologies and substantive concerns many find it hard to describe as a coherent whole (Cole 2001). My training thus far has led me to an understanding of sociology as a tripartite combination of philosophy, history, and empirical data analysis. A short exploration of these components will serve as helpful backdrop for the proceeding work. First, sociology is philosophical insofar as it is theoretical. While “philosophy” once stretched to cover all intellectual activity –from science and politics to mathematical logic and religion– I think sociology at its best borrows from philosophy an attention to definitional precision and conceptual relationships aimed at the horizon of some general understanding and explanation. As Smith (2014:185) argues, sociology is more than “sociography,” or the description of social facts. While there are many uses of the word “theory” in sociology (Abend 2008), I believe the proper task of sociology is the development of a general theoretical understanding of the social world in its many manifestations. Second, in striving for a general understanding of the social world, sociology must be historical. As the product of an endless cascade of human behaviors, society must always be understood within a historical context. Sociologists routinely probe the structural precedents that account for their findings and make predictions about future social processes. Even the symbolic interactionists who champion emergent meaning and interactional processes must acknowledge either the presence of *prior* meanings or the *subsequent* interactional consequences of their “on-the-ground” explorations. In this way, sociology remains grounded in a thoroughly historical understanding of individuals, society, and their interaction. Lastly, sociologists move beyond philosophy and history by devoting a substantial part of their discipline to empirical data analysis. Whether collecting qualitative or

quantitative data, sociologists must subscribe to some form of social realism in their efforts to understand the social world.

The [idealist] position is untenable because of the fact that the empirical world can ‘talk back’ to our pictures of it or assertions about it—talk back in the sense of challenging and resisting, or not bending to, our images or conceptions of it. This resistance gives the empirical world an obdurate character that is the mark of reality...It is this obdurate character of the empirical world—its ability to resist and talk back—that both calls for and justifies empirical science (Blumer 1969:22).

In other words, the consideration of theoretical definitions, conceptual relationships, and historical processes must begin and end with the empirical world they are directed towards. Quantitatively, sociology borrows from mathematics, statistics, and computer science to advance sophisticated techniques for exploring the social world. Thus, while sociology does not enjoy multiple centuries of disciplinary name-recognition like philosophy, mathematics, history, or chemistry, it serves a vital role in synthesizing the best of multiple disciplines into a careful and productive study of our social world. The dissertation that follows is an attempt to speak to each of these components of sociological analysis. While each chapter serves as a stand-alone empirical study, they share some theoretical, historical, and empirical concerns that I outline below.

Theoretical Motivation: The Cultural Sociology of Language

I begin with a set of broad questions: *How do people make sense of their lives? Where does meaning come from?* These questions have been a part of sociology since at least the classical theorists. Marx ([1846] 1978) described the role of ideology in shaping people’s consciousness, Weber ([1905] 2011) famously argued that religious beliefs have the power to restructure entire economic systems, and Durkheim ([1912] 1995) thought of shared meanings as the precondition for every stable society. I was drawn to Mead’s (1934) social-psychological theory of language

early in my sociological career. By taking an evolutionary approach to human *gestures* and *significant symbols*, Mead outlines a theory of interactional meaning that centers on language and communication. According to Mead, this is the root of human culture. Before one can construct an ideology, religious belief system, or shared culture, there must be a set of symbols that serve to transmit meaning across the solipsistic canyon of individualism. In a similar treatment, Berger (1967) describes the three-stage process of externalization, objectivation, and internalization whereby humans construct a meaningful cosmos out of the chaos of nature. Berger understands language as the driving force at the center of this process of world construction: “In other words, the subjective reality of the world hangs on the thin thread of conversation” (Berger 1967:17).

While Mead and Berger provide a conceptual framework for understanding meaning through language in its social context, recent work in cultural sociology addresses the ways in which disparate pieces of language coalesce to form coherent meanings. It’s one thing to say that language is made up of significant symbols, or that subjective reality depends on conversation, but it’s quite another to understand or explain how complex ideas like “liberal democracy,” “human rights,” or “pro-life” positions become transmitted and institutionalized. To this end, Gamson and Modigliani’s (1989) research on *interpretive packages* provided a conceptual hook early in my scholarly endeavors. In an analysis of media coverage, they describe how metaphors, catchphrases, moral appeals, visual images, and symbolic devices work together to create a unified framework—or *interpretive package*—that serve as concrete social meanings around a given issue. Individuals are free to accept, argue with, or reject these packages, but they remain a linguistic and symbolic shorthand for complex cultural and social meanings.¹ Swidler’s (1986) “toolkit” metaphor takes a

¹ I understand this idea to be a conceptual descendant of Weber’s *ideal type*, or the idea that social science gains empirical traction by identifying broad currents in the sea of unique individuals, behaviors, and events. These broad currents serve as yardsticks or archetypes by which to assess the social world.

similar pragmatic approach by understanding culture and ideas as the “raw materials” available to people in their construction of meaning. In other words, people grow up in an inherited social environment with particular *interpretive packages* or cultural *tools*. As people work to make sense of their lives, they must assemble these raw materials into a coherent picture of the social world and their place in it. In their famous survey of American culture, Bellah et al. (1985) describe *lifestyle enclaves* as pockets of society marked by the uniform availability and adoption of these cultural resources: “Members of a lifestyle enclave express their identity through shared patterns of appearance, consumption, and leisure activities, which often serve to differentiate them sharply from those with other lifestyles” (1985:335).

Taken together, these conceptual distinctions shed light on the ways in which people construct meaningful lives using the socio-cultural resources at their disposal. They also inform what is likely to be the earliest stirrings of one’s sociological imagination: the observation that people tend to sort themselves into groups based on politics, religion, fashion, and musical tastes. However, multiple questions remain unanswered. First and foremost: how can we measure these interpretive packages? While immaterial by nature, these cultural meanings clearly manifest in important and observable ways that should be amenable to contemporary methods for empirical cultural analysis. Second, there is still much debate surrounding the fundamental social mechanisms of cultural production and reception. How does a singular idea become an agreed-upon and widely-shared interpretive package? How do these interpretive packages act upon and influence individuals and societies? Lastly, a historical account of these interpretive packages is necessary to better understand how interpretive packages act in their social context. How can we explain and understand the evolution of cultural meanings?

Each chapter of this dissertation probes a different aspect of this theoretical motivation. Chapter one starts with an interpretive package –Elizabeth Kübler-Ross’s five-stage model of death and dying– and traces the divergent diffusion dynamics as it becomes legitimated in two institutional contexts. Chapter two documents the rise and fall of various interpretive packages within more than 70 years of pastoral care articles. Chapter three analyzes the interpretive packages that form around and between different keywords through a study of healthcare chaplains. Together they work to better inform a linguistic understanding of the “raw materials” people create, encounter, use, and adapt in their struggle to live a meaningful life.

Historical Background: The Secularization of Death and Dying

While cultural sociology and its theory of language provide the theoretical framework for this dissertation, I take my substantive and historical concerns from the sociology of religion. Reading Durkheim’s *Elementary Forms of Religious Life* ([1912] 1995) left a lasting impression on me as an undergraduate and upon further study in graduate school I came to a better understanding of the link between collectively held ideas and the existence of social groups. As Durkheim put it elsewhere:

A religious society does not exist without a collective credo and it is more or less strong and united according to whether this credo is more widely held...The greater the area of free inquiry that a religious group abandons to the judgment of individuals, the more it will be absent from their lives, and the less cohesion and vitality it will possess ([1897] 2006:165).

Furthermore, because Durkheim takes religion to be a form of society-worship, every society is necessarily a religious society. Thus, this type of collective credo, or system of widely-held beliefs, constitute the prerequisite for strong, united, cohesive, and vital social groups. Berger (1967) builds directly on Durkheim’s formulation when describing religion as the socially-dependent

sacred canopy that cloaks the cosmos in human significance and provides meaning in the face of existential terrors like war, famine, and death. Given the immense responsibility placed on religious belief systems, it is all the more alarming when these classical theorists turn to secularization, or the idea that religion was fading in significance for modern society. While Marx welcomed a religion-less society, Weber lamented the disenchantment of the modern world, and Durkheim observed that “the former gods are growing old or dying, and others have not been born” (1995:429). Among other factors, Berger (1967) pointed towards religious pluralism and lack of consensus as the biggest threat to religion, and Bruce (2011:27) outlines at least 22 interrelated historical factors contributing to the diminishing centrality of religion in modern social life.

Of course, there is unending debate about both the function of religion and its prominence in society today. While Durkheim and Berger put a lot of stake in communal, consensus-based religion as the framework of a proper society, others argue for a more localized understanding of religion (Smith 1998; Stark 2018). While some see undeniable evidence of widespread secularization (Bruce 2011; Voas and Chaves 2016), others see historical particularities and global resurgence (Berger 1999; Stark 1999; Yang 2011). Setting aside these macro-debates, I return to a pragmatic theoretical framework concerned with how people use cultural resources to make sense of their lives. While the proper cultural jurisdiction of religion is always in flux, the existential issues of death and dying routinely appear within the realm of religious thought. Or, as William James remarked: “Religion thus makes easy and felicitous what in any case is necessary; and if it be the only agency that can accomplish this result, its vital importance as a human faculty stands vindicated beyond dispute” ([1902] 2004:55). Berger similarly places death at the center of his sociology of religion, arguing that its strength relies “upon the credibility of the banners it puts in the hands of men as they stand before death, or more accurately, as they walk inevitably, towards

it” (1967:51). Thus, as a sociologist, I am interested in how the social structural changes in modern religiosity affect the availability and efficacy of cultural meanings as people look to their society for ways to understand humanity’s long-standing existential struggles. In his excellent *Sociological Review* article “Death in High Modernity,” Mellor summarizes our contemporary situation succinctly:

Modernity is characterized by a wholly unprecedented series of mechanisms which remove problems of meaning from public space, relocated them in the privatized realm of individual life and experience, thereby creating historically unique threats of personal meaninglessness...The finitude of human life is paramount amongst these problems, and is the one left most conspicuously unanswered, so that in a cultural milieu which offers unprecedentedly extreme dangers to the maintenance of ontological security, death is especially hard to deal with... Although it could be argued that modern societies are culturally diverse, and exhibit a degree of flexibility which allows people to draw upon a variety of cultural resources in order to deal with death, it could also be argued that this diversity compounds the difficulties individuals experience when death is encountered...The more diverse are the approaches to death in modern societies, the more difficult it becomes to contain it within a communally-accepted framework, and thus limit the existential anxiety it potentially offers to the individual. (Mellor 1992:16–19).

The three chapters of this dissertation each probe a different aspect of this historical backdrop to better understand the diverse approaches to death in modern societies. Chapter one is a study of the most popular cultural interpretation of death and dying in the last fifty years: Elizabeth Kübler-Ross’s five-stage model of denial, anger, bargaining, depression, and acceptance. I use this model as a cultural barometer to measure contemporary discussions of death and dying as they fluctuate with social changes over the latter half of the twentieth century. Chapter two examines pastoral care professionals as the traditional authority over matters of life and death. I use over seventy years of academic articles to trace their conversations surrounding religion and spirituality, as well as the encroaching disciplines of neurology, psychology, psychotherapy, and psychiatry in the twentieth century. In chapter three I analyze in-depth interviews with practicing healthcare chaplains to explore their language of religion, spirituality, and end-of-life care as they

work with sick and dying patients in modern healthcare institutions. Together these chapters work together to paint a modern picture of the ways in which people confront the problem of mortality.

Analytical Agenda: Computational Text Analysis

To address the role of language in the construction of cultural meanings around death and dying I employ recent advancements in computational text analysis. First, the exponential explosion of available data is the biggest change facing researchers today. “More data were accumulated in 2002 than all previous years of human history combined. By 2011, the amount of data collected prior to 2002 was being collected every 2 days” (Bail 2014). Second, on top of this sheer size, the recent increase in text-based data offers an entry for those not working with the type of quantitative data that defined the earliest waves of data generation. “In this regard it is probably worth pointing out that we are just now entering what must surely be the golden age of textual analysis” (Mohr 1998:366). Computer scientists and programmers have dominated this “big data” arena, leading sociologists to associate some contemporary analyses with weak theoretical contributions and questionable methods. For these very reasons, sociologists have much to contribute to this type of analysis (Bail 2014; Evans and Aceves 2016; Grimmer and Stewart 2013). It was none other than Max Weber who proposed the first systematic text analysis during the second meeting of the German Sociological Society in 1910, when he suggested a large-scale analysis of the German press to identify the influence of the news “in making modern man” and to trace temporal shifts in values (Evans and Aceves 2016:24; Hardt and Carey 2001:136). While other disciplines have started incorporating these digital methods, the slow uptake of cultural sociologists is surprising.

As Bail (2014) notes:

Texts are a central object of study in the field— in the form of primary documents, interview transcriptions, or field notes...I argue inattention to big data among cultural sociologists is

doubly surprising since it is naturally occurring—unlike survey research or cross-sectional qualitative interviews—and therefore critical to understanding the evolution of meaning structures *in situ*. That is, many archived texts are the product of conversations between individuals, groups, or organizations instead of responses to questions created by researchers who usually have only post-hoc intuition about the relevant factors in meaning-making—much less how cultural evolves in “real time” (Bail 2014:467).

A recent *Annual Review of Sociology* article similarly extols the importance of digital text for sociologists more broadly:

So much of the social world is mediated or traced by digital text today that it has come to represent a major channel through which sociologists can understand the social dynamics of the present and past. Ignoring the potential for text to illuminate our sociological understanding of virtually any contemporary social domain—from culture, courtship, and sexual encounters to commerce, politics, and science—would be closing our eyes to the primary data stream that social media, information, and big data companies use to deliver actionable insight to all sectors of the knowledge economy (Evans and Aceves 2016:43).

My research takes advantage of these recent advancements in digital text by constructing three original datasets. For the first study, I collect every *New York Times* newspaper article that mentions “Kübler-Ross” between 1969 and 2014 (N = 151). I read each article and qualitatively coded for themes present in this corpus before visualizing these themes longitudinally to better understand the popular discourse surrounding Kübler-Ross in the last fifty years. In addition, I also construct a dataset that includes all academic articles that cite Kübler-Ross’s original work between 1969 and 2017 (N = 3,065). After manually collecting hundreds of these article abstracts online, I use structural topic modeling to analyze longitudinal themes in this corpus to shed light on the professional discourse surrounding Kübler-Ross in the last fifty years. Developed in 2013, structural topic modeling (stm) builds on Blei and Lafferty’s early work on LDA topic modeling and its dynamic variants (Blei 2012; Blei and Lafferty 2006; Roberts, Stewart, and Tingley 2013). Topic modeling has received much attention in cultural sociology for its ability to inductively “code” a large text corpus for emergent themes (Bail 2014; DiMaggio 2015; DiMaggio, Nag, and

Blei 2013; Kinney, Davis, and Zhang 2018). For the second study, I gather every article published by the *Journal of Pastoral Care and Counseling* between its founding in 1947 and 2018 (N = 4,054). In contrast to the dataset in the first study, this dataset contains the full-text of each article (stored as word-frequency tabulations in compliance with institutional subscriptions managed by EBSCO Host and SAGE Journals). I also build methodologically on the first study by adding document-level covariates that account for year of publication. This specification better models the themes of a corpus that includes full-text of more than 4,000 articles and span seven decades of publication. Lastly, in the third study I create a word vector representation of 25 in-depth interview transcripts with practicing healthcare chaplains. As I describe later in detail, this computational technique improves on topic modeling in at least two important ways. First, instead of representing each word with one unique number this technique represents each word with a vector of numbers (usually 100-300 in length) that depicts its relationship with every other word in the corpus. Second, instead of treating documents as the relevant category class, word vectors treat each 10-word window as the relevant category class. The upshot is a more refined model of language that mirrors the psychological mechanisms through which humans learn and process language (Bullinaria and Levy 2007). However, this technique also relies on text-corpora that preserve original word order, an often-elusive trait in today's large-scale digital text repositories (Bernau 2018).

Together, these chapters provide a contemporary example of recent advances in both the availability and analysis of text-data in the social sciences. I also seek to advance the prominence of data visualization in communicating complicated statistical results. While most social science research relies on equations and long methodological discussions, all but the most invested readers gloss this material to get to the final results. Visualizations encourage immersive engagement with

empirical data and serve to better communicate challenging material (Healy 2018; Healy and Moody 2014; Wickham and Grolemund 2017). To this end, I advance the communication of structural topic models by developing a method for ranking top topics according to breadth and depth (or “corpus coverage weighting” CCW). In addition, I develop an original plotting scheme that balances the gamma and beta matrices to present longitudinal topic composition and distribution over time. I also develop one of the first examples of visualizing word vector representations using cosine similarity. In its one-dimensional form, this method allows a quick and quantitative measure of one keyword and nearby words according syntactic-semantic similarity. In its two-dimensional form, this method allows a glimpse at the true high-dimensional space of word vector representations. Together I hope these efforts foster a greater appreciation for the communicative role of visualization in empirical social science.

Conclusion

This dissertation is a sociological analysis of the language of death and dying. By wedding theoretical concerns from the cultural sociology of language with historical concerns about modern religion and secularization, I employ contemporary techniques for computational text analysis to better understand how people use available cultural resources to make sense of death.

The dissertation proceeds in three chapters: “The Institutionalization of Kübler-Ross’s Five-Stage Model of Death and Dying,” “From Communion to Compassion: The Changing Language of Pastoral Care,” and “The Language of Religion and Spirituality in Modern Medical Institutions: Evaluating the Efficacy of Small-Corpus Word Vector Representations.” Each chapter concludes with a separate reference list and associated tables and figures.

References

- Abend, Gabriel. 2008. "The Meaning of 'Theory.'" *Sociological Theory* 26(2):173–99.
- Bail, Christopher A. 2014. "The Cultural Environment: Measuring Culture with Big Data." *Theory and Society* 43(3–4):465–82.
- Bellah, Robert N., Richard Madsen, William M. Sullivan, Ann Swidler, and Steven M. Tipton. 1985. *Habits of the Heart: Individualism and Commitment in American Life*. Berkeley, Calif.: University of California Press.
- Berger, Peter L. 1967. *The Sacred Canopy: Elements of a Sociological Theory of Religion*. Open Road Media.
- Berger, Peter L., ed. 1999. *The Desecularization of the World: Resurgent Religion and World Politics*. Washington, D.C. : Grand Rapids, Mich: Eerdmans.
- Bernau, John A. 2018. "Text Analysis with JSTOR Archives." *Socius* 4:1–2.
- Blei, D. M. 2012. "Probabilistic Topic Models." *Communications Of The Acm* 55(4):77–84.
- Blei, David M. and John D. Lafferty. 2006. "Dynamic Topic Models." Pp. 113–120 in *Proceedings of the 23rd international conference on Machine learning*. ACM.
- Blumer, Herbert. 1969. *Symbolic Interactionism: Perspective and Method*. University of California Press.
- Bruce, Steve. 2011. *Secularization: In Defence of an Unfashionable Theory*. Oxford, UK: Oxford University Press.
- Bullinaria, John A. and Joseph P. Levy. 2007. "Extracting Semantic Representations from Word Co-Occurrence Statistics: A Computational Study." *Behavior Research Methods* 39(3):510–26.
- Cole, Stephen, ed. 2001. *What's Wrong with Sociology?* New Brunswick, N.J: Transaction Publishers.
- DiMaggio, Paul. 2015. "Adapting Computational Text Analysis to Social Science (and Vice Versa)." *Big Data & Society* 2(2):2053951715602908.
- DiMaggio, Paul, Manish Nag, and David Blei. 2013. "Exploiting Affinities between Topic Modeling and the Sociological Perspective on Culture: Application to Newspaper Coverage of U.S. Government Arts Funding." *Poetics* 41(6):570–606.
- Durkheim, Emile. 1995. *Elementary Forms Of The Religious Life: Newly Translated By Karen E. Fields*. 11th Printing edition. New York: Free Press.

- Evans, James A. and Pedro Aceves. 2016. "Machine Translation: Mining Text for Social Theory." *Annual Review of Sociology* 42:21–50.
- Gamson, William A. and Andre Modigliani. 1989. "Media Discourse and Public Opinion on Nuclear Power: A Constructionist Approach." *American Journal of Sociology* 95(1):1–37.
- Grimmer, Justin and Brandon M. Stewart. 2013. "Text as Data: The Promise and Pitfalls of Automatic Content Analysis Methods for Political Texts." *Political Analysis* 21(3):267–97.
- Hardt, Hanno and James W. Carey. 2001. *Social Theories of the Press: Constituents of Communication Research, 1840s to 1920s*. 2 edition. Rowman & Littlefield Publishers.
- Healy, Kieran. 2018. *Data Visualization: A Practical Introduction*. Princeton, NJ: Princeton University Press.
- Healy, Kieran and James Moody. 2014. "Data Visualization in Sociology." *Annual Review of Sociology* 40(1):105–28.
- James, William. 2004. *The Varieties of Religious Experience: A Study in Human Nature*. 1st edition. New York, NY: Barnes & Noble Classics.
- Kinney, Alexander B., Andrew P. Davis, and Yongjun Zhang. 2018. "Theming for Terror: Organizational Adornment in Terrorist Propaganda." *Poetics* 69:27–40.
- Marx, Karl and Friederich Engels. 1978. "The German Ideology: Part 1." Pp. 146–200 in *The Marx-Engels Reader*, edited by R. C. Tucker. New York: W. W. Norton & Company.
- Mead, George Herbert. 1934. *Mind, Self, and Society from the Standpoint of a Social Behaviorist*. Chicago: The University of Chicago Press.
- Mellor, Philip A. 1992. "Death in High Modernity: The Contemporary Presence and Absence of Death." *Sociological Review* 40:11–30.
- Mohr, John W. 1998. "Measuring Meaning Structures." *Annual Review of Sociology* 24(1):345–70.
- Roberts, Margaret E., Brandon M. Stewart, and Dustin Tingley. 2013. "Stm: R Package for Structural Topic Models." *Journal of Statistical Software* 42.
- Schopenhauer, Arthur. [1818] 1966. *The World as Will and Representation, Vol. 1*. New York: Dover Publications.
- Smith, Christian. 1998. *American Evangelicalism: Embattled and Thriving*. University of Chicago Press.

- Smith, Christian. 2014. *The Sacred Project of American Sociology*. Oxford ; New York: Oxford University Press.
- Stanley, Ralph. 1974. *Let Me Rest on a Peaceful Mountain*. Rebel Records.
- Stark, Rodney. 1999. "Secularization, R.I.P." *Sociology of Religion* 60(3):249–73.
- Stark, Rodney. 2018. *Why God?: Explaining Religious Phenomena*. Templeton Press.
- Swidler, Ann. 1986. "Culture in Action: Symbols and Strategies." *American Sociological Review* 51(2):273–86.
- Voas, David and Mark Chaves. 2016. "Is the United States a Counterexample to the Secularization Thesis?" *American Journal of Sociology* 121(5):1517–56.
- Weber, Max. 2011. *The Protestant Ethic and the Spirit of Capitalism*. New York: Oxford University Press.
- Wickham, Hadley and Garrett Grolemund. 2017. *R for Data Science: Import, Tidy, Transform, Visualize, and Model Data*. Sebastopol, CA: O'Reilly Media.
- Yang, Fenggang. 2011. *Religion in China: Survival and Revival under Communist Rule*. 1 edition. Oxford ; New York: Oxford University Press.

The Institutionalization of Kübler-Ross's Five-Stage Model of Death and Dying

John A. Bernau
Emory University

Keywords

diffusion, legitimation, institutionalization, cultural sociology, death and dying, topic modeling

Abstract

In this study I demonstrate the divergent diffusion dynamics of a cultural object as it gains legitimacy and becomes institutionalized in two social contexts. Specifically, I examine how Elizabeth Kübler-Ross's five-stage model of death and dying – denial, anger, bargaining, depression, and acceptance – attained cultural legitimacy and contemporary institutionalization through different discursive means within popular and professional circles upon publication in 1969. Using a combination of traditional content analysis and structural topic modeling, I analyze all New York Times articles that mention Kübler-Ross (N = 151) and all academic articles that cite her original work in the last fifty years (N = 3,065). Ultimately, I show how the institutionalization of Kübler-Ross proceeded through the commercial-entrepreneurial logics of popular discourse and the expert-elaboration logics of professional discourse. These findings speak to the fruitful synthesis of diffusion studies and Neoinstitutional theory while offering a model of how contemporary techniques for computational text analysis can move beyond descriptive analysis to test theoretical predictions.

Introduction

In this study I demonstrate the divergent diffusion dynamics of a cultural object as it gains legitimacy within two institutional contexts. While diffusion research has typically focused on the shape of adoption as innovations spread from early to late adopters, neo-institutional theorists champion the unique and context-specific logics of legitimation that operate in different institutional spheres. In this way, the career of a cultural object is dependent on both the shape of diffusion and the site of reception. To study this process, I analyze Elizabeth Kübler-Ross's five-stage model of death and dying – denial, anger, bargaining, depression, and acceptance – and its popular and professional reception upon publication in 1969. By systematizing the human confrontation with mortality in five linear stages, this model represents a Weberian rationalization

of the modern approach to death and dying. While contemporary specialists largely reject this theoretical model, it remains embedded in popular imagination. By looking at the different logics of legitimation in these two spheres, we can see how the same cultural object enjoys different career trajectories based on the shape of diffusion and site-specific logics of legitimation.

Broadly, our understanding of death has shifted radically with recent cultural, demographic, institutional, and economic changes. In last fifty years traditional religious engagement in America has declined while demographic diversity has increased (US Census Bureau 2012; Voas and Chaves 2016). These trends are matched with an aging population of Baby Boomers and a growing and costly medical system (Livne 2014). Together these changes have precipitated heightened public interest in end-of-life issues, as evidenced by best-selling books like Gawande's *Being Mortal* (2014) and Kalanithi's *When Breath Becomes Air* (2016). Fifty years after its first publication, *On Death and Dying* (1969) serves as a barometer for both our popular and professional understanding of end-of-life issues today.

Wedding traditional content analysis with contemporary techniques for computational text analysis, I use two data sources to explore the divergent diffusion dynamics of this cultural object in two institutional spheres. Within popular discourse, I examine every evocation of Kübler-Ross's work in the *New York Times* between its release in 1969 and 2014 (N = 151). Within professional discourse, I use the Web of Science citation index to collect a list of every academic article that cited *On Death and Dying* between 1969 and 2017 (N = 3,065). Paired with author affiliations, this data allows a big-picture understanding of the rate of diffusion across international borders, and, after collecting abstracts for these articles, I use structural topic modeling to extract longitudinal themes within this professional discourse to examine the changing context in which Kübler-Ross's work is evoked. Methodologically, I offer one example of how recent advances in

computational text analysis can augment traditional approaches to content analysis and serve to uncover theoretically important findings in large-text corpora. By developing a method for ranking topics according to corpus coverage weighting (CCW) I also offer a new way to sift through large- k topic models.

Ultimately, I show how Kübler-Ross's five-stage model enjoyed similar rates of diffusion in popular and professional circles between 1970 and 1990. After this initial period of S-shaped diffusion, both the *New York Times* and academic citations remain stable year-over-year for the past twenty-five years, providing evidence for its institutionalization. In this way, I show how Kübler-Ross enjoys a prominent place in our modern cultural conversation of death and dying. Despite similar rates of diffusion, I uncover the divergent logics of legitimation in these two social contexts. On one hand, I show how the legitimation of the Kübler-Ross model proceeded according to the commercial-entrepreneurial logic of the popular sphere, as evidenced by significant advertising and creative references to her stage model in extra-medical contexts: retiring athletes, New England winters, book publishing, etc. On the other hand, I demonstrate how the legitimation of Kübler-Ross's model proceeded according to the expert-elaboration logic of the professional sphere, as academic articles increasingly discussed issues of measurement, new stage models, and improved patient care. Thus, both spheres legitimated the place of Kübler-Ross in cultural conversations of death and dying albeit through different discursive means. These results speak to the fruitful synthesis of diffusion studies and neo-institutional theory. After a theoretical discussion, I provide some historical background before outlining my study design and results. I conclude with a discussion of theoretical and methodological implications and ideas for future research.

Theoretical Motivation

In the last fifty years, cultural sociologists have been attempting a sort of ontological categorization: What are the building blocks of culture? How do they fit together? Bourdieu (1977) described *habits* and *mental schema* that constitute one's *habitus*. This cultural disposition, according to Bourdieu, situates an individual within a given social field as they barter with various types of capital (i.e. social, cultural, symbolic). In her famous theory of action, Swidler (1986) described culture as *tools* assembled in a *toolkit*. While conceptually similar to Bourdieu's work, this metaphor emphasizes the practical employment of culture in everyday situations, noting the role that culture and socialization play in determining relevant action outcomes: "Indeed, people will come to value ends for which their cultural equipment is well suited" (Swidler 1986:277). Departing from this focus on individual culture, Gamson and Modigliani (1989) outline how *ideas*, *metaphors*, and *symbols* coalesce into *interpretive packages*. With an eye towards the media as a culture industry system (Hirsch 1972), they describe the role that journalists and gatekeepers play in assembling information into coherent frameworks. In this way, a complicated position on a contentious issue like nuclear power can be summarized succinctly by key phrases like "devil's bargain" or "progress." These ready-made interpretations are then distributed and internalized by consumers looking to understand the world around them. "Making sense of the world requires an effort, and those tools that are developed, spotlighted, and made readily accessible have a higher probability of being used" (Gamson and Modigliani 1989:10). DiMaggio (1997) takes a cognitive approach, focusing on the mental processes that organize *disparate bits of information* into cultural *schemas*. Each of these four theorists speak to the synthetic role of cultural processes. Presented with the "raw materials" of our socio-cultural world, we must fashion these materials into coherent units – *habitus*, *toolkit*, *interpretive packages*, or *schemas*.

However, this synthetic process is muddied by the generality of “culture” in the social sciences. How can habits (unconscious and conscious) fit under the same conceptual umbrella as religious beliefs, political action, and musical tastes, for example? Two programmatic articles attempt to clear these muddy channels. Lizardo (2017) proposes a model that clearly distinguishes public culture from personal culture, using a cognitive approach to further distinguish between personal *declarative culture* and personal *nondeclarative culture*. Nondeclarative culture is learned slowly through repeated encodings and is evoked automatically; a type of “know-how” that equips individuals to function in certain situations. In contrast, declarative culture is learned quickly through deliberate, propositional encoding. This type of “know-that” is evoked slowly and purposefully. This distinction frees theorists from stretching their models of culture to cover every imaginable piece of the puzzle, and by tying these types of personal culture to their encoding process he opens up new avenues for empirical research. Despite these advances, Lizardo leaves public culture undertheorized. Assuming personal culture doesn’t appear *ex nihilo*, how can we understand the other end of the encoding process?

To this end, Wood et al. (2018) distinguish between *frames* as material and situational public culture, from *schemas* as private mental associations, while also introducing a *model of a frame* as “a simplified set of declarative instructions or nondeclarative abilities used to re-create a frame and may be said to be ‘cultural’ to the extent that they are learned and shared” (Wood et al. 2018: 250). It remains unclear whether the authors consider a model of a frame to be public or personal culture. If a public frame activates a set of personal schemas, at what point does the model of a frame become sufficiently shared to become a public narrative or model? Figure 1 augments Lizardo’s (2017:94) original model of public and personal culture by adding a material /

immaterial branch of public culture and depicting Wood et al.’s model of a frame (2018) as situated between declarative personal culture and immaterial public culture.

[FIGURE 1 ABOUT HERE]

With this framework in mind, the present study examines the career of Kübler-Ross’s five-stage model of death and dying as an immaterial form of public culture – or *model of a frame* – to probe the blurred relationship between declarative personal culture and immaterial public culture. Specifically, I examine how the shape of diffusion masks different logics of legitimation as Kübler-Ross becomes an institutionalized part of both popular and professional immaterial public culture. Below I augment this theoretical motivation by drawing on three bodies of work. First, I argue a type of Weberian rationalization provides the underling spirit of Kübler-Ross’s five-stage model. Second, I outline recent developments in diffusion studies to understand the shape and spread of cultural objects. Lastly, I borrow neoinstitutional theory’s emphasis on logics of operation and institutionalization to understand Kübler-Ross’s “taken-for-granted” place in modern culture.

Rationalization

Often heralded as the central theme in Max Weber’s work, Weber himself failed to provide a sufficiently clear definition of rationalization. In fact, Brubaker (1984) identifies no less than sixteen different meanings of “rational” in Weber’s work. Adding to this confusion, the lack of an agreed-upon English translation means “the reader who does not have access to the German texts confronts a hopeless situation” (Kalberg 1980:1147; Lechner 2018). Nonetheless, scholars have worked to piece together an understanding of this important theme: rationalization is the process by which ideas develop their own internal logic (Collins 1980; Kalberg 1980; Swidler 1973). Specifically, the rationalization of modern institutional spheres involves, to varying degrees, “the

depersonalization of social relationships, the refinement of techniques of calculation, the enhancement of the social importance of specialized knowledge, and the extension of technically rational control over both natural and social processes” (Brubaker 1984:2). Faced with the buzzing confusion of reality, we strive to widen our understanding through the creation of systematic and comprehensive systems of thought and modes of behavior. If *rationalization* is the development of this ideational system, *rationality* is the deliberate controlling of actions by ideas (Swidler 1973:36).

Where people once noisily milled about, now they are put in rows or ranks of quiet obedience; where fiscal accounting was done from memory and rough approximation, now it is taken to the hundredth of one percentage point, or beyond; where music was the work of a single minstrel inventing melodies and lyrics as he strolled, now it requires an orchestra that plays perfectly in unison from a printed score, willful deviation from which is a cardinal sin. (Sica 2000:42)

The irony of course, is twofold. First, an overemphasis on rationality can obscure the original “ultimate value” that prompted the system in the first place, as famously described in Weber’s *Protestant Ethic* ([1920] 2011). Second, the attempt to corral reality into an orderly system inevitably fails, prompting further rationalization that makes the next deviation even more troubling than the last (Swidler 1993). It was this self-perpetuating characteristic that made rationalization a hallmark of modernity for Weber, and contemporary scholars have identified this driving force in various spheres of modern life, from credit-cards and fast food restaurants to tourism and higher education (Ritzer 1998). By systematizing the human confrontation with mortality in five linear stages, I argue that Kübler-Ross’ model represents a Weberian rationalization of the modern approach to death and dying. This appeal to rationalization was the substantive core of this cultural object that led to its widespread diffusion in popular and professional circles.

The Shape of Diffusion

Formally emerging in the mid-twentieth century, diffusion scholars study the shape and spread of cultural and social innovations. “Diffusion is a kind of *social change*, defined as the process by which alteration occurs in the structure and function of a social system” (Rogers 2003:6). The famous S-curve of diffusion describes the typical career of (successful) innovations as they enjoy slow exposure to early adopters, rapid mainstream adoption, and gradual acceptance by late-adopters. For example, Fischer (1992) documents the rise of the telephone in America and measures its success against other technological advancements such as electric light, automobiles, radio, and television. While the telephone is ubiquitous in American homes today, this widespread adoption came at the end of a long and storied hundred-year history. To understand the shape and spread of innovations, diffusion scholars typically focus on two components of social change: the properties of innovations (ideas, products, behaviors, etc.) that spread in a social system, and the properties of innovation-adopters and their social context. On the properties of innovations, Rogers (2003) identifies five attributes that contribute to diffusion potential: *relative advantage*, *compatibility*, *complexity*, *trialability*, and *observability*. In short, an innovation must be 1) perceived to be better than what came before, 2) consistent with existing values, experiences, and needs of potential adopters, 3) easy to use and understand, 4) allow gradual implementation, and 5) demonstrate easily visible results. On the properties of adopters and their social context, many studies focus on *compatibility*, or the attitudes, norms, and values of a social context into which an innovation is introduced. In “the most influential diffusion study of all time” (Rogers 2003:31), Ryan and Gross (1943) surveyed rural Iowa farmers to measure the rate of adoption of hybrid seed corn. Similar diffusion studies have examined the spread of ham radio (Bowers 1937, 1938), math curricula (Carlson 1965), family planning (Berelson and Freedman 1964), the ordination of women

(Chaves 1996), AIDS prevention campaigns (Wohlfeiler 1998), and countless others. A third type of diffusion scholarship focused on mechanisms and communication channels has gained recent popularity with the rise of “big data” and the ability to track internet virality (Goel et al. 2015; Rossman 2012; Rossman, Chiu, and Mol 2008; Xu et al. 2016). Within the framework of diffusion studies, rationalization thus emerges as both a part of the social context in which an innovation is presented, and as a cultural value than an innovation can embody. To the extent that an innovation is congruent with the spirit of rationalization and itself contributes to this spirit, diffusion studies suggests it will enjoy a ready adoption. In this study, I show how Kübler-Ross’s model fit all five criteria for a diffusion-primed innovation and spoke to cultural values of the 1960s. However, by looking at the divergent reception in both popular and professional circles, I move beyond the shape of diffusion to consider the logics of legitimation in two institutional contexts.

Logics of Legitimation

Neo-institutional theory builds on diffusion studies by emphasizing the operational logics that define context-specific sites of cultural reception. On account of these institutional logics, the same cultural object may enjoy widespread popularity in one sphere while remaining unheard of in another. Or perhaps enjoy widespread popularity in multiple spheres, albeit for different reasons. For example, through an analysis of ethnographic data gathered at two web-based news corporations, one in New York and one in Paris, Christin (2018) demonstrates how the same technical innovation – the quantification of “clicks” – enjoys different reception based on divergent historical and institutional logics of operation. Whereas U.S. editors assumed responsibility for the publication’s commercial success and emphasized quantifiable click-data, French editors defined

their role as producing “important” pieces irrespective of popularity, leaving click-monitoring to staff writers.

These different institutional logics shape how cultural innovations enjoy a “contagion of legitimacy” (Zucker 1988) on the tail-end of a diffusion curve. This legitimation process is manifest at two reinforcing levels: social-psychological and organizational (Johnson, Dowd, and Ridgeway 2006). At the social-psychological level, socialization, norms, and peer-effects work together to shape individual belief and behavior towards that of the majority: the mass-acceptance of an idea becomes its own validation. This S-curve of adoption is well-documented by diffusion scholars and speaks to a long tradition of sociological scholarship (Berger and Luckmann 1967; Johnson et al. 2006; Rogers 2003). Institutional theory describes how these ideas and practices become formalized and enjoy a relatively stable place in social life. Using an experimental design, Zucker (1977) demonstrates how the introduction of formal rules and procedures lead to practices that are more likely to enjoy generational transmission, require minimal deliberate maintenance, and are more resistant to change. At the organizational level, the adoption of ideas and practices originate from the same type of relational networks. Rather than simply chasing rational efficiency, organizations often adopt ideas and practices to gain legitimacy and buffer against criticism (Meyer and Rowan 1977). This isomorphism can be a response to external pressures (coercive), uncertainty (mimetic), changing standards (normative), or a combination of all three (DiMaggio and Powell 1983). In this study, I argue that the legitimation of Kübler-Ross proceeded according to different institutional logics in popular and professional circles. Rather than providing a demonstrable improvement in end-of-life care, the attention given to Kübler-Ross was the result of a contagion of legitimacy and mimetic isomorphism as organizations responded to the uncertainty of death.

Institutionalization

In addition, institutional theory departs from diffusion studies by examining the self-activating process of reproduction that mark these ideas and practices. An institution is a social pattern that solves a social dilemma and signals an exit from entropy (Jepperson 1991; Zucker 1988). As an example, the institution of marriage is a social pattern that arose as a solution to (at various times) the dilemmas of survival, political allegiances, childrearing, and companionship (Cherlin 2010). This social pattern is *institutionalized* when its existence becomes taken-for-granted and perpetuated without deliberate conscious effort: “One enacts institutions; one takes action by departing from them, not by participating in them” (Jepperson 1991:149). Thus, institutions are social practices that have come to be taken-for-granted and self-perpetuating (*institutionalized*) as a result of a complex process of social and cultural interaction (*institutionalization*).

However, as the example of marriage shows, one should be careful in assuming too much stability from institutions (Cherlin 2004). In particular, Schneiberg and Clemens (2006) argue for increased attention on the dynamic and contested process of adoption and adaptation. Even in the face of widespread agreement, cultural ideas are often met with significant adaptation in local contexts. For example, in their study of Gouldner’s (1954) work on gypsum mines, Hallet and Ventresca (2006) describe “loose coupling” as the process in which environmental elements, local habits, and institutional forms are combined together in a messy and dynamic process. All gypsum mines in New York were subject to the spread of bureaucratization, but each mine enacted this institutional form in particular ways: where some took a punishment-centered approach, others adopted a mock-bureaucracy culture. This loose coupling honors the prior local order while accommodating the diffusion of innovations.

While institutions can adapt and be updated, there is a limit to the ground they can be made to stretch over. The process of *deinstitutionalization* occurs when taken-for-granted ideas and practices no longer become self-perpetuating and require conscious deliberate action to prevent their demise. In particular, Oliver (1992) identifies five pressures that determine the deinstitutionalization of cultural-organizational practices: *political*, *functional*, *social*, *entropic*, and *inertial*. While the first three concern social context, *entropic* and *inertial* speak to the twin tendencies for practices to decline without conscious maintenance and survive due to self-perpetuating institutional actions, respectively. These pressures for institutional change have been found at work in various social spheres, including property insurance (Schneiberg 2005), drink manufacturers (Hiatt, Sine, and Tolbert 2009), DDT (Maguire and Hardy 2009), and higher education (Washington and Ventresca 2004).

Together, I employ these bodies of work to understand the institutionalization of Kübler-Ross's model of death and dying as part of our immaterial public culture, or a *model of a frame*. In particular, I examine how the divergent logics of legitimation in popular and professional discourse converge to institutionalize this model: ultimately reaching the same end through different discursive means. The next section delves deeper into the case study of Kübler-Ross, paying special attention to 1) the social context of its genesis, 2) the properties of the model as an innovation that made it agreeable to potential adopters, and 3) its popular and critical reception.

Historical Background

Three social trends frame the release of Elizabeth Kübler-Ross's *On Death and Dying* as a significant cultural event in 1969. First, in the aftermath of World War II, the American medical system underwent unprecedented growth and rationalization. Second, cultural shifts of the 1960s

brought individualism and anti-institutional sentiments to mainstream America. Lastly, best-selling books on death, paired with existential risks like nuclear threats and the Vietnam War ushered in an era of increased mortal awareness in the late 1960s and early 1970s.

Rationalization of American Medicine

In his Pulitzer-Prize winning history, *The Social Transformation of American Medicine* (1982), Paul Starr documents the rise of the medical institutional system after World War II devastated most European economies. In 1947, the US produced more than half of world's manufactured goods, 62% of the world's oil, and 80% of all automobiles. This economic prosperity brought considerable growth to the healthcare industry. Between 1950 and 1970, national healthcare expenditures grew from 12.7 to 71.6 billion dollars (Starr 1982:335). With this meteoric expansion, prestige and financial incentives now went to medical specialists, discouraging general practice physicians and precipitating the displacement of small offices by large medical schools and hospitals. With more physicians pursuing specialization, nurses and physician's assistants swelled the ranks of the medical workforce from 1.2 million people in 1950 to 3.9 million people in 1970 (Starr 1982:336). In contrast to smaller offices, large medical schools and hospitals prioritized research and training, often at the expense of patient-relations. With more hospital staff, physicians rarely had long-term relationships with patients and were able to see more patients in less time than ever before. Motivated by external funding and approval from colleagues, patient feedback ranked low on physicians' professional incentives. "All these factors contribute to professional autonomy and, not coincidentally, to the powerlessness of patients and to their objectification as 'clinical material.'" (Starr 1982:362). The 1970s saw a crisis of faith in this ever-expanding medical system. No longer able to hide behind the banner of scientific progress, public attention

focused on economic and moral problems of the US system. Growing dissatisfaction with patient experience emphasized the need to protect patients' rights in the face of medical specialization and bureaucratic efficiency. Speaking at a press conference in July 1969 – two months after the publication of Kübler-Ross's book – President Nixon told an audience: “Unless action is taken within the next two or three years...we will have a breakdown in our medical system” (quoted in Starr 1982:381).

The gradual introduction of for-profit hospitals added further complexity to this bureaucratic institution. While doctors had traditionally been motivated by their service orientation, charity mission, and fiduciary ethic, new incentives for profit-maximization created complications for traditional models of patient-care (Gray 1991; Potter 2001). Potter and Dowd (2003) document the rise of CEO turnover in for-profit hospitals, and Potter and McKinlay (2005) explain this shifting authority within the medical system. No longer the paternalistic doctor-patient relationship, the introduction of medical consumerism in the 1970s gave more power to the patient (or 'client') to pick and choose medical services. This coincides with the publication of Kübler-Ross's book, whose subtitle indicates the strength of this institutional movement: *On Death and Dying: What the Dying Have to Teach Doctors, Nurses, Clergy and Their Own Families*. However, this short-lived patient authority was upended in the 1980s and 1990s as corporatist healthcare model placed growing authority in insurance companies and third-party payers.² In this way, the move from paternalistic to consumerism to corporatist healthcare models exemplifies the increasing rationalization and bureaucratization that serve to distance the patient from the traditional (if somewhat idealized) doctor-patient relationship.

² The rise of chronic disease further complicated the distribution of healthcare, as institutions now had to manage patient conditions over longer periods of time. By 2000, infectious diseases accounted for less than 5% of US mortality, while three major chronic conditions accounted for over half (55%) of US mortality (Potter and McKinlay 2005:470).

This rationalization extends to the role of American medicine in death and dying. Shortly after the Civil War, death specialists emerged to take care of embalming, funeral planning, and burial, turning what was once an intimate family affair into an estranged experience of medical-institutional bureaucracy (Faust 2009; Laderman 1999, 2005). Laderman (2005) identifies at least three social factors that contribute to this professionalization of death in the twentieth century: demographics, the rise of hospitals, and the rise of funeral homes. First, life expectancy rose precipitously as rates of infectious declined and infant mortality decreased. This was due in part to the triumph of medical science and its ascendant rise to social prestige. Importantly, this emphasis on medicine reconceptualized death as a problem to be solved, replacing what was until then a conception of death as a natural part of life. Lastly, the rise of funeral directors as a set-apart profession bloomed after the Civil War. Driven in large part by the logistics of returning dead soldiers to their families across the country, embalming became the technical cornerstone of the funeral industry. “Without this procedure, funeral directors would have had a difficult time claiming that they were part of a professional guild, and therefore justified as the primary mediators between the living and the dead from the moment of death to the final disposition” (Laderman 2005:8). However, the technical requirements of embalming were ill-suited to the traditional place of death – often in the family’s finest room in the home. By the 1920s, funeral directors had established the funeral home as the standard place of death and burial. These institutions grew from 9,891 nationwide in 1890 to 24,469 in 1920 – an increase of 247% (Laderman 2005:19). Thus, by the mid twentieth century the experience of death in America had shifted from a private, home-based, family affair to one that was extensively managed by bureaucratic professionals in large hospitals and funeral homes.³

³ However, the commercialization of death in the twentieth century need not necessarily lead to desacralization. Zelizer (1978) and Chan (2012) argue that the rise of the life insurance industry came only after a sacralization of

Individualism and Anti-Institutional Sentiment

Post-war economic prosperity was not limited to the healthcare industry and touched nearly every sector of American life, from employment and manufacturing to church attendance and birthrates. The children of 1950s prosperity grew up to enact the radical social change of the 1960s – what Cherlin (2004) calls “a revolution of rising expectations.” The proportion of young adults with college degrees doubled between 1950-1970 and campus-based youth played a significant role in critical movements surrounding the war in Vietnam, Civil Rights, and feminism. While the twin issues of individualism and anti-institutionalism weren’t born in the 1960s, they were the hallmark of this cultural zeitgeist. Sparked by the European Enlightenment, individualism as we know it today can be characterized by a changing locus of authority and authenticity from the collective to the subjective, or “the downward movement through all the cultural superstructures to some place where all movement ends and begins” (Trilling 1973:12). This search for the role-less self, a definitive and internal source of direction, precluded any existing institutional answers to social problems (Taylor 1992). Members of 1960s counter-culture frequently expressed a rejection of “the system” writ large and overall dissatisfaction with institutional organizations. The dissemination of effective birth control, no-fault divorce, and the publication of Friedan’s *Feminine Mystique* (1963) ushered in radical institutional changes at home, while religious institutions grappled with similar sentiment in the public sphere. Young adults’ weekly service attendance nearly halved in these tumultuous decades – from 51% in the 1950s to 28% in 1960s (Putnam and Campbell 2012). The consequences of this individualism today are oft-debated

money and the ritualization of death-planning. Similarly, Saunders (2010) argues that organizational changes in twentieth century cemeteries shaped new meanings of death and dying. Specifically, when Hubert Eaton founded Forest Lawn Cemetery in 1917, he did away with macabre iconography of traditional Victorian cemeteries in favor of bright, airy, and optimistic landscapes. Lakes, water fountains, and paved walking paths all encouraged community involvement and an understanding of death as “new life.”

among sociologists and cultural theorists (Bellah et al. 1985; Tipton 1982), but the growing tension between a rationalized and bureaucratic medical system and increasingly individualistic cultural sentiment is readily apparent.

Rising Mortal Awareness

What is known today as the “Death Awareness Movement” is generally traced back to the work of Herman Feifel (Laderman 2005; Lamers 2012). Party inspired by WWII and the threat of nuclear annihilation during the Cold War, Feifel organized the first symposium on death and dying at the 1956 annual meeting of the American Psychological Association. His book *The Meanings of Death* (1959) examined various attitudes towards death through in-depth interviews with soldiers, patients, nurses, and physicians and ushered in a new wave of interest in death research. Figure 2 plots the number of articles on death and dying published in the latter twentieth century.

[*The Meanings of Death*] opened discussion, formerly closed, about dying and death; it was multi-disciplinary, authoritative and at times provocative; and it asked more research questions than it answered. The contributing experts in fields from anthropology to psychology, religion, history and philosophy widened our horizons on death and urged re-examination of fundamental beliefs, fears and anxieties about death. (Lamers 2012:69)

Around the time of this release, Jessica Mitford published her popular “exposé” of the funeral industry *The American Way of Death* (1963). Drawing on stereotypes of funeral directors as predatory and duplicitous, Mitford uncovered the purported ways the funeral industry preys on grieving families. The book was wildly successful, making headlines in *The New York Times*, *The Wall Street Journal*, *TIME Magazine*, and a primetime documentary by CBS. “Death was a hot topic in 1963, present in the popular imagination in a way that was quite different from the decades before [Mitford’s] book” (Laderman 2005:xxvii). This popular outrage was met with academic research concerned with patients’ experience of death in a growing medical institution (Hinton

1963; LeShan 1964). The most successful of these critiques was Glaser and Strauss's *Awareness of Dying* ([1965] 2005), a study based on field observations and interviews with patients, nurses, and physicians to better understand the dying experience. In short, with larger staff and physician specialization, patients struggled to develop the close, long-term relationships necessary to have open and meaningful conversations about death. As a consequence, Glaser and Strauss reported many patients were not aware they were close to death.

While hospitals may not have been ideal for dying patients, there were few other options available. This circumstance led Cicely Saunders to found and develop the first hospice facility to care for the terminally ill. As a nurse, physician, and social worker in the 1940s, she was immersed in the experiences and practices of death and was deeply impacted by Britain's involvement in World War II (Kutscher 1983). It was in this context where she met and befriended David Tasma; an injured veteran of the war. Upon conversations with Tasma, Saunders became intimately aware of the chaotic environment in which many veterans lived their last days. She had a new vision of a quiet, peaceful place where patients could go to live out their terminal condition. St Christopher's Hospice opened in Sydenham, London in 1967 as the first realization of Saunders's vision (Howarth 2007). Combining modern pain-relief technology with an emphasis on spiritual and psychological well-being, hospice was an increasingly attractive alternative for many terminal patients of the late 1960s and 1970s, and today there are over 4,000 hospice care facilities in Europe and the United States.

[FIGURE 2 ABOUT HERE]

Kübler-Ross as Cultural Entrepreneur

Upon its publication in May of 1969, Kübler-Ross's book *On Death and Dying* spoke out against a growing impersonal and bureaucratized medical system using individualistic rhetoric that

capitalized on growing anxiety about the American experience of death. Its subtitle – *What the Dying Have to Teach Doctors, Nurses, Clergy, and Their Own Families* – put the individual patient firmly at the center of the dying experience. No longer the passive recipient of medical care, dying patients were framed as the final authority in end-of-life decision making. At the heart of the book was Kübler-Ross’s five stages of dying. Based on extensive interviews, focus groups, and observations at the University of Chicago medical school, she documented patient experiences as a sequence of five stages: denial, anger, bargaining, depression, and acceptance. Kübler-Ross’s normative agenda was to give patients the ability to experience this natural process through greater autonomy and cooperation from physicians and medical staff. I argue that this *model of a frame* was an innovative form of immaterial public culture that diffused on account of its intrinsic qualities and congruence with cultural values and the needs of potential adopters.

On the surface, the five-stage model of death satisfied each of Rogers’ (2003) characteristics. First, it had *relative advantage* over what came before. As Glaser and Strauss (2005), Mitford (1963), Hinton (1963), and many others revealed, dying patients were being lost in an impersonal and overly institutional settings. Second, the model was *compatible* with “existing values, past experiences, and needs of potential adopters” (Rogers 2003:15). Anti-institutional sentiments, individualism, and spiritual homelessness of the 1960s readily welcomed a rationalized, secular-yet-spiritual answer to the pressing awareness of dying. By pitting the dying individual against the bloated and hegemonic medical system, Kübler-Ross set up a winning dichotomy that earned cultural support of the American population (Klass 1982; Klass and Hutch 1986). Third, the five-stage model brought a systematization to death that was *easy to understand*. After long and storied debate among philosophers and theologians across human history, who knew that dying could be so easy? Despite framing the story in opposition to a coldly rational

medical system, the five-stage model itself served to further rationalize the experience of dying in hospitals – one of the greatest ironies of the work. While the public agreed with Kübler-Ross’s support of the dying patient, physicians and nurses were also receptive to a new procedure that dealt with this difficult aspect of their profession. In this way, the five-stage model truly was an “exit from entropy” (Jepperson 1991) that was well-received by the public and medical system alike, despite their depiction as antagonistic agents. In addition, the model was easy to “test-out” (*trialability*) given the lack of pre-existing approaches. Lastly, while the five-stage model was not directly *observable*, this feature is shared by all competing approach to end-of-life care as the final results are forever masked by the curtain of death itself.

Further probing the cultural reception of the five-stage model, Klass (1982) explains how Kübler-Ross drew on a large tradition of the private sphere to frame her work against a large and impersonal technocratic culture. Left out of the industrialization in the mid-1800s, women and clergy formed a cultural allegiance, prioritizing emotionality over rationality and standing in opposition to the values of industrialized society (Douglas 1998). Drawing on this history, Kübler-Ross’s book reads less like a scientific exposition of ideas and more like a cosmic dualism between sentimental-subjective and technical-rational perspectives. While one common professional criticism of her work is a lack of scientific validation, this approach itself emerges as a popular asset: “For her to have devised the protocols and statistical evidence necessary for academic respectability, would have put her into the technocratic camp with the other physicians” (Klass 1982:244).

Looking closer at the five-stage model itself, one notices that before reaching acceptance, a dying patient passes through two cognitive stages that block the process – denial and bargaining – and two emotional stages that move the process along – anger and depression. The model

prioritizes emotionality as the appropriate response while discouraging cognitive acts as futile attempts to control the process. When discussing the *telos* of the dying process – acceptance – Kübler-Ross is surprisingly content-neutral. What is the patient supposed to “accept”? Besides one’s own finitude, the book offers little direction. In this regard, Kübler-Ross puts subjectivity and emotionality at the center of the dying experience with no regard for objective contexts or substantive content. Any attempt to control the situation is seen as a negative element of our technical rational culture, and all expressions of emotion are seen as an organic, natural, and human response. “Kübler-Ross gave a symbol [acceptance] which was completely subjective, that allowed the focus to be only on the self and disregard the rational philosophical questions raised by death” (Klass 1982: 264). In this way, Kübler-Ross is echoing a Stoic stance in which all that matters is one’s emotional reaction to external circumstances, which in turn is a part of the mid-19th century framing of Protestant religious heritage (Douglas 1998; Klass 1982). “Kübler-Ross’ maternal reaction against the technology represented by the physicians, her subjectivity, her encouragement of uncontrolled expression of emotion, and her call to a harmonious relationship with a trustworthy nature, put her at the well-spring of a tradition that is a century and a half old” (Klass 1982:257).

As a public figure, Kübler-Ross inhabits a peculiar space in late twentieth-century culture. Publishing *On Death and Dying* early in her career, she went on to produce relatively little academic scholarship. In the late 1970s, she bought land in California to build a retreat for the dying. After a small network of these retreats were established, Kübler-Ross herself was often treated as a quasi-religious figure. As the charismatic founder of popular death awareness, her visits often took on a religious significance (Klass and Hutch 1986). Kübler-Ross drifted from mainstream culture upon her insistence that individuals can travel to other worlds if they put their

mind to it. It appears a content-neutral “acceptance” was not sufficient to support a devoted audience and institutional foundation. “Every messiah must answer at some time the question, ‘What must I do to inherit eternal life?’ Jesus told the rich young man to sell all he had and give it to the poor. Kubler-Ross' answer became to trust that which was internal and to live by that reality alone” (Klass and Hutch 1986:98). Bloom (1992) identifies this immaterial individualism as the universal “American Religion” – a type of modern Gnosticism.

Kübler-Ross aside, her work clearly capitalized on a growing concern for issues of death and dying. Two prominent academic journals were established shortly after, *Omega: Journal of Death and Dying* (1970) and *Death Education* (1977), and Ernest Becker won the 1974 Pulitzer Prize for his book *The Denial of Death* ([1973] 1997). Despite its role in inspiring and shaping the modern study of death, the five-stage model finds few boosters today. Academic research has consistently failed to support a linear psychiatric experience of dying (Maciejewski et al. 2007; Metzger 1980) and modern theorists advocate a much more open and context-dependent approach to end-of-life care (Corr 1992, 2018; Doka 1996; Doka and Tucci 2011; Nolan 2011). Despite this critical academic stance, Kübler-Ross’s work was readily received in popular culture. Newspapers, TV shows, and related books drew on this simple model to explain various aspects of human emotional experience.

The present study aims to explain the divergent processes of institutionalization of Kübler-Ross’s model within popular and professional circles by asking the following questions: 1) How did the work spread in each social context? 2) How was the work received differently in these communities? And 3) How is the work used today? Based on the model’s intrinsic properties outlined above, we would expect to see a standard S-curve of diffusion as Kübler-Ross received international attention in the 1970s. However, Neoinstitutional theory suggests different sites of

reception will influence how cultural innovations pair with unique institutional logics through a process of loose coupling. In other words, by looking at the evolving conversations around Kübler-Ross, we may see that similar rates of diffusion mask important differences in the legitimation of the model in different communities. Lastly, the discursive place Kübler-Ross occupies today sheds light on the institutionalization of the five-stage model. Do people still talk about the five-stages of dying? If so, how? Together these questions probe the diffusion, legitimation, and institutionalization of the five-stage model and its role in shaping modern discussions of death and dying.

Study Design

The Shape of Diffusion

The data for this study comes from two sources. First, to examine the diffusion of Kübler-Ross's five stage model in popular culture I collected all newspaper articles that mention her by name in *The New York Times* between the book's release in 1969 and 2014 (N = 151). These articles were gathered through ProQuest Historical Newspaper Database and were selected based on a Boolean search term that included all seven capitalization and punctuation variations of "Kübler-Ross."⁴ Although the use of *The New York Times* has been criticized for a left-leaning political bias (Earl et al. 2004; Ortiz et al. 2005), this paper's national audience and general-interest emphasis was uniquely qualified to provide a sample with significant coverage and longevity and is routinely used by social scientists (Baumann 2001; Janssen, Kuipers, and Verboord 2008).⁵ Second, to examine the diffusion of Kübler-Ross's five-stage model in professional circles, I collected

⁴ Kübler-Ross, Kubler-Ross, kübler-ross, Kübler Ross, kübler ross, kubler-ross, kubler ross

⁵ For example, *The Wall Street Journal* contained only 10 mentions of Kübler-Ross in this 45-year timespan.

metadata for all academic articles that cite *On Death and Dying* between 1969 and 2017 indexed in the Web of Science database. A subscription-based scientific citation indexing service, Web of Science has become a popular resource for researchers examining citation patterns (Kuhn, Perc, and Helbing 2014; Zhao and Strotmann 2015), and as of 2014 contained over 90 million academic citations from 1900 to the present. Articles were selected based on citation of Kübler-Ross's initial book *On Death and Dying* using the cited reference search functionality.⁶ After Web of Science identified potential book matches, I included any subsequent editions or translations of this work to the selection criteria. The resulting 3,065 articles remains a conservative estimate of professional citations for two reasons. First, while by far the largest citation indexing service, Web of Science does not contain *all* scientific work published after 1900. Second, by selecting only her first book, my selection criteria omit any references to her work that are not properly cited and any references to the five-stage model that cites her later published work. Together I use these two data sources to assess the shape and spread of Kübler-Ross's model in popular and professional circles.

Logics of Legitimation

To examine the logics of legitimation in these two institutional contexts, I go beyond the shape of diffusion and analyze the substantive content of these articles released after 1969. Specifically, I marry traditional content analysis with new advances in computational text analysis to understand this fifty year discursive history. My analytic agenda for the 151 *New York Times* articles consisted of a four-stage classic content analysis (Lofland et al. 2005; Prior 2014). I first read each article and saved general notes in a memo file. With these memos I then generated an open-coding scheme to capture the one overall theme of each article. From this list of 10 to 12 open codes, I developed

⁶ <https://clarivate.libguides.com/woscc/citedreference>

a coding scheme with five mutually exclusive categories: advertising, death and dying, Kübler-Ross as an individual, AIDS-health coverage, and application articles. Finally, each article was assigned to one of these five categories. This series of decisions constitute a rigorous and parsimonious way of interpreting qualitative data and provides insight into the popular coverage of Kübler-Ross and her work (Elliott 2018).

While Web of Science provides metadata for each academic article in my dataset (author, affiliation, date, journal, etc.), it was necessary to look at the content of these articles. Of the 3,065 articles contained in my sample, Web of Science provided abstracts for 1,318. Of the remaining 1,747 articles, my research assistant and I were able to manually find and collect 889 of the article abstracts online. The resulting sample of 2,207 articles contains full citation metadata and complete abstracts for all academic articles that cite Kübler-Ross's *On Death and Dying* between 1969 and 2017.

I used structural topic modeling to identify longitudinal themes in this corpus of academic article abstracts. Developed in 2013, structural topic modeling (stm) builds on Blei and Lafferty's early work on LDA topic modeling and its dynamic variants (Blei 2012; Blei and Lafferty 2006; Roberts, Stewart, and Tingley 2013). Topic modeling has received much attention in cultural sociology for its ability to inductively "code" a large text corpus for emergent themes (Bail 2014; DiMaggio 2015; DiMaggio, Nag, and Blei 2013; Kinney, Davis, and Zhang 2018). Paired with the 2,207 article abstracts and metadata, this technique allows the best way to examine first, how Kübler-Ross's work was received upon its publication, and second, how this work is used in today's research fifty years after its publication.

After pre-processing the text data (converting to lowercase; removing punctuation, stop words, and numbers; and stemming to word roots), I trimmed the vocabulary by removing any

word that only appears in one document. These words will not aid in an understanding of cross-document trends and are routinely removed in preparation for topic modeling. These decisions are often consequential for results of corpus-based text analysis (Denny 2017), and my decision to trim and stem vocabulary came after examining the poorly specified models returned without these initial steps. Researchers must also choose the number of topics (k). There is no “right” answer to the number of topics used to analyze your corpus (Grimmer and Stewart 2013). However, Roberts et al (2013) provide a helpful function that provides approximate “goodness of fit” measures for a range of possible topic values. These measures include held-out likelihood (Wallach et al. 2009), residual analysis (Taddy 2012), semantic coherence (Mimno et al. 2011), and topic exclusivity (Airoldi and Bischof 2016). In addition, Lee and Mimno (2014) have developed an algorithm that calculates the number of topics after projecting a word co-occurrence matrix into low-dimensional space and solving for the convex hull. While not the “true” number of topics in a corpus, this allows a data-driven starting point from which to examine the potential number of topics.

My approach proceeded in three stages. First, I used Lee and Mimno’s (2014) algorithm to identify an approximate number of topics that solves for the convex hull of the word co-occurrence matrix. After five runs, this algorithm returned an average of 73 topics. I then compare a range of related models based on Roberts et al.’s (2013) “goodness of fit” measurements. After testing models ranging from 20 to 100 topics, 70 to 80 emerged as a desirable topic range, confirming the results of Lee and Mimno’s (2014) algorithm. I then tested each model with 70 to 80 topics (70, 71, 72...80), ultimately arriving at 72 as the number of topics that satisfied this suite of fit statistics.⁷ Model in hand, a human reader still finds it hard to interpret a 72-topic model. Presented with a multitude of word probabilities and document compositions, some have likened the

⁷ See Appendix for model diagnostic tests and selection criteria.

researcher’s task to “reading the tea leaves” (Chang et al. 2009). To balance the need for a model with sufficient complexity without sacrificing substantive interpretability, I develop a method for weighting topics according to their corpus coverage. I calculate this corpus coverage weighting (CCW) by using the returned gamma matrix (document-topic proportions) to create a count of how many articles fall under different document proportion thresholds (10% - 60%) for each topic. I then weight these counts according to the document proportion threshold. Formally, this can be described as:

$$CCW_K = (1N_{10} + 2N_{20} + 3N_{30} + 4N_{40} + 5N_{50} + 6N_{60})_K \quad (1)$$

Where for each topic K , N_x represents the number of documents that contain at least x percent of topic K . This corpus coverage weighting balances topics that have both breadth (covering a small amount of many documents) with depth (covering a large amount of few documents) to aid interpretation of large topic models. Once weighted, I subset the top-20 topics (about 1/3 of the model) for subsequent analysis and presentation.⁸

Results

The Shape of Diffusion

Turning first to the *New York Times* data, after an initial spike in coverage the decade after its release, Kübler-Ross enjoyed remarkably steady coverage as shown in Figure 3. Kübler-Ross has appeared by name in the pages of the *New York Times* at least once for 42 of the past 45 years, with an average of three mentions per year after 1990. This remains a conservative estimate, as some articles may discuss her work without reference to her by name.

⁸ See Appendix for CCW heatmap used to select 20-topic subset.

[FIGURE 3 ABOUT HERE]

Turning to the Web of Science data, the academic citation patterns for *On Death and Dying* resemble *New York Times* mentions of Kübler-Ross, albeit on a larger scale. Figure 4 depicts all 3,065 articles indexed on the Web of Science database that include a citation of Kübler-Ross's *On Death and Dying* between 1969 and 2017. After a meteoric rise in the 1970s, the model peaked in 1979. Interestingly, after an apparent plateau from the mid-1980s to the mid-2000s, evocations of the work since 2005 exhibit a similar slope as the model's heyday in the late 1970s. This provides some evidence of a recent resurgence of professional interest in death and dying today.

[FIGURE 4 ABOUT HERE]

Figure 5 plots the cumulative evocations of Kübler-Ross in both datasets. While ostensibly linear, the gray dashed line represents the average slope over the fifty-year time span and reveals subtle similarities. Between 1970 and 1979 we observe the first bend in the S-curve of diffusion as the model starts slow and picks up speed, reaching a relative peak around 1980. Between 1980 and 1990 both trend lines arc back to the average, completing the diffusion cycle. From here the model enjoys relatively stable attention over the past 25 years. These results demonstrate the similar diffusion dynamics in popular and professional circles, while also providing evidence of institutionalization and cultural persistence over the last quarter-century.

[FIGURE 5 ABOUT HERE]

After geo-coding each author affiliation into respective global regions, I also analyze these citations according to their global distribution over time. Figure 6 depicts the global diffusion of Kübler-Ross's work by plotting over 3,000 citations in 62 countries over the last fifty years. Each panel depicts a global region with one line per country representing cumulative citations on a log scale. This log scale allows comparison of both high- and low-citing countries in the same pane.

Unsurprisingly, English-speaking countries (United States, Canada, United Kingdom, and Australia) lead the diffusion process. New Zealand, Mexico, South Africa, and Israel are among the other early adopters, followed closely by industrialized countries in Western Europe. Perhaps more surprising is the influx of citations throughout Asia in the 2000s and a number of consistent citations in the Middle East in the last twenty years. While not apparent on a log scale, the slope of cumulative citations remains roughly linear for most high-citing countries. While future research could analyze the unique historical contexts in which Kübler-Ross entered the academic discourse of each nation, the present findings demonstrate a widespread diffusion and cultural persistence of this model in a global context.

[FIGURE 6 ABOUT HERE]

Logics of Legitimation

Moving beyond rates of diffusion, I examine the content of these articles to assess the divergent logics of legitimation in popular and professional discourse. As mentioned above, for my analysis of the *New York Times* articles I developed a coding scheme with five mutually exclusive categories: advertising, death and dying, Kübler-Ross as an individual, AIDS-health coverage, and application articles. I discuss each of these themes in turn, providing examples of each and summary measures.

Advertising

In the 1970s, 65% of the *New York Times* articles that mentioned Kübler-Ross were advertisements. I define this as any evocation of Kübler-Ross intended to encourage readers to 1)

buy her books, 2) watch television programs, or 3) purchase other books based on her recommendation. Of the entire sample, advertisements make up about 40% of the articles. While most were advertisements for the book *On Death and Dying*, she also appeared regularly on advertised TV programs and occasionally lent recommendations to related books and other media. While advertisements have declined in prominence, they still comprised almost 20% of all mentions between 2010 and 2014.

Death and Dying

The next most common theme in which Kübler-Ross was mentioned were substantive articles about death and dying. I define this category as any evocation of Kübler-Ross that covers the substantive content of her work, the death awareness movement broadly, or changes in attitudes or medical practices surrounding end-of-life issues specifically. Two years after publication, two front page stories detailed the new death awareness movement and spoke positively about Kübler-Ross's five-stage model and the larger attempt to lift the taboo around death and dying in American culture. In an attempt to explain the newfound concern with death, one article muses: "The human need for historical continuity...has been badly shattered by the threat of nuclear destruction, the energy crisis, and the doubt into which the symbols of family, religion, education and government have been thrown in recent years" (Reinhold 1974). This cultural malaise and the loss of traditional value systems is a frequent touch point. Many articles make the connection between a secularizing society, an increasing concern over death, and a large institutional medical system. After quoting the Book of Revelations, one article rejoins, "But how many of us take that sort of thing seriously these days, despite all the Books that it has sold?" (Michaelson 1974). Another asserts that, "as religion has lost its meaning for many people, the clergy no longer plays its traditional role in

providing this type of emotional support" (Altman 1971). In addition to this secularization perspective, the growing medical system receives comparable explanatory weight behind the “avalanche of books” about death and dying. On August 7th, 1972 Kübler-Ross and other prominent physicians testified on a Senate Special Committee on Aging to discuss the consequences of an over-medicalized approach to death: "Dr. Kübler-Ross contends that modern medical institutions sometimes crush the dignity and comfort of a patient even when working to save his life" (Editorial Board of the New York Times 1972). Other issues discussed in the pages of the *New York Times* range from euthanasia to experimental drugs for the terminally ill. Overall, death and dying articles made up 25% of the total sample and appear consistently between 1969 and 2014.

Kübler-Ross as Individual

After widespread success of *On Death and Dying*, Kübler-Ross became a minor celebrity. Articles that spent more time discussing her personal life than her substantive work were coded into this category. Her appearance at conferences, her traveling lectures, and her collection of retreats were covered sporadically, reaching a peak in the 1990s with about 14% of the articles. Her attendance at a 1977 Conference on the Unity of the Sciences received attention due to its financial support from Unification Church leader Sun Myung Moon. Her 1990 speech at a Whole Life Expo – an annual New-Age conference – drew similar attention and hinted at her gradual disappearance from the credible scientific spotlight. Her 2004 obituary chronicles this professional trajectory, acknowledging her contributions to thanatology while nodding to her New-Age spirituality later in life. “In her lectures, she began describing more of her out-of-body experiences, some of which

she said were at first terrifying but ultimately uplifting. She also talked of encountering spirit guides” (Noble 2004). Overall, these articles made up only about 7% of the total sample.

AIDS-Health Coverage

Beginning in the 1980s, Kübler-Ross was evoked in newspaper coverage of the AIDS crisis. The decision to include this as a separate coding category emerged due to these articles’ substantive concentration and the release of Kübler-Ross’s book *AIDS: The Ultimate Challenge* ([1987] 1997), where she applied the five-stages of dying to AIDS patients while also addressing some of the interacting stigma of AIDS as an additional complication in an already death-denying society. For example, one article in this category reviews a theatrical play based on the life of an AIDS patient and their experience of the five-stages of dying. While only comprising 4% of the total sample, this suggests the beginning of a wider trend in applying the five-stage model to other substantive areas.

Application

The most intriguing theme to emerge from this popular coverage were applications of Kübler-Ross’s five-stage model to wildly different subjects. This category was defined as any extra-medical evocation or popular adaptation of Kübler-Ross or her five-stage model. Often found in the opinion or Sunday Review section, authors frequently talk about “*the five-stages of _____*” as an extension of Kübler-Ross’s work. Sometimes serious, sometimes humorous, in the 45-years since publication, there have been articles on the five stages of athletic retirement, book manuscript submissions, surviving New York winters, lawyers mourning the end of the OJ Simpson trial, acclimating to rent prices in New York City, losing power on a hot summer day, reading the

obituary section, couples vacationing, Vatican II-era priests fearing a new wave of conservative priests in the 1980s, suffering through one showing of “Mamma Mia!”, post-9/11 ceremonies, authors handing over their book to a publisher, the GOP’s 2008 election loss, reality show coverage of a character’s sudden death, moving out of New York City, and lastly, the five stages of retirement planning.

Speaking of rent prices in NYC, one real estate manager remarks, "At first, it's outraged denial to the merchandise available and the price levels...Eventually, it reaches the final stage: quiet resignation – you've accepted all this bad news and are quietly trying to deal with it" (Hevesi 1998). Speaking during the aftermath of 9/11, one writer asserts "we are still swinging erratically through the Kübler-Ross playbook. After the attack, anger fought denial to a standoff: No one protested when Hollywood simply edited the twin towers out of movies and television shows" (Rich 2003).

Each of these examples is a testament to the institutionalization of Kübler-Ross’s work in popular culture. “To locate the role of culture and cognition in patterning social action, one must look for evidence that the same set of taken-for-granted models informs discourse *absent the coercive or instrumental constraints of formal institutions*” (Schneiberg and Clemens 2006:211, emphasis added). By evoking the five-stage model in substantive contexts that have nothing to do with the original context of the work, the authors of these articles are demonstrating the pervasive taken-for-grantedness of this cultural model. There is no pressure or encouragement to use this five-stage model to discuss rent prices in New York City, but it nonetheless emerges as a useful cultural lens to address certain topics. Specifically, each article in this thematic category is a concrete and material *frame* (material public culture) that employs Kübler-Ross’s *model of a frame* (immaterial public culture) to activate personal schemas (Wood et al. 2018). While these

application articles made up 23% of the final sample, after 2000 they comprise over half (56%) of all *New York Times* mentions of Kübler-Ross.

Figure 7 shows the longitudinal distribution of each of these five categories over the 45-year sample. Broadly, I argue that these trends represent the commercial-entrepreneurial logic of legitimation within popular discourse. Advertisements clearly dominated early *New York Times* coverage in an attempt to commercialize rising death awareness and the release of Kübler-Ross's book. This theme subsided around the 1990s and was replaced by an entrepreneurial logic of creative applications. People were eager to capitalize on the five-stage model's ability to speak to many social-psychological situations. Together these trends illuminate the logics of legitimation that underlie the initial rate of diffusion and give testament to the model's institutionalization in popular discourse.

[FIGURE 7 ABOUT HERE]

Figure 8a-d presents the results of my structural topic model analysis on 2,207 academic article abstracts that cite Kübler-Ross's *On Death and Dying* between 1969 and 2017. These twenty topics were subset from the full 72-topic model by CCW as described above [see equation (1)]. I present these results by displaying the top-20 words by topic probability (beta) for each topic in the lower panes. These word probabilities are used to determine topic labels and rely on the researcher's subject expertise (DiMaggio et al. 2013; Marshall 2013). Of course, a topic model with high semantic coherence and topic exclusivity will make this task easier, and the results presented in Figure 8a-d demonstrate both of these properties.⁹ In addition to these word probabilities, Figure 8a-d plots the document-topic probability (gamma) over time in the upper

⁹ While many researchers only look at the top ten word probabilities for each topic, I found the top twenty words much easier to interpret. For example, the top ten words in topic 28 in Figure 8c include "cancer", "patient", "advance", "quality", "breast", and "lung." While hinting at a specific malady, displaying additional words like "oncology", "chemotherapy", and "malignant" reveal this topic to be unambiguously about cancer.

panes. Each colored line represents the proportion of text in a given year that concerned a given topic, with solid black lines providing a loess smoothed trend. Broadly, I identify five thematic clusters in the academic discourse surrounding Kübler-Ross over the last fifty years. Presented chronologically, these include death awareness, teaching and research, psychology, application, and current trends. I discuss each of these in detail below.

[FIGURE 8A-D ABOUT HERE]

Death Awareness

The first three topics in Figure 8a speak to initial substantive concerns of the late 60s and early 70s, namely the relationship between dying patients and hospital staff and how this relationship influences end-of-life conversations. The first topic – conversation – contains both “doctor” and “patient”, but also “know”, “truth”, “wish”, “tell”, “inform”, “serious”, “question”, and “prognosis.” This topic comprised nearly 50% of all text between 1969 and 1971. The second and third topics – patient-doctor and personnel – echo this theme, relying heavily on words like “patient” and “physician” while including “problem”, “news”, “ethic”, and “consult.” Patient-doctor themes comprised about 20% of these early articles, with 6% concerning the personnel topic. These findings clearly speak to the social context in which Kübler-Ross’s work was first received. The subtitle of *On Death and Dying: What the Dying Have to Teach Doctors, Nurses, Clergy, and Their Own Families* emphasizes this patient-doctor relationship and puts the dying patient in an active and instructive role. Published four years earlier, Glaser and Strauss’ *Awareness of Dying* ([1965] 2005) focused explicitly on these end-of-life conversations and the need for stronger, more open patient-doctor relationships. While covering a large proportion of early documents, the rapid decline of these early topics presents evidence of the thematic diffusion of Kübler-Ross’s work into other substantive areas. Put differently, the precipitous decline of topic

prevalence we see in these early years should be understood in light of the simultaneous increase of citation volume (see Figure 4). For this reason, each pane in Figure 8a-d has an independent y-axis to better represent trends in topic prevalence.

Teaching & Research

After the death awareness movement took hold in the late 1960s, the medical system actively worked to promote these new approaches to death and dying. As Kübler-Ross's ideas took hold, medical schools, universities, and hospitals worked to set up their own workshops on death and dying. As a topic in this corpus, pedagogy rose to prominence in the late 1970s and early 1980s, and includes words like "curriculum", "design", "instruct", and "educate." Around the same time, there was heightened concern with patient evaluation and symptom measurement. If dying patients proceed through five stages, how should staff we assess their progress? The last topic in Figure 8a and the first topic in Figure 8b speak to these concerns. While substantively similar, these twin topics reveal changing language about this measurement agenda. Early discussions of "symptom", "ratings", and "score" gradually gave way to "validation", "correlation", "measurement", "subscales", and "constructs."

Psychology of Dying

Moving into the 1980s and 1990s, academic research that cited Kübler-Ross turned towards the psychological mechanisms of the dying process. Figure 8b presents cognition as a significant topic in the late 1980s, followed closely by anxiety. Articles that dealt with these topics frequently used words like "denial", "defense", "mechanism", "dementia", "understand", "mind", "anxiety", "belief", and "associations." By outlining five subjective and cognitive stages of the dying process,

the popularity of Kübler-Ross's work encouraged researchers to test, validate, or replace this cognitive aspect (Doka and Tucci 2011). Other cognitive "stage models" emerged in this period, including Worden's "task model" ([1982] 2009) and its subsequent application to death and dying (Corr 1992; Doka 1996).

Application

Like the *New York Times* data, the evocations of Kübler-Ross's work eventually spill outside the substantive boundaries of death and dying. Findings presented in Figure 8b and Figure 8c show three topics – child care, AIDS, and athletics – that apply a five-stage model to various topics. These topics each have a high degree of semantic coherence and identify distinct themes for which one may experience cognitive coping mechanisms. The release of Kübler-Ross's 1987 book on AIDS is clearly reflected in these findings. Surprisingly, the *New York Times* newspaper application to athletics is corroborated with the results of this topic model of academic abstracts. There is significant body of work that cites Kübler-Ross when discussing "injuries", "athlete", "rehabilitation", "post-injury", "recovery", and "self-efficacy." This topic reached nearly 7% of all articles that cited Kübler-Ross in the mid-1990s – a very high topic prevalence score. The remaining topics in Figure 8c include cancer, politics, and organizational themes. While lacking any stark changes over time, these topics make up a strong thematic undercurrent as evidence by their high CCW scores.

Current Trends

Turning finally to Figure 8d, today's discourse surrounding Kübler-Ross is marked by five emergent topics. The first comes after the rise of hospice enrollment and the development of

hospital palliative care units in the mid to late 1980s (Carlson, Devich, and Frank 1988). With words like “hospice”, “palliative”, “home”, “good”, “quality”, and “comfort,” end-of-life care as a topic has grown significantly since the 1970s and is a healthy part of the academic discourse in the last twenty years. Likewise, discussions of grief entered the conversation steadily since the book’s initial release. Interestingly, the application of Kübler-Ross’s five-stage model of dying to the grieving process appears to precede the publication of her book *On Grief and Grieving*, released posthumously in 2005. Based on popular reception, the proper scope of Kübler-Ross’s model has always been fuzzy: who goes through the five stages, patients, doctors, or their families? Do they start with a terminal diagnosis or the moment of death? How might they be different before and after the death of a loved one? This confusion likely arose as a combination of Kübler-Ross’s written imprecision and the collective application of the model to all areas of life (Klass 1982; Konigsberg 2011).

The last three topics in Figure 8d present a type of cultural self-reflection marked by holistic and phenomenological narrative construction. As researchers consistently failed to find evidence for these five stages (Metzger 1980; Schulz and Aderman 1974), the model was increasingly critiqued on normative grounds (Corr 2018). Growing attention to social and cultural diversity made the idea of a one-size-fits-all model of dying suspect. Indeed, Doka and Tucci (2011:v) mark the reception of Kübler-Ross as a change “from grief as universal stages to the recognition of personal pathways.” These personal pathways have been examined along lines of religion (Neimeyer 2002), gender (Martin and Doka 2000), ethnicity (Rosenblatt and Wallace 2005), and spirituality (Garces-Foley 2005). Accordingly, counselors no longer simply watch as patients express emotions and proceed through the five stage. Today’s healthcare staff and chaplains take a much more active role in helping patients cope with the experience of dying and

how it interacts with their personal, religious, and cultural identities (Sanders 1999). The results in Figure 8d depict this remarkable rise of language dealing with memory, narrative, and culture. While one topic includes words like “self”, “stories”, “memory”, “journey”, “construction”, “understand”, another topic takes a wider focus with words like “modern”, “culture”, “discourse”, “beliefs”, “western”, “philosophy”, and “reality.” The last topic takes a methodological angle on this subject, emphasizing qualitative data collection techniques like in-depth interviews, qualitative coding, and notably “phenomenological.”

Broadly, I argue that these trends represent the expert-elaboration logic of legitimation within professional discourse. Early articles citing Kübler-Ross were thematically narrow, dealing with doctor-patient relationships and hospital procedures. Subsequent research involved issues of pedagogy and measurement, as experts sought to validate the five-stage model of death and dying. The last twenty years of academic attention has been on the elaboration of the model: unpacking its potential applications and speaking to its place within wider culture. Together these trends illuminate the logics of legitimation that underlie the initial rate of diffusion and give testament to the model’s institutionalization in professional discourse.

Discussion

In this study I demonstrate the divergent diffusion dynamics of a cultural object as it gains legitimacy and becomes institutionalized in two social contexts. In particular, I examine three stages of this process. First, I analyze the shape of diffusion, or the rate at which an innovation or cultural object spreads throughout a population. Second, I analyze the logic of legitimation, or the institution-specific ways of operating that serve to validate an innovation or cultural object. Lastly, I analyze institutionalization, or the attainment of a self-reproducing “taken-for-grantedness” that

embeds an innovation or cultural object in its socio-cultural environment. To study this process, I examine the institutionalization of Kübler-Ross's five-stage model of death and dying – *denial*, *anger*, *bargaining*, *depression*, and *acceptance*. Released in 1969, I argue this model offered a Weberian rationalization of death and dying that spoke to 1) a growing medical bureaucracy, 2) anti-institutional and individualist sentiment of the 1960s, and 3) rising mortal awareness of the mid-twentieth century. After collecting every *New York Times* article that mentioned “Kübler-Ross” (N = 151) and every academic article that cited *On Death and Dying* after 1969 (N = 3,065), I trace the rate of diffusion and logics of legitimation as this model becomes institutionalized as part of our cultural currency in both popular and professional discourse.

Ultimately, I show how Kübler-Ross's five-stage model enjoyed similar rates of diffusion in popular and professional circles between 1970 and 1990 (see Figure 5). After this initial period of S-shaped diffusion, both the *New York Times* and academic citations remain stable year-over-year for the past twenty-five years, providing evidence for its institutionalization. In this way, I show how Kübler-Ross enjoys a prominent place in our modern cultural conversation of death and dying. Despite similar rates of diffusion, I wed traditional content analysis with structural topic modeling to analyze the divergent logics of legitimation in these two social contexts. After a close-reading of each of the 151 *New York Times* articles that mention Kübler-Ross between 1969 and 2014, I identify five emergent themes that appeared over the past fifty years: advertising, death and dying, Kübler-Ross as individual, AIDS-Health, and applications. After mapping the longitudinal scope of each of these themes in Figure 7, I argue that the two predominant themes (advertising and applications) speak to the commercial-entrepreneurial logic of legitimation within popular discourse. While initial advertising coverage spoke to the commercialization of rising death awareness and Kübler-Ross's book, later entrepreneurial writers took this successful model

and applied it to all sorts of social-psychological situations: the five-stages of athletic retirement, acclimating to rent prices in New York City, losing power on a hot summer day, etc.

Based on the results of a 72-topic model of 2,207 academic article abstracts that cite *On Death and Dying* between 1969 and 2017, I use an original method to extract prominent topics according to corpus coverage weighting (CCW, see equation (1)). These twenty topics are presented in Figure 8a-d and demonstrate the evolution of Kübler-Ross's work within professional circles. In particular, I demonstrate three broad discursive trends. First, I show the initial substantive clarity in which the model was evoked. Early citations of Kübler-Ross were concerned with many of the issues discussed in her book: doctor-patient relationships, hospital personnel, and the improvement of medical operations. Second, I show the professional attempt to evaluate the model as demonstrated by topics of measurement, pedagogy, and evaluation. Lastly, I show the elaboration of the model into extra-medical contexts and the widening scope of Kübler-Ross's relevance, as marked by discussions of western culture, contemporary beliefs, and phenomenology. I argue that these results speak to the expert-elaboration logic of legitimation within professional discourse. While popular ideas are validated through commercial and entrepreneurial means in the *New York Times* as evidenced by advertisements and new and creative substantive applications, professional ideas are validated through expertise and elaboration as evidenced by discussions of evaluation, measurement, and widening scope of relevance.

Importantly, these divergent logics of legitimation converge with the institutionalization of Kübler-Ross's five-stage model of death and dying in both popular and professional circles. Fifty years after its publication, Kübler-Ross's model still appears with regularity in the *New York Times* and academic research on death and dying. In this way, my research speaks to the fruitful synthesis of diffusion studies and Neoinstitutional theory. Methodologically, I offer one example of how

recent advances in computational text analysis can augment traditional approaches to content analysis and serve to uncover theoretically important findings in large-text corpora. By developing a calculation of corpus coverage weighting (CCW) I also offer a new method for sifting through large- k topic models.

Future directions

Employing Wood et al's (2018) concept of *model of a frame* and Lizardo's (2017) distinction between public and personal culture, I argue that Kübler-Ross's five-stage model of death and dying can be understood as a model of a frame that was received as declarative personal culture upon its release. With widespread diffusion, this personal culture was institutionalized and crystallized as a form of immaterial public culture. This is evidenced by the creative application of the model to disparate areas of social life, from retirement and weather patterns to childcare and athletics. Nonetheless, this process of institutionalization remains undertheorized in cultural sociology. Future work should further explicate the translation of a cultural object from declarative personal culture to immaterial public culture. In other words, how do popular ideas come to be shared? While my analysis demonstrated one example of this cultural transition, additional work should attempt a generalizable theoretical framework for cultural diffusion. Analytically, additional work may be done to capitalize on the longitudinal metadata for this type of text corpora by including document-level variables to the structural topic model. This could be used to present the results of a topic model within a traditional regression framework. Controlling for, say, publication date, what effect does author affiliation, country of origin, or publication type have on the thematic content of these articles? This type of work may shed further light on the divergent paths that cultural institutionalization can take when considering multiple discursive communities.

References

- Airoldi, Edoardo M. and Jonathan M. Bischof. 2016. "Improving and Evaluating Topic Models and Other Models of Text." *Journal of the American Statistical Association* 111(516):1381–1403.
- Altman, Lawrence K. 1971. "LSD and Heroin Found Helpful In Treatment of Terminally Ill." *New York Times*, 1.
- Bail, Christopher A. 2014. "The Cultural Environment: Measuring Culture with Big Data." *Theory and Society* 43(3–4):465–82.
- Baumann, Shyon. 2001. "Intellectualization and Art World Development: Film in the United States." *American Sociological Review* 66(3):404–26.
- Becker, Ernest. 1997. *The Denial of Death*. New York: Free Press.
- Bellah, Robert N., Richard Madsen, William M. Sullivan, Ann Swidler, and Steven M. Tipton. 1985. *Habits of the Heart: Individualism and Commitment in American Life*. Berkeley, Calif.: University of California Press.
- Berelson, B. and R. Freedman. 1964. "A Study in Fertility Control." *Scientific American* 210:29–37.
- Berger, Peter L. and Thomas Luckmann. 1967. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. New York: Anchor.
- Blei, D. M. 2012. "Probabilistic Topic Models." *Communications Of The Acm* 55(4):77–84.
- Blei, David M. and John D. Lafferty. 2006. "Dynamic Topic Models." Pp. 113–120 in *Proceedings of the 23rd international conference on Machine learning*. ACM.
- Bloom, Harold. 1992. *The American Religion: The Emergence of the Post-Christian Nation*. New York: Simon & Schuster.
- Bourdieu, Pierre. 1977. *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- Bowers, Raymond V. 1937. "The Direction of Intra-Societal Diffusion." *American Sociological Review* 2(6):826–36.
- Bowers, Raymond V. 1938. "Differential Intensity of Intra-Societal Diffusion." *American Sociological Review* 3(1):21–31.
- Brubaker, Rogers. 1984. *The Limits of Rationality*. London: Routledge.
- Carlson, Richard O. 1965. *Adoption of Educational Innovations*. Eugene: Center for the Advanced Study of Educational Administration, University of Oregon.

- Carlson, Richard W., Lynn Devich, and Robert R. Frank. 1988. "Development of a Comprehensive Supportive Care Team for the Hopelessly Ill on a University Hospital Medical Service." *JAMA* 259(3):378–83.
- Chan, Cheris Shun-ching. 2012. *Marketing Death: Culture and the Making of a Life Insurance Market in China*. 1 edition. New York, N.Y: Oxford University Press.
- Chang, Jonathan, Jordan Boyd-Graber, Chong Wang, Sean Gerrish, and David M. Blei. 2009. "Reading Tea Leaves: How Humans Interpret Topic Models." in *Neural Information Processing Systems*. Vancouver, BC.
- Chaves, Mark. 1996. "Ordaining Women: The Diffusion of an Organizational Innovation." *American Journal of Sociology* 101(4):840–73.
- Cherlin, Andrew J. 2004. "The Deinstitutionalization of American Marriage." *Journal of Marriage and Family* 66(4):848–61.
- Cherlin, Andrew J. 2010. *The Marriage-Go-Round: The State of Marriage and the Family in America Today*. New York, N.Y: Vintage.
- Christin, Angèle. 2018. "Counting Clicks: Quantification and Variation in Web Journalism in the United States and France." *American Journal of Sociology* 123(5):1382–1415.
- Collins, Randall. 1980. "Weber's Last Theory of Capitalism: A Systematization." *American Sociological Review* 45(6):925–42.
- Corr, Charles A. 1992. "A Task-Based Approach to Coping with Dying." *OMEGA - Journal of Death and Dying* 24(2):81–94.
- Corr, Charles A. 2018. "The 'Five Stages' in Coping with Dying and Bereavement: Strengths, Weaknesses and Some Alternatives." *Mortality* 24(3):1–13.
- Denny, Matthew. 2017. "Replication Data for: Text Preprocessing For Unsupervised Learning: Why It Matters, When It Misleads, And What To Do About It."
- DiMaggio, Paul. 1997. "Culture and Cognition." *Annual Review of Sociology* 23:263–87.
- DiMaggio, Paul. 2015. "Adapting Computational Text Analysis to Social Science (and Vice Versa)." *Big Data & Society* 2(2):2053951715602908.
- DiMaggio, Paul J. and Walter W. Powell. 1983. "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields." *American Sociological Review* 48(2):147–60.
- DiMaggio, Paul, Manish Nag, and David Blei. 2013. "Exploiting Affinities between Topic Modeling and the Sociological Perspective on Culture: Application to Newspaper Coverage of U.S. Government Arts Funding." *Poetics* 41(6):570–606.

- Doka, Kenneth J. 1996. "Coping with Life-Threatening Illness: A Task Model." *OMEGA - Journal of Death and Dying* 32(2):111–22.
- Doka, Kenneth J. and Amy S. Tucci, eds. 2011. *Beyond Kubler-Ross: New Perspectives of Death, Dying and Grief*. Washington, DC: Hospice Foundation of America.
- Douglas, Ann. 1998. *Feminization of American Culture*. New York: Farrar, Straus and Giroux.
- Earl, Jennifer, Andrew Martin, John D. McCarthy, and Sarah A. Soule. 2004. "The Use of Newspaper Data in the Study of Collective Action." *Annual Review of Sociology* 30:65–80.
- Editorial Board of the New York Times. 1972. "Doctors Divided Over Euthanasia: Physicians Testify Before Senate Panel on Aging." *New York Times*, 15.
- Elliott, Victoria. 2018. "Thinking about the Coding Process in Qualitative Data Analysis." *The Qualitative Report* 23(11):2850–61.
- Faust, Drew Gilpin. 2009. *This Republic of Suffering: Death and the American Civil War*. New York: Vintage.
- Feifel, Herman. 1959. *The Meaning of Death*. New York: McGraw-Hill.
- Fischer, Claude S. 1992. *America Calling: A Social History of the Telephone to 1940*. University of California Press.
- Friedan, Betty. 1963. *The Feminine Mystique*. W. W. Norton & Company.
- Gamson, William A. and Andre Modigliani. 1989. "Media Discourse and Public Opinion on Nuclear Power: A Constructionist Approach." *American Journal of Sociology* 95(1):1–37.
- Garces-Foley, Kathleen. 2005. *Death and Religion in a Changing World*. Princeton, N.J.: Routledge.
- Gawande, Atul. 2014. *Being Mortal: Medicine and What Matters in the End*. 1 edition. New York: Metropolitan Books.
- Glaser, Barney G. and Anselm L. Strauss. 2005. *Awareness of Dying*. New Brunswick, NJ: Aldine Transaction.
- Goel, Sharad, Ashton Anderson, Jake Hofman, and Duncan J. Watts. 2015. "The Structural Virality of Online Diffusion." *Management Science* 62(1):180–96.
- Gouldner, Alvin Ward. 1954. *Patterns of Industrial Bureaucracy*. Glencoe, Ill.: Free Press.
- Gray, Bradford H. 1991. *The Profit Motive and Patient Care: The Changing Accountability of Doctors and Hospitals*. Cambridge, Mass.: Harvard University Press.

- Grimmer, Justin and Brandon. M. Stewart. 2013. "Text as Data: The Promise and Pitfalls of Automatic Content Analysis Methods for Political Texts." *Political Analysis* 21(3):267–97.
- Hallett, Tim and Marc J. Ventresca. 2006. "How Institutions Form: Loose Coupling as Mechanism in Gouldner's Patterns of Industrial Bureaucracy." *American Behavioral Scientist* 49(7):908–24.
- Hevesi, Dennis. 1998. "In 'Rent' 1998, the Renters Sing the Blues." *New York Times*, June 28.
- Hiatt, Shon R., Wesley D. Sine, and Pamela S. Tolbert. 2009. "From Pabst to Pepsi: The Deinstitutionalization of Social Practices and the Creation of Entrepreneurial Opportunities." *Administrative Science Quarterly* 54(4):635–67.
- Hinton, J. 1963. "The Physical and Mental Distress of the Dying." *Quarterly Journal of Medicine, New Series* 32:1–21.
- Hirsch, Paul M. 1972. "Processing Fads and Fashions: An Organization-Set Analysis of Cultural Industry Systems." *American Journal of Sociology* 77(4):639–59.
- Howarth, Glennys. 2007. *Death and Dying: A Sociological Introduction*. Cambridge, UK; Malden, MA: Polity.
- Janssen, Susanne, Giselinde Kuipers, and Marc Verboord. 2008. "Cultural Globalization and Arts Journalism: The International Orientation of Arts and Culture Coverage in Dutch, French, German, and U.S. Newspapers, 1955 to 2005." *American Sociological Review* 73(5):719–40.
- Jepperson, Ronald L. 1991. "Institutions, Institutional Effects, and Institutionalism." Pp. 143–63 in *The New Institutionalism in Organizational Analysis*, edited by W. W. Powell and P. J. DiMaggio. Chicago: University of Chicago Press.
- Johnson, Cathryn, Timothy J. Dowd, and Cecilia L. Ridgeway. 2006. "Legitimacy as a Social Process." *Annual Review of Sociology* 32:53–78.
- Kalanithi, Paul and Abraham Verghese. 2016. *When Breath Becomes Air*. New York: Random House.
- Kalberg, Stephen. 1980. "Max Weber's Types of Rationality: Cornerstones for the Analysis of Rationalization Processes in History." *American Journal of Sociology* 85(5):1145–79.
- Kinney, Alexander B., Andrew P. Davis, and Yongjun Zhang. 2018. "Theming for Terror: Organizational Adornment in Terrorist Propaganda." *Poetics* 69:27–40.
- Klass, Dennis. 1982. "Elisabeth Kubler-Ross and the Tradition of the Private Sphere: An Analysis of Symbols." *OMEGA - Journal of Death and Dying* 12(3):241–67.

- Klass, Dennis and Richard A. Hutch. 1986. "Elisabeth Kubler-Ross as a Religious Leader." *OMEGA - Journal of Death and Dying* 16(2):89–109.
- Konigsberg, Ruth Davis. 2011. *The Truth About Grief: The Myth of Its Five Stages and the New Science of Loss*. New York London Toronto Sydney: Simon & Schuster.
- Kubler-Ross, Elisabeth. 1997. *AIDS: The Ultimate Challenge*. 2nd edition. New York, NY: Scribner.
- Kübler-Ross, Elisabeth. 2005. *On Grief and Grieving: Finding the Meaning of Grief Through the Five Stages of Loss*. Scribner.
- Kuhn, Tobias, Matjaž Perc, and Dirk Helbing. 2014. "Inheritance Patterns in Citation Networks Reveal Scientific Memes." *Physical Review X* 4(4):041036.
- Kutscher, Austin H. 1983. *Hospice U.S.A.* New York: Columbia University Press.
- Laderman, Gary. 1999. *The Sacred Remains: American Attitudes Toward Death, 1799-1883*. New Haven: Yale University Press.
- Laderman, Gary. 2005. *Rest in Peace: A Cultural History of Death and the Funeral Home in Twentieth-Century America*. 1 edition. New York: Oxford University Press.
- Lamers, William M. 2012. "Herman Feifel, The Meaning of Death." *Mortality* 17(1):64–78.
- Lechner, Frank J. 2018. "Versions of Vocation: Max Weber's 'Wissenschaft Als Beruf' in Translation." *Max Weber Studies* 18(2):274–93.
- LeShan, L. 1964. "The World of the Patient in Severe Pain of Long Duration." *Journal of Chronic Diseases* 17:119–26.
- Livne, Roi. 2014. "Economies of Dying The Moralization of Economic Scarcity in US Hospice Care." *American Sociological Review* 79(5):888–911.
- Lizardo, Omar. 2017. "Improving Cultural Analysis: Considering Personal Culture in Its Declarative and Nondeclarative Modes." *American Sociological Review* 82(1):88–115.
- Lofland, John, David A. Snow, Leon Anderson, and Lyn H. Lofland. 2005. *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis*. 4 edition. Belmont, CA: Wadsworth Publishing.
- Maciejewski, Paul K., Baohui Zhang, Susan D. Block, and Holly G. Prigerson. 2007. "An Empirical Examination of the Stage Theory of Grief." *JAMA* 297(7):716–23.
- Maguire, Steve and Cynthia Hardy. 2009. "Discourse and Deinstitutionalization: The Decline of DDT." *The Academy of Management Journal* 52(1):148–78.
- Marshall, Emily A. 2013. "Defining Population Problems: Using Topic Models for Cross-National Comparison of Disciplinary Development." *Poetics* 41(6):701–24.

- Martin, Terry L. and Kenneth J. Doka. 2000. *Men Don't Cry, Women Do: Transcending Gender Stereotypes of Grief*. Philadelphia, Pa.: Brunner/Mazel.
- Metzger, Anne M. 1980. "A Q-Methodological Study of the Kubler-Ross Stage Theory." *OMEGA - Journal of Death and Dying* 10(4):291–301.
- Meyer, John W. and Brian Rowan. 1977. "Institutionalized Organizations: Formal Structure as Myth and Ceremony." *American Journal of Sociology* 83(2):340–63.
- Michaelson, Michael G. 1974. "The Denial of Death." *New York Times*, 259.
- Mimno, David and Moontae Lee. 2014. "Low-Dimensional Embeddings for Interpretable Anchor-Based Topic Inference." Pp. 1319–1328 in *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Doha, Qatar: Association for Computational Linguistics.
- Mimno, David, Hanna M. Wallach, Edmund Talley, Miriam Leenders, and Andrew McCallum. 2011. "Optimizing Semantic Coherence in Topic Models." Pp. 262–272 in *Proceedings of the Conference on Empirical Methods in Natural Language Processing, EMNLP '11*. Stroudsburg, PA, USA: Association for Computational Linguistics.
- Mitford, Jessica. 1963. *The American Way of Death*. New York: Simon & Schuster.
- Neimeyer, Robert A. 2002. "Traumatic Loss and the Reconstruction of Meaning." *Journal of Palliative Medicine* 5(6):935.
- Noble, Holcomb B. 2004. "Elizabeth Kübler-Ross, 78, Dies; Psychiatrist Revolutionized Care of the Terminally Ill." *New York Times*.
- Nolan, Steve. 2011. "Hope beyond (Redundant) Hope: How Chaplains Work with Dying Patients." *Palliative Medicine* 25(1):21–25.
- Oliver, Christine. 1992. "The Antecedents of Deinstitutionalization." *Organization Studies* 13(4):563–88.
- Ortiz, David G., Daniel J. Myers, Eugene N. Walls, and Maria-Elena Diaz. 2005. "Where Do We Stand with Newspaper Data?" *Mobilization: An International Quarterly* 10:397–419.
- Potter, Sharyn J. 2001. "A Longitudinal Analysis of the Distinction between For-Profit and Not-for-Profit Hospitals in America." *Journal of Health and Social Behavior* 42(1):17–44.
- Potter, Sharyn J. and Timothy J. Dowd. 2003. "Executive Turnover and the Legal Environment: The Case of California Hospitals, 1960-1995." *Sociological Forum* 18(3):441–64.
- Potter, Sharyn J. and John B. McKinlay. 2005. "From a Relationship to Encounter: An Examination of Longitudinal and Lateral Dimensions in the Doctor–Patient Relationship." *Social Science & Medicine* 61(2):465–79.

- Prior, Lindsay. 2014. "Content Analysis." *The Oxford Handbook of Qualitative Research*.
- Putnam, Robert D. and David E. Campbell. 2012. *American Grace: How Religion Divides and Unites Us*. New York: Simon & Schuster.
- Reinhold, Robert. 1974. "Attitudes to Death Grow More Realistic." *New York Times*, 1.
- Rich, Frank. 2003. "Ground Zero or Bust." *New York Times*, July 13.
- Ritzer, George. 1998. *The McDonaldization Thesis Explorations and Extensions*. London ; Thousand Oaks, Calif.: SAGE Publications.
- Roberts, Margaret E., Brandon M. Stewart, and Dustin Tingley. 2013. "Stm: R Package for Structural Topic Models." *Journal of Statistical Software* 42.
- Roberts, Margaret E., Brandon M. Stewart, Dustin Tingley, Christopher Lucas, Jetson Leder-Luis, Shana Kushner Gadarian, Bethany Albertson, and David G. Rand. 2014. "Structural Topic Models for Open-Ended Survey Responses: STRUCTURAL TOPIC MODELS FOR SURVEY RESPONSES." *American Journal of Political Science* 58(4):1064–82.
- Rogers, Everett M. 2003. *Diffusion of Innovations*. 5th edition. New York: Free Press.
- Rosenblatt, Paul C. and Beverly R. Wallace. 2005. *African American Grief*. Hoboken: Taylor and Francis.
- Rossman, Gabriel. 2012. *Climbing the Charts What Radio Airplay Tells Us about the Diffusion of Innovation*. Princeton: Princeton University Press.
- Rossman, Gabriel, Ming Ming Chiu, and Joeri M. Mol. 2008. "Modeling Diffusion of Multiple Innovations via Multilevel Diffusion Curves: Payola in Pop Music Radio." *Sociological Methodology* 38:201–30.
- Ryan, Bryce and Neal C. Gross. 1943. "The Diffusion of Hybrid Seed Corn In Two Iowa Communities." *Rural Sociology* 8(1):15–24.
- Sanders, Catherine M. 1999. *Grief: The Mourning After: Dealing with Adult Bereavement*. 2nd edition. New York: JWiley.
- Sanders, George. 2010. "The Dismal Trade as Culture Industry." *Poetics* 38(1):47–68.
- Schneiberg, Marc. 2005. "Combining New Institutionalisms: Explaining Institutional Change in American Property Insurance." *Sociological Forum* 20(1):93–137.
- Schneiberg, Marc and Elisabeth S. Clemens. 2006. "The Typical Tools for the Job: Research Strategies in Institutional Analysis." *Sociological Theory* 24(3):195–227.
- Schulz, Richard and David Aderman. 1974. "Clinical Research and the Stages of Dying." *OMEGA - Journal of Death and Dying* 5(2):137–43.

- Sica, Alan. 2000. "Rationalization and Culture." Pp. 42–58 in *The Cambridge Companion to Weber*.
- Starr, Paul. 1982. *The Social Transformation of American Medicine*. New York: Basic Books.
- Swidler, Ann. 1973. "The Concept of Rationality in the Work of Max Weber." *Sociological Inquiry* 43(1):35–42.
- Swidler, Ann. 1986. "Culture in Action: Symbols and Strategies." *American Sociological Review* 51(2):273–86.
- Swidler, Ann. 1993. "Foreword." in *The Sociology of Religion*. Boston: Beacon Press.
- Taddy, MA. 2012. "On Estimation and Selection for Topic Models." in *the 15th International Conference on Artificial Intelligence and Statistics*.
- Taylor, Charles. 1992. *The Ethics of Authenticity*. Cambridge, Mass: Harvard University Press.
- Tipton, Steven M. 1982. *Getting Saved from the Sixties: Moral Meaning in Conversion and Cultural Change*. Berkeley: University of California Press.
- Trilling, Lionel. 1973. *Sincerity and Authenticity*. Cambridge, Mass.: Harvard University Press.
- US Census Bureau. 2012. "U.S. Census Bureau Projections Show a Slower Growing, Older, More Diverse Nation a Half Century from Now." Retrieved September 20, 2017 (<https://www.census.gov/newsroom/releases/archives/population/cb12-243.html>).
- Voas, David and Mark Chaves. 2016. "Is the United States a Counterexample to the Secularization Thesis?" *American Journal of Sociology* 121(5):1517–56.
- Wallach, Hanna M., Iain Murray, Ruslan Salakhutdinov, and David Mimno. 2009. "Evaluation Methods for Topic Models." Pp. 1–8 in. ACM Press.
- Washington, Marvin and Marc J. Ventresca. 2004. "How Organizations Change: The Role of Institutional Support Mechanisms in the Incorporation of Higher Education Visibility Strategies, 1874-1995." *Organization Science* 15(1):82–97.
- Weber, Max. 2011. *The Protestant Ethic and the Spirit of Capitalism*. New York: Oxford University Press.
- Wohlfeiler, D. 1998. "Community Organizing and Community Building Among Gay and Bisexual Men: The Stop Aids Project." Pp. 230–43 in *Community Organizing and Community Building for Health*, edited by M. Minkler.
- Wood, Michael Lee, Dustin S. Stoltz, Justin Van Ness, and Marshall A. Taylor. 2018. "Schemas and Frames." *Sociological Theory* 36(3):244–61.
- Worden, J. William. 2009. *Grief Counseling and Grief Therapy a Handbook for the Mental Health Practitioner*. 4th ed. New York, NY: Springer PubCo.

- Xu, Weiai Wayne, Ji Young Park, Ji Young Kim, and Han Woo Park. 2016. "Networked Cultural Diffusion and Creation on YouTube: An Analysis of YouTube Memes." *Journal of Broadcasting & Electronic Media* 60(1):104–22.
- Zelizer, Viviana A. 1978. "Human Values and the Market: The Case of Life Insurance and Death in 19th-Century America." *American Journal of Sociology* 84(3):591–610.
- Zhao, Dangzhi and Andreas Strotmann. 2015. *Analysis and Visualization of Citation Networks*. San Rafael, California (1537 Fourth Street, San Rafael, CA 94901 USA): Morgan & Claypool.
- Zucker, Lynne G. 1977. "The Role of Institutionalization in Cultural Persistence." *American Sociological Review* 42(5):726–43.
- Zucker, Lynne G. 1988. "Where Do Institutional Patterns Come from? Organizations as Actors in Social Systems." Pp. 23–49 in *Institutional Patterns and Organizations: Culture and Environment*. Cambridge, Mass: Ballinger Publishing Company.

Tables & Figures

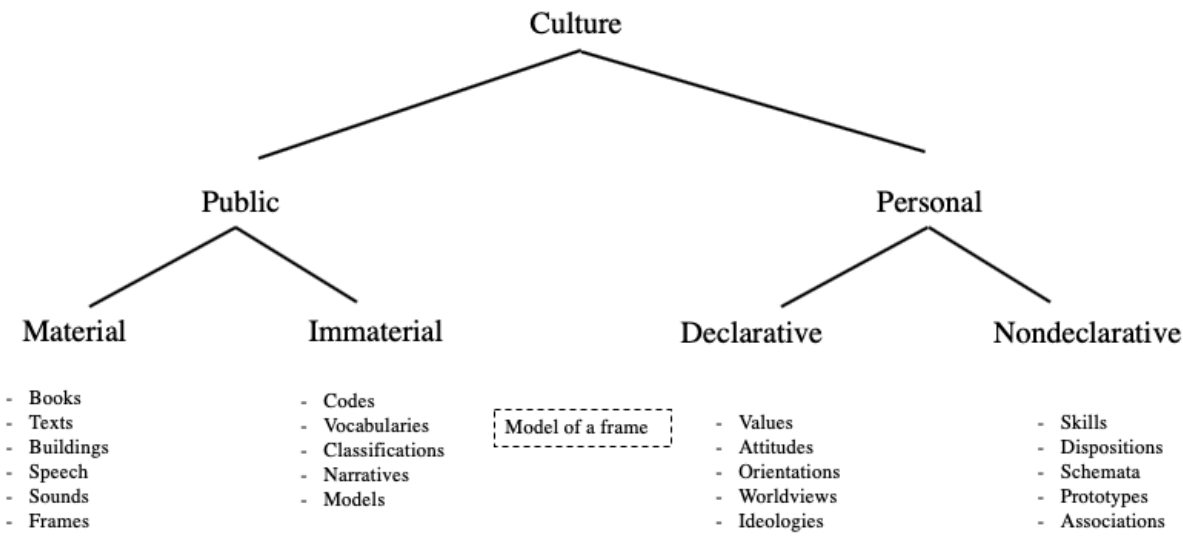


Figure 1: Public and personal culture. Adapted from Lizardo (2017:94) and Wood et al. (2018).

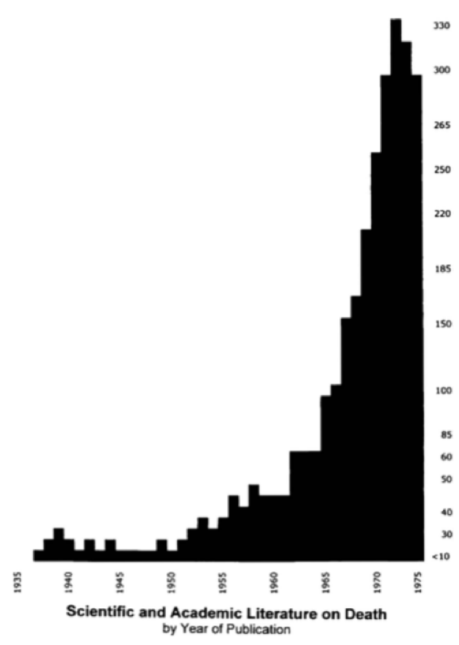


Figure 2: Scientific and Academic Literature on Death (adapted from Lamers 2012)

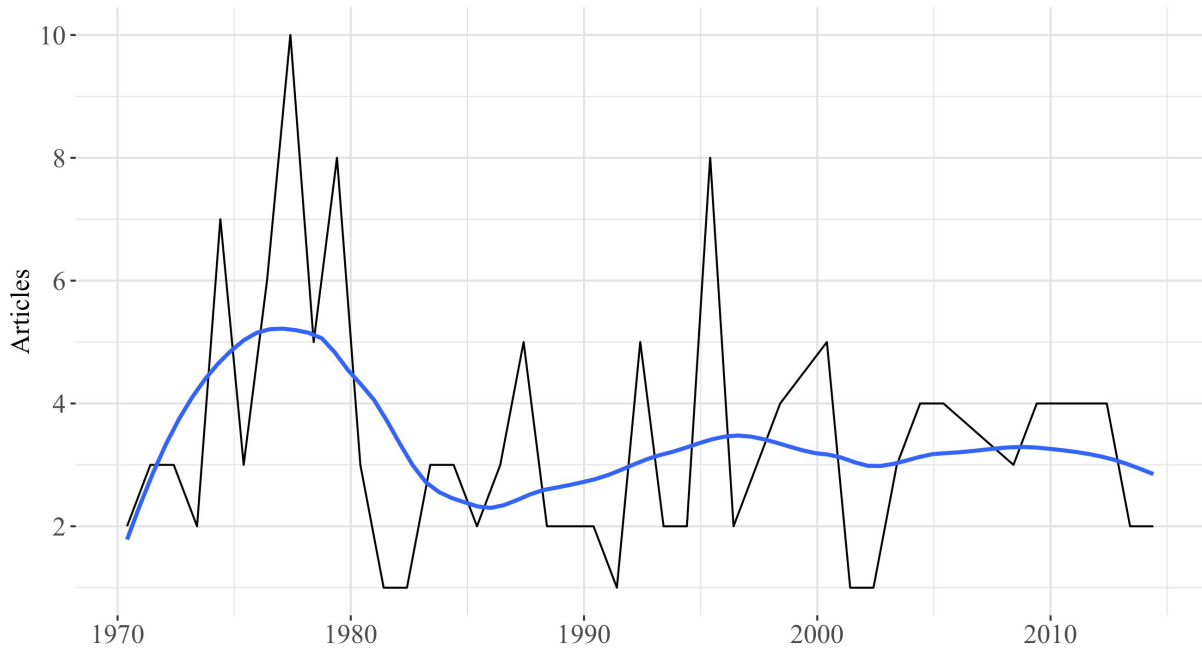


Figure 3: All Kübler-Ross mentions in the *New York Times* 1969 – 2014

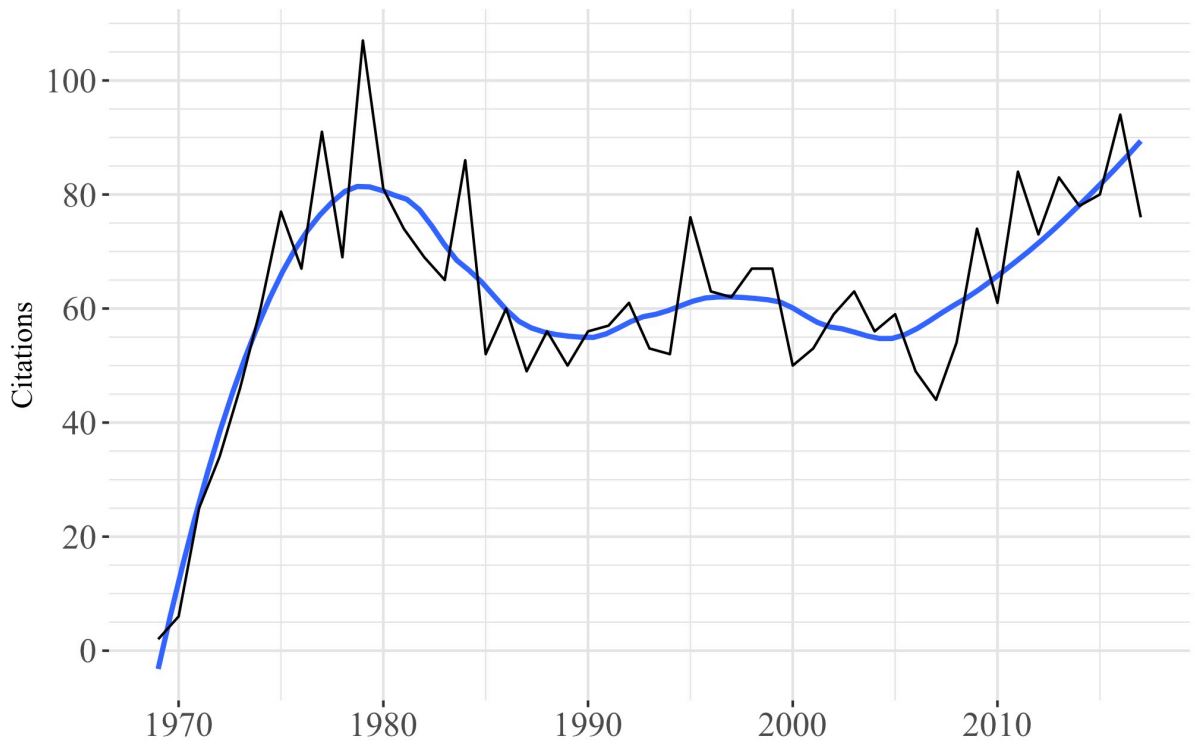


Figure 4: Academic citations for *On Death and Dying* 1969-2017

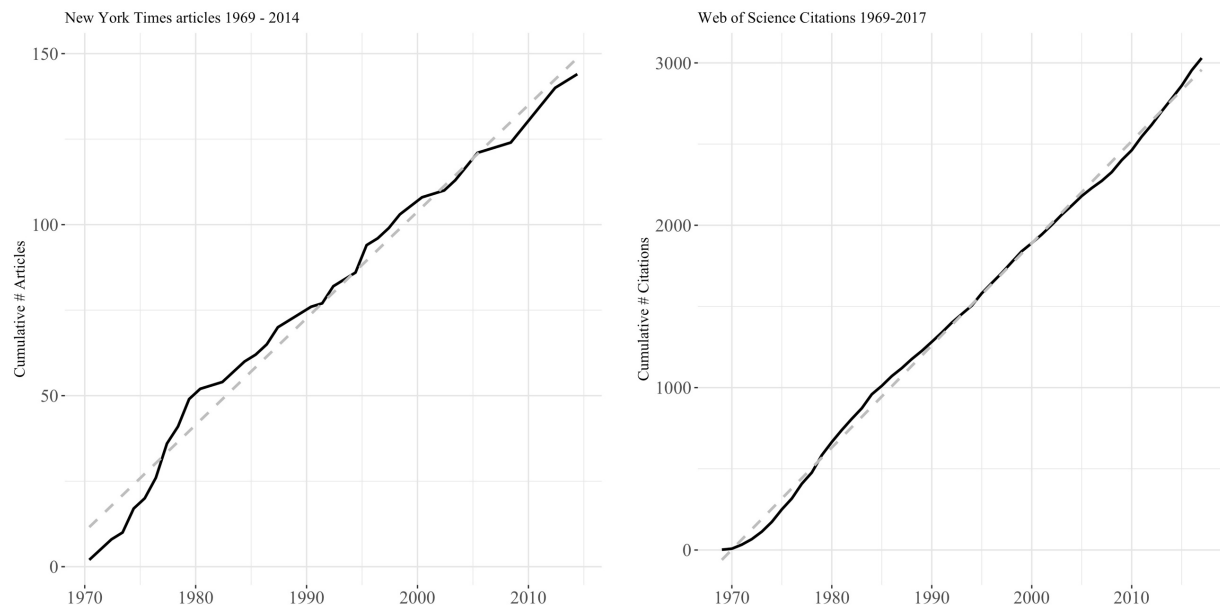


Figure 5: Diffusion of Kübler-Ross in both popular and professional contexts



Figure 6: Global diffusion of 3,065 citations of *On Death and Dying* in 62 countries 1969-2018

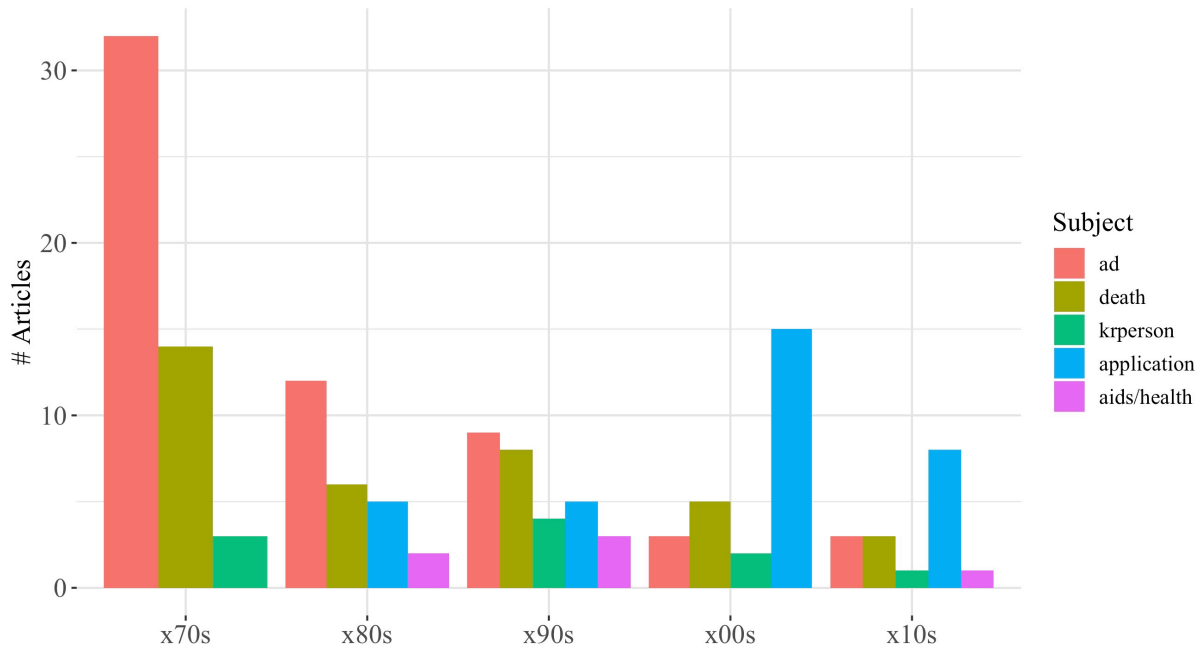


Figure 7: Five emergent themes from all Kübler-Ross mentions in the *New York Times* 1969 – 2014

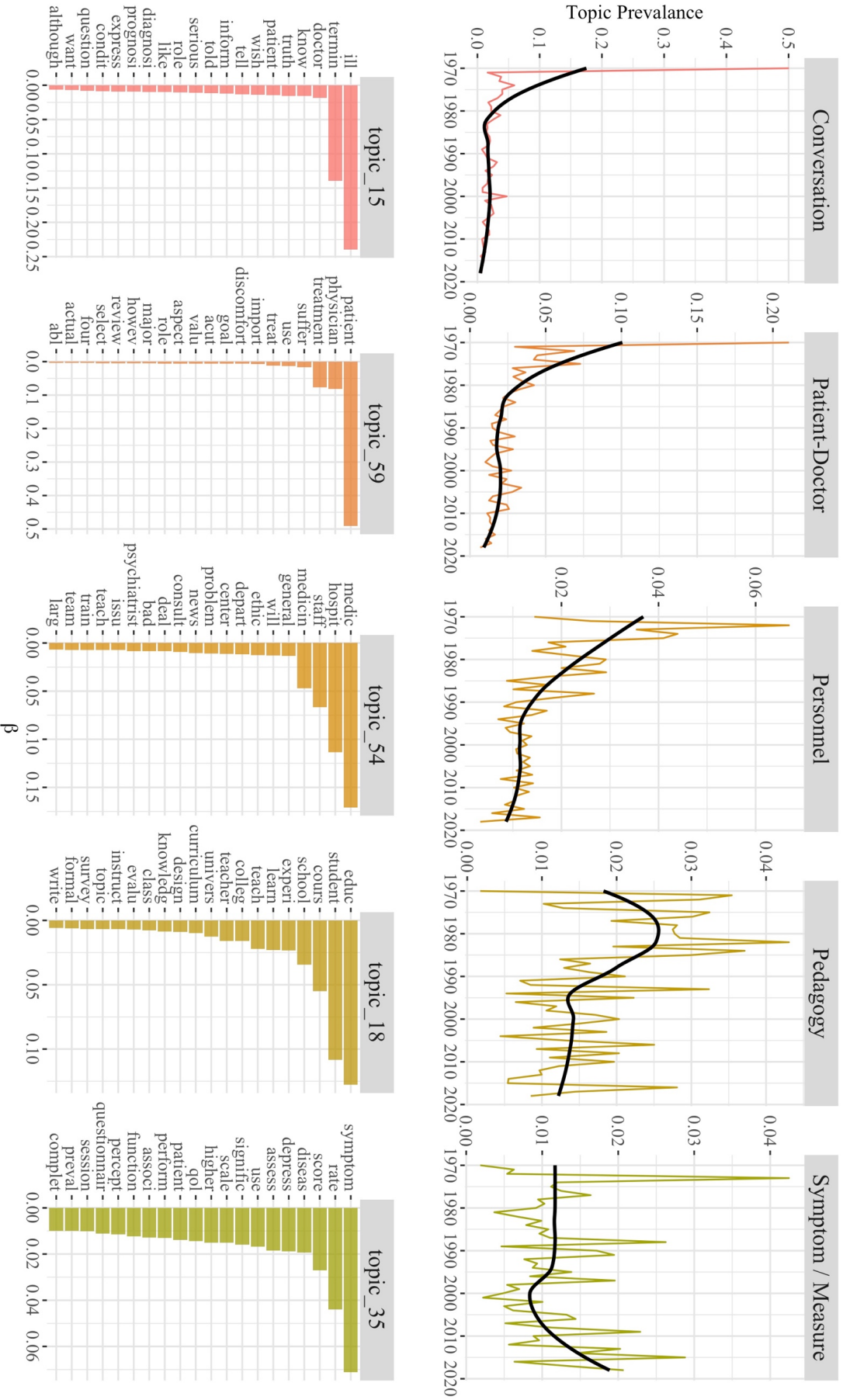


Figure 8a: Topic composition and longitudinal trends

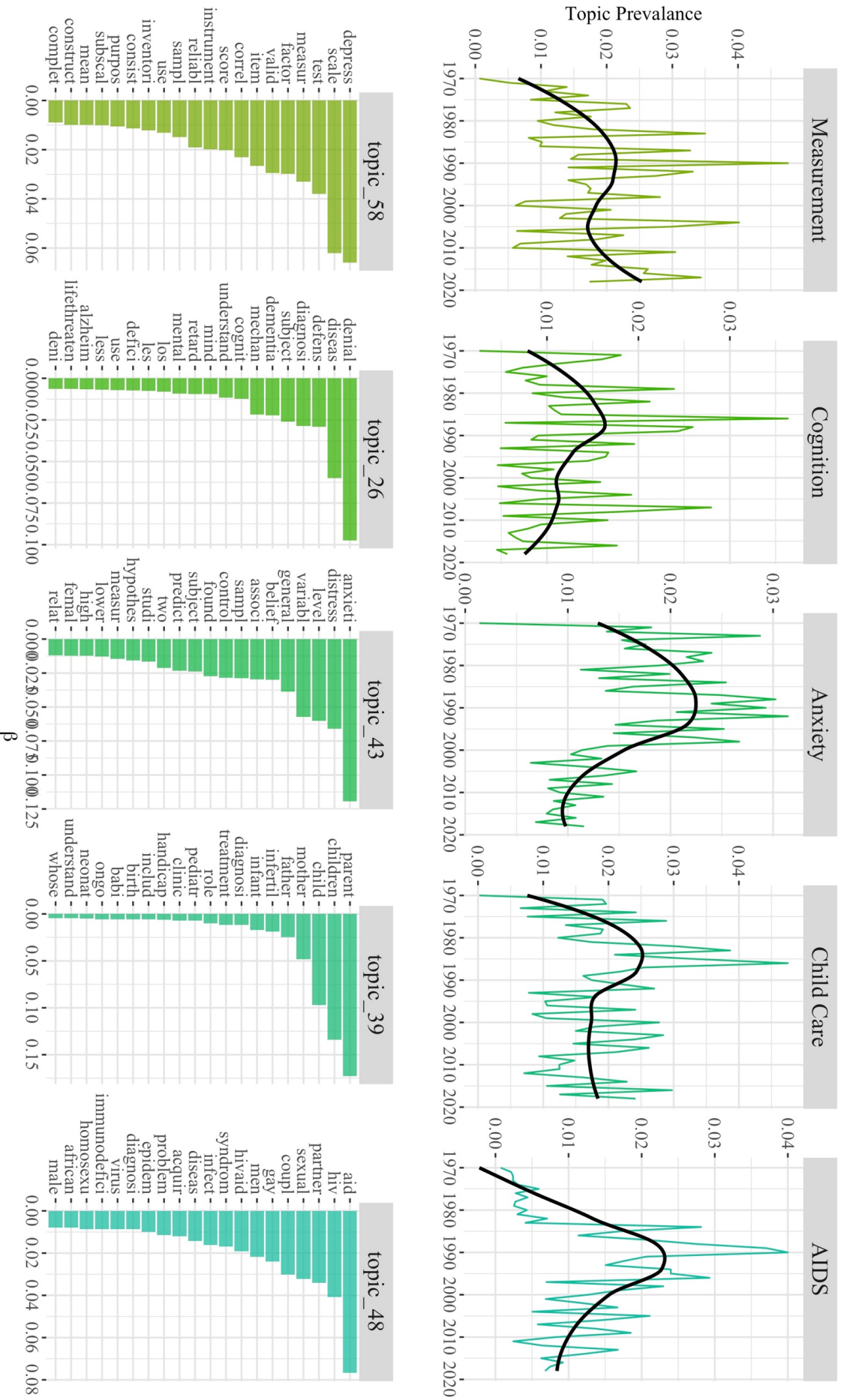


Figure 8b: Topic composition and longitudinal trends

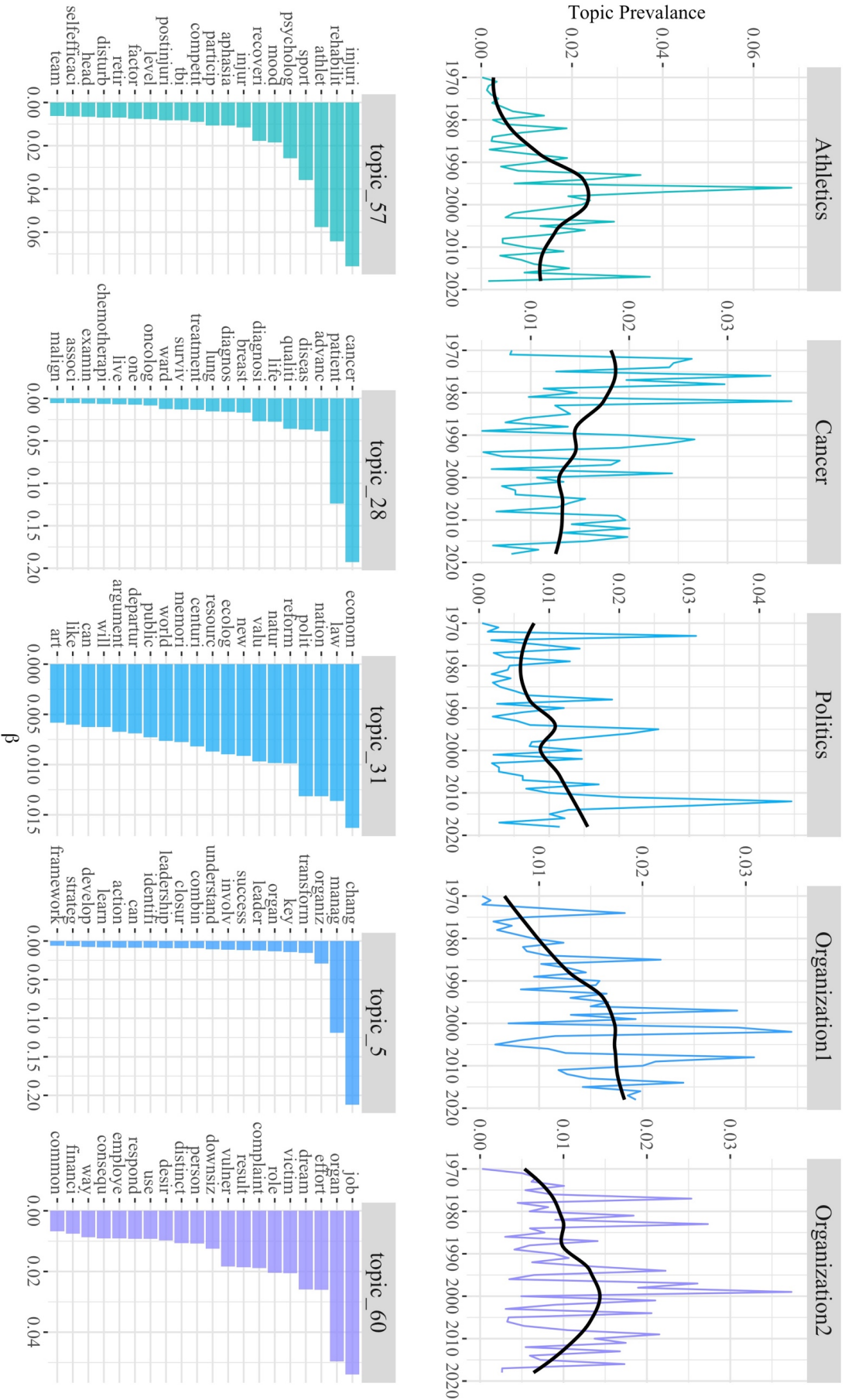


Figure 8c: Topic composition and longitudinal trends

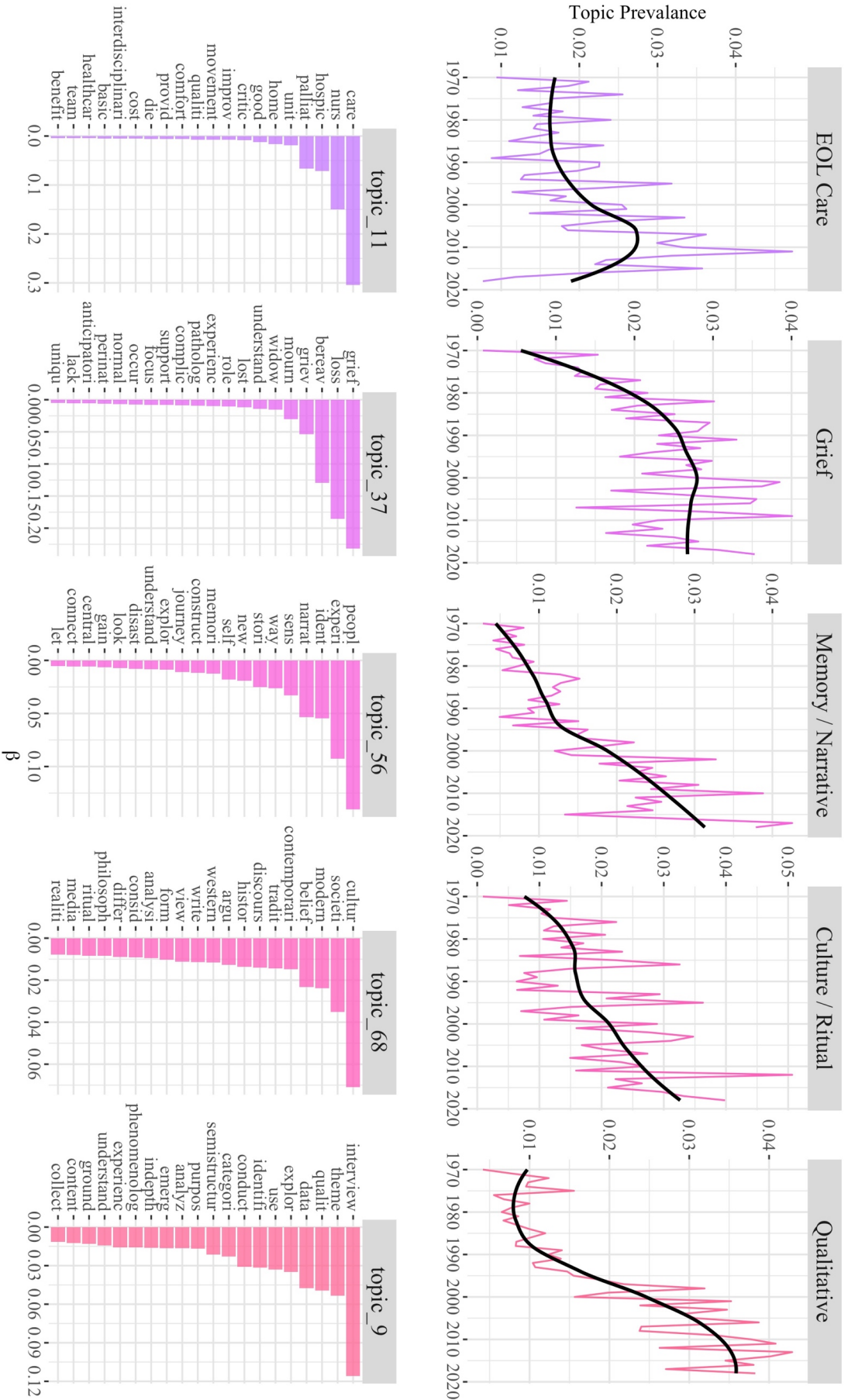


Figure 8d: Topic composition and longitudinal trends

Appendix

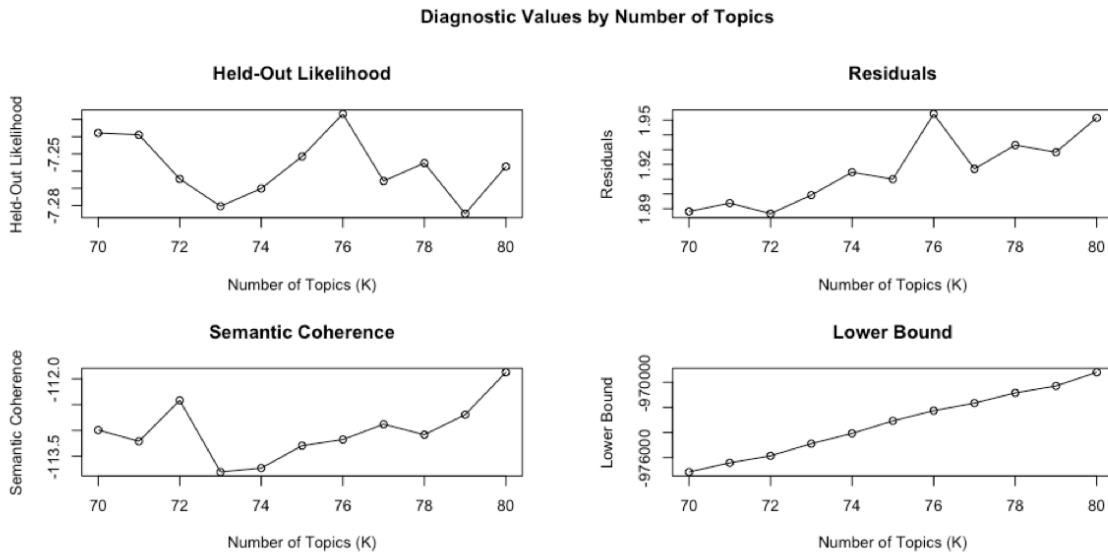


Figure A1: Diagnostic measures and selection criteria for topic model

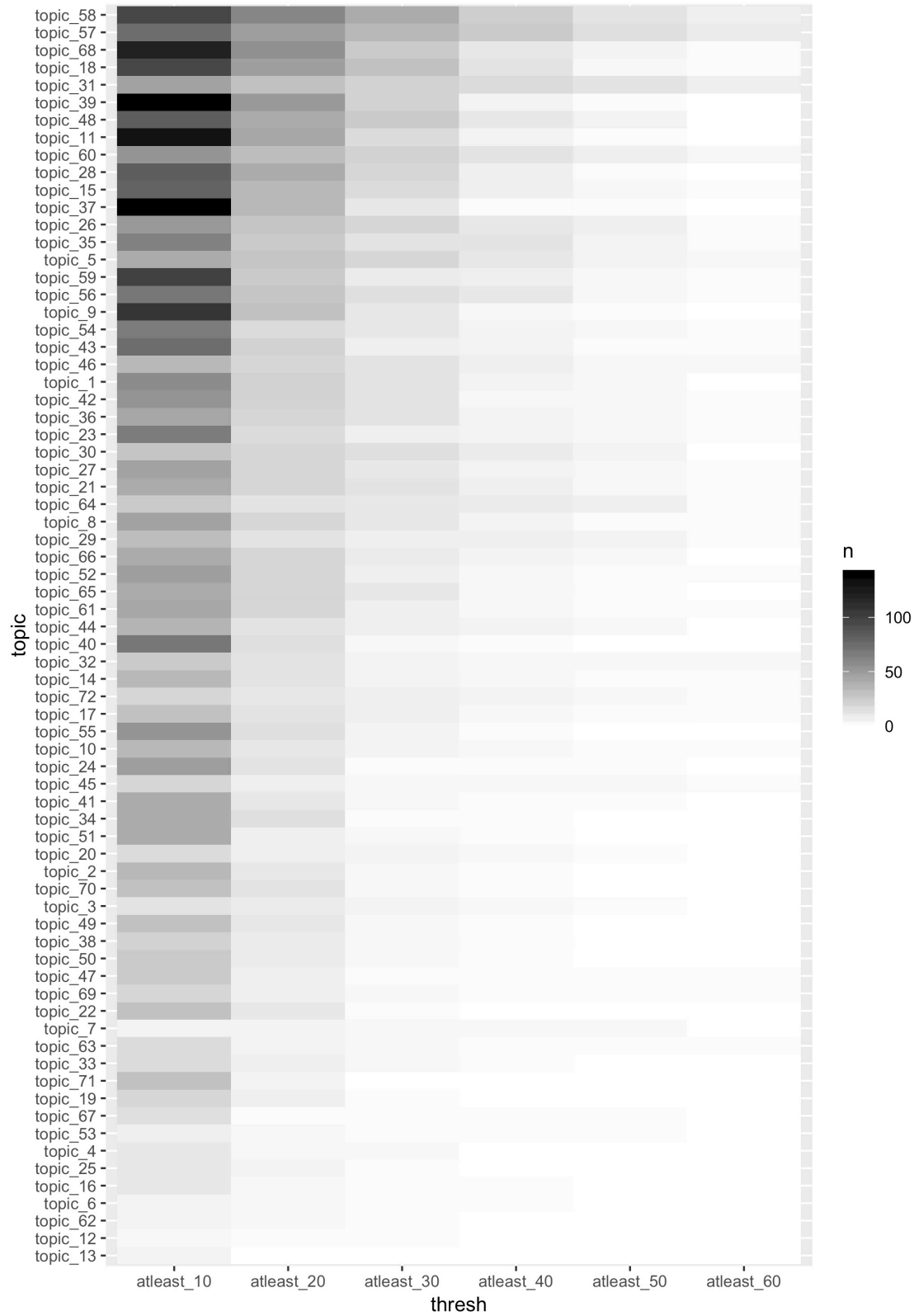


Figure A2: Corpus Coverage Weighting (CCW). Each shaded cell represents the number of articles that met the given threshold for each topic.

From Communion to Compassion: The Changing Language of Pastoral Care

John A. Bernau
Emory University

Keywords

pastoral care, religion, health, historical sociology, secularization, topic modeling

Abstract

This study documents the declining authority of pastoral care professionals in the twentieth century. The rise of neurology, psychology, and psychiatry over the last 100 years have challenged the clergy's historical monopoly on dealing with personal problems and mental well-being. I pair Chaves' (1994) theory of declining religious authority with Abbott's (1988) theory of professional systems to document the shifting language used by pastoral care professionals. I do this by analyzing over 70 years of academic articles in the Journal of Pastoral Care and Counseling (N = 4,054) using structural topic modeling. Ultimately, I find a linguistic shift from the universal to the particular as pastoral care professionals drop language of human nature and morality for that of individual narratives and experiences. I also find a decline of overtly religious language since the 1950s in favor of a more ecumenical language of spirituality, hope, and presence. These linguistic shifts shed light on the past century of theological debate and social change while situating a better understanding of modern clergy and their cultural authority and professional jurisdiction today.

Introduction

This study documents the declining authority of pastoral care professionals in the twentieth century. With the rise of neurology in the late nineteenth century, psychology in the early twentieth century, and psychiatry shortly thereafter, clergy have contended with a slow but relentless challenge to their jurisdictional authority with regard to problems of personal and mental well-being. Narrowing previous macro-discussions of secularization, I pair Chaves' (1994) theory of declining religious authority with Abbott's (1988) theory of professional systems to document the shifting language used by pastoral care professionals. I do this by analyzing over 70 years of academic articles in the *Journal of Pastoral Care and Counseling* (N = 4,054) as evidence of the academic knowledge system in Abbott's conceptual framework. I use structural topic modeling to

estimate a 74-topic model using year of publication as a topic prevalence covariate. Methodologically, this approach offers one example of how recent advances in computational text analysis can augment traditional approaches to content analysis and serve to uncover theoretically important findings in large-text corpora. By developing a method for ranking topics according to corpus coverage weighting (CCW), I also offer a new way to sift through large- k topic models.

This analysis provides evidence for the two counter-vailing trends modern clergy must contend with. On one hand, liberal pluralistic theologies developed since the 1960s have stripped pastoral language of its denominational specificity, leaving an ecumenical linguistic inclusivity that lets patients define the terms of their encounter. While arguably a welcome response to a hyper-rationalized and impersonal medical system, this shift signals a ceding of professional authority as treatment is increasingly held on clients' grounds. This finding speaks to Wuthnow's (1990) "decline of denominationalism" after World War II and the bifurcation of liberal and conservative theologies in American religion. On the other hand, recent calls for evidence-based practice have infiltrated medical ministries in an effort to demonstrate efficacious and measurable treatment. Thus, today's pastoral care professionals must balance the bureaucratic push towards specificity with the simultaneous expectation of spiritual flexibility. I begin with an outline of motivating theories of secularization and professional authority before providing a brief historical overview of pastoral care after 1900. I then discuss study design and data collection before turning to analytical results and concluding discussion.

Theoretical Motivation

Debates about secularization – or the idea that religion is declining in significance – have occupied sociologists since at least the classical theorist. Whereas Marx took a critical view, Weber and

Durkheim talked about religion's fading influence and grappled with the attendant consequences for modern society. In the 1960s, theorists like Harvey Cox ([1965] 2013), Peter Berger (1967), and David Martin (1978) put forth early arguments about the role of religion in the modern age, while later theorists refined, critiqued, and defended this growing body of scholarship (Finke and Stark 1988; Lechner 1991; Tschannen 1991). In Bruce's (2011) synthetic treatment, secularization can be understood as a web of intersecting social changes – from the Protestant Reformation and the growth of capitalism to socio-cultural diversity and structural differentiation – that together result in “the displacement of religion from the center of human life” (Bruce 2011:1). Drawing on Durkheim's conception of solidarity and the division of labor, *structural differentiation* describes the process by which social functions once controlled by the church (i.e. education, health care, and social control) come under the authority of secular institutions (i.e. state schools, hospitals, and law enforcement). While the extent to which these social functions were essential to the vitality of pre-modern religious organizations is debatable, structural differentiation marks an important departure from pre-modern or medieval societies.

Most contemporary scholars build on Dobbelaere's (1987, 2002) three levels of secularization– societal, organizational, and individual – which describe 1) the laicization of public institutions as they gain autonomy from religious influence; 2) the internal secularization as religious organizations undergo conformity with the secular world; and 3) the religious disinvolvement as individual religious belief and participation declines. In an attempt to move the secularization debate away from psychological belief structures and towards a sociological examination of structure, Chaves (1994) reconceptualizes secularization as declining religious authority, focusing on the social-organizational level of secularization. This conception

reformulates the secularization debate to focus on social control and social influence felt by religious actors.

In the present paper I examine declining organizational authority by examining the shifting language used by religious professionals. I draw heavily on Andrew Abbott's *The System of Professions: An Essay on the Division of Expert Labor* (1988) and the jurisdictional conflicts that take place within an ecological field of expert authority. In Abbott's framework, the system of professions begins with a constructivist conception of social problems: before a profession can emerge, a critical mass must identify a social problem to be solved. Previous research on social problems has outlined the historical contingencies involved in this process, as economic, political, social, and cultural forces work together to introduce newfound tensions and perceived problems in social life (Fuller and Myers 1941; Gusfield 1981; Stafford and Warr 1985). For example, alcoholism emerged as a social problem in the United States during the late 19th-century as a result of both 1) a heightened importance of punctuality and procedural rationality in a recently industrialized economy, and 2) an increased alcohol supply. Professions emerge to offer solutions to newly-defined problems and compete for jurisdictional authority. This authority is bestowed on account of the objective and subjective qualities of the problem, as well as the efficacy of a profession's solution. With regard to 19th century alcoholism, jurisdictional authority passed from clergy to doctors to lawyers to police to psychiatrists before finally landing at the feet of legislators. Each of these professions offered competing diagnoses and treatments for alcoholism, ranging from the clergy's "sin and repentance" to the law enforcement's "crime and incarceration" frameworks. This example elucidates the subjective flexibility a profession is afforded when vying for jurisdictional authority, as well as the importance of cultural values in supplying relevant frameworks to appeal to. "Each profession is bound to a set of tasks by ties of jurisdiction, the

strengths and weaknesses of these ties being established in the processes of actual professional work. Since none of these links is absolute or permanent, the professions make up an interacting system, an ecology” (Abbott 1988:33). With this genesis in mind, Abbott outlines four components of a legitimate profession: diagnosis, inference, treatment, and academic knowledge. I discuss each of these below.

Diagnosis

Any legitimate profession must first collect and categorize incoming information. These two steps depend upon 1) criterion of relevance when assessing cases and 2) a classificatory system of legitimate problems housed within a given jurisdiction. In the first step, a professional strips individual cases of their irrelevant details. A dentist does not need to know about your car troubles, just as a mechanic is not concerned about your toothache. Overlapping professional jurisdictions may complicate this colligation process: an employer may want to know about your mental health diagnosis, just as a therapist may want to know about your recent promotion. The ability to clearly sort and assemble relevant information into a coherent “use case” is essential to professional legitimacy, and a profession is weakened by the degree to which this process is seen as vague or unsystematic. Professions then use this information to classify a problem within a system of professional jurisdiction. The appropriate classification of a particular case depends in part on the relevant information and part on the stakes of treatment. If professions operate in a low-stakes environment, classification usually proceeds according to exclusionary probability, ruling out potential diagnoses as one moves from common to rare cases. In some low-stakes cases, the treatment itself can serve as part of the diagnostic process (“If that medicine doesn’t work, come back and see me”). In a high-stakes environment, classification involves a focused consideration

of relevant information, seeking to avoid a mistaken categorization. In this way, collecting and categorizing information remain mutually constitutive processes as a profession confronts their work.

Treatment

Classification in hand, professions proceed by assigning treatments according to their probability of success. This process usually involves reassembling information originally stripped in the process of classification to assess the treatment's effect on individual clients. In particular, four treatment criteria are important in maintaining professional legitimacy: efficacy, specificity, treatment control, and language. First, *effective* (and thus *measurable*) treatments engender jurisdictional authority to given professions. "As results become less and less measurable, there is less and less need to prefer one treatment to another, and thus a weaker professional hold on the problem area" (Abbott 1988:46). Second, *specialized* treatments confer more authority than generalized treatments. Third, the *control* over access to the treatment naturally lends professions social stature, if only as gatekeepers of the sought treatment. Lastly, the degree to which a profession meets clients on its own terms rather than their own terms lends professional legitimacy, albeit with the danger of competition: "A profession that forces clients to take treatment completely on its own terms risks heavy competition from those who talk to the clients in their own language...Only when a profession possesses absolute monopoly can it afford to ignore this arena of competition" (Abbott 1988:47). Together these treatment criteria set up a profession to provide a service to the wider public that is effective, specific, and only accessible through their designated channels.

Inference

The inferential link between diagnosis and treatment is the most important component of a legitimate profession and involves a delicate balance of public impressions. The public has to grasp enough of the relationship between diagnosis and treatment to see the logic, but not enough to render the profession redundant. Routine relationships, like taking an aspirin to cure a headache or icing an athletic injury, do not require a professional system of knowledge. Or at least, the professional origins of this advice have become sufficiently diffused in popular culture so as to render professional inference irrelevant. However, if the connection between diagnosis and treatment is incomprehensible, professions will suffer reputational costs and weaken their legitimacy. Thus, professions survive to the extent that their inferential system balances public awareness and ignorance by treating a mix of routine and non-routine cases. Here another tension arises wherein routine tasks are required for public faith but tend to diminish public prestige, as little “expert” knowledge or skill is required. The profession system protects the importance of inference by delegating routine tasks, and sometimes even diagnoses and treatments to subordinates and peripheral occupations: nurses record symptoms, teaching assistants grade assignments, etc. This allows experts to focus on non-routine tasks while maintaining public acknowledgement and understanding of necessary functions.

Academic Knowledge

The last component of a professional system is academic knowledge, an abstract system that consolidates and codifies the three aforementioned processes. Contrary to the practical goals of clarity and efficiency, this system serves to present a logically consistent and rational system that

justifies professional practices with respect to larger cultural values. Of course, this justification takes place alongside the primary (or ostensible) mission of academic knowledge: the generation or improvement of diagnoses, treatments and inferential systems. Internal conflict may emerge to the extent that these improvements fail to trickle down to practical implementation, but divorced from each other, neither the practical nor purely academic systems would survive the court of public legitimacy.

Abbott's (1988) system serves as a helpful guide to understanding Chaves' conception of secularization as declining religious authority (1994:767). Structural differentiation and the ever-shifting occupational jurisdictions provide an opportunity to observe changing clerical diagnoses as they respond to encroaching professions. Do clergy remain an authority today on matters of family, divorce, addiction, health, and death? Or are they merely points of referral to occupations that have claimed this jurisdictional authority? Clerical "treatments" also emerge as the site of fruitful examination: to what extent are they effective, measurable, specialized, controlled, and held on religious grounds? Lastly, one can consider the balance between clergy's routine vs. non-routine tasks as well as the public impressions of its inferential system and academic knowledge. Before exploring these questions, I provide a brief background on pastoral care in America and its response to jurisdictional challenges over the last century.

Historical Background

Reports of declining clerical authority have been the subject of centuries of religious writing. The Protestant Reformation famously eschewed clerical authority in favor of the "priesthood of all believers" in the 16th-century, and surveys of American Catholics today report the gradual

laicization of priestly duties (D'Antonio et al. 2007; Hoge 2011). To set a necessary scope on this expansive topic, I focus here on American pastoral care from 1900 to the present. The dawn of the twentieth century provides a convenient delineation of modern social life, and America provides the background in which popular psychology took off in the 1940s and debates about secularization continue to fester (Berger, Davie, and Fokas 2008; Finke and Stark 2005). My focus on pastoral care reflects an interest in the most existentially potent of clerical duties: individual or small-group sessions wherein religious leaders bring their doctrinal training to bear on the everyday problems of their parishioners. While this conception of pastoral care remains an ideal-type and has undergone multiple definitional shifts, an emphasis on pastoral care also speaks to the most jurisdictionally vulnerable task of the clerical profession today.

To claim that pastoral care changed in the twentieth century in response to cultural forces is to court the obvious. To interpret this change as seceding authority to secular institutions *prima facie* would be to ignore the temporal situation in which every religion must live. As Tillich argued in his *Systematic Theology* (1973:3): “Theology moves back and forth between two poles, the eternal truth of its foundation and the temporal situation in which the eternal truth must be received.” Granted, change has been a subject of much debate among institutions that dabble in eternal truths and infallibility, but it is important not to interpret change as secularization *a priori*. Instead, following Chaves (1994) I focus on the clergy as a profession and their response to competing jurisdictional claims that emerged in the twentieth century.

Pastoral Care in America: 1900 – 1960

Until the early twentieth century, clergy were more or less alone in their professional concern for “everyday problems” like marital strife, depression, financial problems, et al (Abbott 1988).

Despite their many variations, when faced with these issues clerical diagnoses and treatments were generally predictable: the problem was sin and the solution was salvation. Personal struggles were seen as openings for a newfound spiritual life. “Seasons of sorrow in families are opportunities which ought to be carefully improve by ministers. The providence of God is then preparing the sufferers for the cordial reception of the blessings of the Gospel” (Murphy 1877:249, quoted in Abbott 1988: 282). Despite a consistent emphasis on sin and salvation, this agenda admittedly had some variations. Hollifield (2005) documents centuries of pastoral care manuals and textbooks, finding a wealth of diagnostic systems. In particular, Roman Catholic priests were some of the earliest adopters of a detailed diagnostic-treatment system. Upon receiving private confessions of the penitent, probing for more relevant information if necessary, priests would assign one of many treatments: seven “Hail Marys,” two “Our Fathers,” etc. These treatments were specific and were held on explicitly religious grounds using explicitly religious language. However, “success” was admittedly hard to measure and the connection between diagnoses and treatment was hard for many to follow (Hollifield 2005). Nonetheless, insofar as religious authorities held a monopoly on everyday problems, the clergy enjoyed a relatively unchallenged jurisdiction.

Industrialization and attendant social changes at the turn of the twentieth century introduced a host of new problems as people adjusted to new working conditions, city life, family changes, and the general loss of traditional ways of life (Douglas 1998). Voluntarist clubs sprouted in the early 1900s as a way to make up for the lost stability of agrarian community life in a modern urban landscape. The Knights of Columbus (1882), Rotary Club (1905), Kiwanis (1914), and Lions (1917) were all established in the early years of the twentieth century. “There is, then, clear evidence for a sudden increase in the level and importance of personal problems with life at the end of the nineteenth century. General unhappiness was a new and newly important cultural fact”

(Abbott 1988:285). The first jurisdictional challenge to the clergy's monopoly on personal problems came from neurology. Operating in the spirit of the ascendant medical system, neurologists searched for materialist cures for their catch-all diagnosis of personal problems as "nervousness." While hardly more measurable or "effective" than clerical treatments, early neurologists tapped into cultural values of medical rationality and built a robust system of academic knowledge. William James' *Principles of Psychology* ([1890] 1950) was published in 1890, further legitimating the new "science of human well-being" and by the 1920s, psychology had paired with neurology to produce psychotherapy: a new professional system that claimed to diagnose and treat a host of personal problems in a non-materialist yet thoroughly medical context.

Of course, the clergy were interested in this new science of human well-being: "It was American pastoral theologians who first realized the potential of the new range of psychological and psychiatric disciplines that rose to prominence in Europe and America in the early twentieth century, and they sought to enter a constructive dialogue with these new disciplines" (Cornick 2000:374). One such example is the Emmanuel Movement, an early attempt to merge religion and psychotherapy that began in an Episcopal church in Boston around 1905. According to founders Elwood Worcester and Samuel McComb, every minister practiced psychotherapy whether they knew it or not, and the cure of souls should follow the latest medical science rather than received traditions (Worcester and McComb 1909). Lyman Powell, an Episcopal priest and early proponent sums up the movement in the subtitle of his book: *The Emmanuel Movement in a New England Town: A Systematic Account of Experiments and Reflections Designed to Determine the Proper Relationship Between the Minister and the Doctor in the Light of Modern Needs* (Powell 1909). Both Worcester and McComb had received medical training in Europe and were thus able to straddle the jurisdictions of religion and medicine. The movement spread between 1905 and the

1920s, with participating churches holding open psychotherapeutic clinics, drawing hundreds of participants and receiving scores of letters (Macomber 1908; Powell 1909; Worcester and McComb 1909). By the 1920s, the Emmanuel Movement lost its cultural traction on account of 1) a general confusion about the proper course and efficacy of treatment, and 2) the removal of support from the medical community. Physicians who initially welcomed the role of religion in their practice worried about negative connotations brought by their association with clerical authorities and wanted to resist being classified with a growing (and medically unsophisticated) “positive thinking” movement.

Thus, early twentieth century clergy were faced with two countervailing trends. On one hand, the growth of neurology, psychology, psychotherapy, and psychiatry as autonomous disciplines signaled competing jurisdictional claims with regard to personal problems and issues of human well-being. On the other hand, a widespread interest in mental well-being brought renewed interest to their professional role. The rising tide of public interest seemed to lift all occupational boats. Nonetheless, pastoral theologians were forced to reconsider their profession in important ways.

“It was a critical period for the Church because an inherited theological framework of sin, judgment and redemption leading to salvation was influenced by humanistic concerns which required a diminished theological base and a different goal, not now of salvation from sin but of personal responsibility and self-actualization or self-fulfillment” (Bunting 2000:387).

By the 1920s, personal problems had achieved a kind of ontological independence. No longer were they a sign of divine calling, signals of potential salvation, or occasions for thinking about ultimate reality. Personal problems were to be dealt with on their own terms, and the clergy’s cultural resources were one of many professional tools available (Biggart 1983; Rieff 1966; Smith 2003). In some sense, this overarching functional perspective signals one dimension of secularization.

“The instrumental notion that religion might have a use would have shocked nineteenth-century proponents of the evangelical view. The purpose of religion is worship, and that of the clergy, salvation. To treat religious behavior or belief as a therapy upends the religious hierarchy of purposes. Yet a surprising number of clergy moved to this opinion in the wake of the Freudian revolution” (Abbott 1988:309; Rieff 1966).

In 1930, Richard Cabot and Anton Boisen formed the Counsel for the Clinical Training of Theological Students, an organization that institutionalized clinical pastoral education (CPE) in seminary curricula (Cornick 2000; Holifield 2005). This move was an effort to return clergy to the medical jurisdiction and better equip ministers to the changing scope of pastoral care.¹⁰ The largest sea-change in twentieth century pastoral care however, was the unprecedented boom of popular psychology after World War II. While psychological conversations were bubbling in academic departments before the 1940s, post-War America saw a windfall of economic and social support for psychological endeavors. Spurred by a thriving economy, Congress passed the Mental Health Act in 1946, funding psychological research, training, and support for hundreds of colleges, seminars, and corporations (Biggart 1983). One of the most prominent figures in this era was Carl Rogers, a humanistic psychotherapist who described his relationships with clients as one of “unconditional positive regard” (Rogers 1942, 1951). This approach had found deep resonances with pastoral theologians. In fact, after enrolling at Union Theological Seminary in the mid-1920s, Rogers took some of Harrison Elliot’s earliest seminars in pastoral psychology (Holifield 2005:226). This client-centered approach championed self-realization over previous ideas about moral adjustment. Social institutions were often seen as constraining efforts to build and express

¹⁰ Despite their early agreement, Cabot and Boisen’s theological differences led to a rift between Cabot’s “Boston Tradition” and Boisen’s “New York Tradition.” While Cabot emphasized a brand of moral legalism and spiritual formation, Boisen (influenced in part by the work of George Herbert Mead) saw mental illness as a failure to live up to internalized social standards and promoted a moral freedom from societal pressure (Holifield 2005:235–49).

the “real self.” This inward turn has a long history in the march of Western individualism (Singer 1993; Taylor 1992; Trilling 1973), and Rogers’ work set the academic foundation for the larger cultural movement of the 1960s. With the popularity of psychotherapy, the success of clinical pastoral education, and the cultural values of post-War America, pastoral theologians began to supplant “pastoral counseling” for “pastoral care” when describing their profession. Whereas “care” signaled a broad collection of ministerial duties, “counseling” borrowed prestige from the medical professions and signaled an engagement with the psychotherapeutic academic knowledge system (Rieff 1966).

“Pastoral counselors began to speak a new language after the Second World War. Gone from pastoral conversations were the labored explanations and the bits and pieces of well-meant advice. Gone was the tendency to view counseling as a theological debate or moral exhortation. And gone also was the assumption that pastors were supposed to inform people that they suffered from compulsiveness or an inferiority complex” (Holifield 2005:259).

With this new language came the growing diffusion of pastoral counselors to secular institutions. The adoption of psychotherapeutic language opened the door for chaplains to find permanent positions in prisons, schools, hospitals, and other agencies by the 1950s and 1960s.

Pastoral Care in America: 1960 – Present

Religious institutions experienced the largest seismic shock amid the social changes in 1960s America. Young adults’ weekly service attendance nearly halved in these tumultuous decades – from 51% in the 1950s to 28% in 1960s – and older generations increasingly sought out non-traditional forms of spirituality (Bellah et al. 1985; Putnam and Campbell 2012; Tipton 1982). Some credit this religious decline to lifecycle changes driven by the Baby Boomers: if young adults are consistently the least religiously active age group, and the 1960s saw a large population enter

this age bracket, wouldn't a proportional decline in religious attendance merely signal this demographic trend? However, as Hout and Fischer (2002) demonstrate, each cohort after the 1900s reports more members with no religious preference than the previous cohort and this trend has only become stronger in the years after World War II. This religious pluralism was met by a new wave of interfaith theologies seeking to smooth the edges of an escalating religious culture war. Among these theologians was Karl Rahner, a Catholic thinker who wrote extensively about the changing church of the 1960s and 1970s. His theology interpreted the inherent grace of human nature as evidence of salvation, irrespective of Christian revelation. In this way, all humans are "anonymous Christians" and should be welcomed by the Catholic church as such (Bunting 2000). Rahner's liberal interfaith theology went on to influence the pivotal meeting at the Second Vatican Council of 1962, wherein the church addressed its relationship to the modern world. John Hick, a prominent philosopher of religion, proposed a similar theological system wherein all world religions are manifestations of "the Real" – a universally valid notion of transcendent reality (Knitter 2002). In this way, Hick's philosophy saw each religious tradition on equal footing, offering something new to our understanding of religious experience.

While these systems spoke to the pluralizing religious context of the 1960s, they came under attack during the conservative religious backlash of the 1970s and 1980s (Putnam and Campbell 2012). "The strong individualistic understanding of personal growth, together with the non-directive and unconditionally accepting method of pastoral counseling was coming under criticism" (Bunting 2000:389). Many complained that psychology had edged out theology to make pastoral care a mere shadow of the social sciences. Conservative theologians like Thomas Oden, whose brand of "paleo-orthodoxy" spoke to a return to moral principles, led a movement to recover the historical wisdom of theology as it applies to pastoral care situations (Browning 1983; Bunting

2000). Echoing the 19th-century conception of moral formation, they argued that the clergy are sometimes called on to give explicit moral direction; the mere existence of multiple options does not preclude the necessity of a moral evaluation. While this backlash against theological pluralism created waves in some circles, it's hard to say whether the American people followed in this direction. Wuthnow (1990) argues that by the 1980s this split between liberal and conservative theology had effectively “restructured” American religion, with religious conservatives on one side and religious liberals on the other. On account of interregional migration and declining educational differences, the once-stark denominational divides were loosened, allowing new issue-based coalitions to form. According to Putnam (2012) and Chaves (2017) however, this evangelical revival observed in the 1980s was not a result of more conservative theology. Biblical literalism has been steadily declining since the 1950s and Americans are increasingly accepting of religious “others.” In fact, 70% of Americans agree that religions other than their own can lead to eternal life (Chaves 2017), and half of all marriages today occur across religious traditions (Putnam and Campbell 2012).

While it is tempting to emphasize the similarities of disparate religions in the name of cooperation and acceptance, many today argue that the next step for religious leaders is a charitable emphasis on religion differences (Prothero 2011). Rather than subsuming all beliefs under a vague notion like Rahner’s “universal Christianity” or Hick’s “the Real,” modern seminary courses are increasingly set on exposing new clergy and chaplains to world religions and faiths that depart from their own (Clooney 2010; Knitter 2013). As individuals find it increasingly difficult to identify fully with one tradition, clergy encourage “multiple religious belongings,” leading individuals to find unique ways of supplementing their faith with concepts and ideas garnered from their religious neighbors (Cornille 2010; Largen 2013). This professional emphasis on postmodern

pluralism is enacted in the way chaplains talk about their occupation. Contrary to the 17th-century “cartographers of the soul” pointing the way to salvation, today’s pastoral care manuals stress the role of the chaplain as a journeying partner and spiritual companion. Modern chaplains must improvise when the metaphorical “map” of another’s religious faith is placed in front of them (Holifield 2005). This fluidity is also displayed when chaplains let the patient define terms that are meaningful to them (Cadge 2012). When a patient refers to ‘respect’ or ‘hope’ the chaplain is encouraged to help unpack these concepts. “Such conversations allowed rich descriptions of these words, making them more meaningful to [the patient] and more relevant in helping to address [their] spiritual needs” (Fitchett and Nolan 2015:220). In a social context increasingly populated by individuals without an explicit religious tradition, chaplains help people define the terms of their spirituality.

In short, the latter half of the twentieth century introduced social changes that pastoral theologians are still grappling with today. Psychologists, psychotherapist, and other secular professionals were spared the imperative to construct and address interfaith theological positions, freeing time and energy to advance and consolidate respective academic knowledge systems. As religious attendance has declined, seminarians today are increasingly finding work outside of traditional parish life where they must navigate a unique social space of multiple religious belonging (Cadge, Freese, and Christakis 2008). Careful to avoid the "residual antagonism to the Christian Church left over from the experience of colonialism" (Lamb 2000:454), chaplains let patients introduce their own spiritual beliefs without prompting, and follow these metaphors wherever they may lead. Theological doctrines have offered ways of squaring this practice with the Christian tradition, to varying degrees of acceptance. While pluralism offers an easy solution to stubborn religious differences, there is an increasing emphasis on the value of these differences.

Seminaries have attempted to address this issue, although the importance of interfaith dialogue as part of a formalized curriculum is still in its early stages.

Pastoral Care as a Professional Occupation

With this historical context, it is instructive to view the last century of pastoral care through Abbott's theory of professional systems and jurisdictional authority. The expansion of the medicalized fields like psychotherapy and psychiatry, as well as non-medical occupations like marriage counselors and divorce lawyers, have annexed professional ground once the exclusive reign of religious authorities before the twentieth century. Certainly, individuals may consult religious authorities for advice, but upon clerical diagnosis and classification of the problem, clergy today simply have more referral options to secular occupations that claim expert authority on a range of personal problems.

Given this jurisdictional secession, what is left for pastoral counselors to do? Many doctors and staff members think of the chaplain as one who performs religious rituals and prayers, while chaplains characterize their work in broader terms: giving a sense of wholeness, presence, and healing to the patient (Cadge, Calle, and Dillinger 2011). These differences are a significant source of stress, especially among chaplains working in hospice (Williams et al. 2004). In an effort to alleviate these identity concerns, a group of scholars developed a 'taxonomy' of 100 chaplain activities aimed to improve communication and coordination among palliative care teams (Massey et al. 2015). Idler et al. (2015) classify the frequent activities of healthcare chaplains into two groups: "doing" and "being." While existential activities like active listening and spiritual assessment fall under "being," many chaplains also find themselves in a more active or "doing" role: filling out advance directives with the patient, providing food, etc. Using 1,140 recorded

chaplain visits, they found more than half (53%) involved some “doing” activity. Contrary to what many doctors and staff members think, chaplains do surprisingly few religious practices (e.g., administering sacraments, reading scripture): only 3% of recorded visits involved these activities. In addition to chaplain activities, Idler et al (2015) also analyzed more than 1,500 conversations between chaplains, patients, and their families. Analogous to the activity clusters, conversations fell into two groups: “practical matters” and “ultimate concerns.” While ultimate concerns (i.e. emotions, religious and existential matters) were discussed in more than half of the conversations, practical matters (i.e. financial concerns, hospice care, advance directives) were discussed more frequently: 75% of patient conversations and 84% of family conversations. Whether this emphasis is indicative of patient changes (diminished religiosity) or the chaplaincy profession (passive roles, liberal theology, etc.) is hard to say.¹¹ Garces-Foley (2013) speaks to the politics behind the changing language of ‘spirituality,’ arguing that this ostensible shift towards openness in fact serves to alienate those seeking religious consolation. Drawing on Weber’s theory of charisma and routinization, Bradshaw (1996) similarly identifies a ‘secularization of hospice’ in which efficiency and medicalization serve to influence patients’ attitudes towards death.

Turning to Abbott’s four criteria of socially legitimate professional treatments – measurability, specificity, control, and language – the treatment offered by today’s pastoral counselors puts the profession in a difficult position. The spiritual “effectiveness” of pastoral counsel has never been easy to measure, but the recent push for evidence-based practice speaks to this task: chaplains are increasingly expected to chart and document their involvement in a patient’s hospital stay (Cadge 2012). The occupation also presents few routine tasks capable of outsourcing to subordinates (although recent attempts to “automate” religious counsel are not

¹¹ While Abbott talks about changing audiences for jurisdictional claims (Abbott 1988:157), he does not give much attention to client-side changes.

unheard of; see Heilweil 2019). Specificity and control in pastoral treatments have been jettisoned as a result of liberal pluralist theologies (academic knowledge), and in order to effectively speak to increasingly a-religious patients today's pastoral counselors make it a point of emphasis to "meet patients where they are" and let them define the terms and direction of their time together. Of course, this is not to make a normative statement against recent pastoral developments. In a hyper-rationalized medical institution, nurses and physicians may over-emphasize the diagnostic process, stripping away too much information as irrelevant and leaving the patient feeling identity-less (Kubler-Ross 1969; Starr 1982). In this way, the chaplain provides a valuable service in recognizing and affirming patients in an unconditional way. Nonetheless, professional legitimacy fails to come to those without measurable treatments or professional language. Today's chaplains must balance the bureaucratic push towards specificity with the simultaneous expectation of spiritual flexibility. As evidence of this declining authority, data from the General Social Survey show those with "a great deal of confidence" in leaders of religious organizations fell from 45% to 30% among regular church attendees between 1972 to 2014. Among all adults, these numbers fell from 35% to 20% (Chaves 2017).

Importantly, as a response to diminishing jurisdiction professions may respond with occupational shifts and new divisions of labor. The rise of healthcare chaplaincy as distinct from traditional pastoral roles is— in large part —a response to these shifting jurisdictional waters. In her nearly 100-year history of chaplaincy, Cadge (2012) documents the emergence of this set-apart ministerial profession and Abbott himself emphasizes the persistent role of the chaplain in modern medical institutions. Previous research estimates the presence of chaplains in half to two-thirds of all U.S. hospitals, and most chaplains visit well over half of all admitted patients (Cadge 2012; Cadge et al. 2008). As Idler et al. (2015) argue, this presents somewhat of an anomaly: at once

seated in a profession rapidly scedeing jurisidictional authority, medical chaplaincy remains a ubiquitous presence in modern life. How do these professionals navigate their secular yet spiritual occupation? How has the language of pastoral care shifted in response to this recent emphasis?

Study Design

In this study I use recent techniques for computational text analysis to examine the academic knowledge system of pastoral care professionals and its evolution over the past 71 years. As Abbott describes, this system serves to present a logically consistent and rational system that justifies professional practices with respect to larger cultural values, and the recent availability of large-scale digital text data facilitates an examination of the sweeping historical trends mentioned above. To examine the changing nature of religious authority in this context, I examine 71 years of academic articles from the *Journal of Pastoral Care and Counseling*. This journal was one of the first publications to emerge from the fledgling pastoral care movement of the post-War years and with seven decades of continuous publication, it remains the longest-running journal in its field.¹² The *Journal of Healthcare Chaplaincy*, for example, is also of substantive interested but only began publication in 1987. Compared to similar journals, the *Journal of Pastoral Care and Counseling* (JPCC) has a deliberately interdisciplinary focus: “to advance theory and professional practice through scholarly and reflective literature on pastoral and spiritual care, counseling, psychotherapy, education, and research” (JPCC Inc. 2019). In this way, conflicts of jurisdictional authority are placed at the forefront and allow an examination of the discussion of these fields over the last 71 years.

¹² A detailed history of the JPCC can be found on the journal homepage: <http://www.jpcc.org/mission/mission>

I collected the full text for each of the substantive articles published between 1947 and 2018 (N = 4,054) through institutional subscriptions managed by EBSCO Host and SAGE Journals. In compliance with subscription terms, articles were downloaded in yearly increments before being converted to word tabulations and saved as a data frame in R (R Core Team 2019). I then used the `readtext` package to extract metadata from file names generated by Zotero. PDF copies were deleted before proceeding with the next year of data collection. The resulting dataset contained full text and metadata for all 4,054 substantive articles published by the *Journal of Pastoral Care and Counseling* between 1947 and 2018 (see Figure 1).

[FIGURE 1 ABOUT HERE]

I used structural topic modeling to identify longitudinal themes in this corpus of academic articles. Developed in 2013, structural topic modeling (`stm`) builds on Blei and Lafferty's early work on LDA topic modeling and its dynamic variants (Blei 2012; Blei and Lafferty 2006; Roberts, Stewart, and Tingley 2013). Topic modeling has received much attention in cultural sociology for its ability to inductively "code" a large text corpus for emergent themes (Bail 2014; DiMaggio 2015; DiMaggio, Nag, and Blei 2013; Kinney, Davis, and Zhang 2018). The main contribution of structural topic modeling over traditional LDA is the ability to account for document-level metadata variables to facilitate better estimations of topics (Roberts et al. 2014, 2013). Specifically, `stm` facilitates the use of metadata to estimate either topic prevalence or topic content. When used to estimate topic prevalence, `stm` uses document variables to determine predicted proportions of a topic in a given document (`gamma` matrix). When used to estimate topic content, `stm` uses document variables to determine the topic-word compositions (`beta` matrix). In the present analysis, I employ this functionality to allow topic prevalence to vary by year. Substantively, this allows the model to consider documents published in the 1940s as thematically different than those

published in the 2000s, for example. Paired with 4,054 full-text articles, this technique allows the best way to examine how pastoral theologians and practitioners' discussion exemplified fluctuating claims of jurisdictional authority in the latter half of the twentieth century.

After pre-processing the text data (converting to lowercase; removing punctuation, stop words, and numbers; and stemming to word roots), I trimmed the vocabulary by removing any word that only appears in one document. These words will not aid in our understanding of cross-document trends and are routinely removed in preparation for topic modeling. These decisions are often consequential for results of corpus-based text analysis (Denny 2017), and my decision to trim and stem vocabulary came after examining the poorly specified models returned without these initial steps. The final corpus consisted of over 2.5 million word tokens. Researchers employing topic modeling must also choose the number of topics (k). Ultimately, there is no "right" answer to the number of topics used to analyze your corpus (Grimmer and Stewart 2013). However, Roberts et al (2013) provide a helpful function that provides approximate "goodness of fit" measures for a range of possible topic values. These measures include held-out likelihood (Wallach et al. 2009), residual analysis (Taddy 2012), semantic coherence (Mimno et al. 2011), and topic exclusivity (Airoldi and Bischof 2016). In addition, Lee and Mimno (2014) have developed an algorithm that calculates the number of topics after projecting a word co-occurrence matrix into low-dimensional space and solving for the convex hull. While not the "true" number of topics in a corpus, this allows a data-driven starting point from which to examine the potential number of topics.

My approach proceeded in three stages. First, I used Lee and Mimno's (2014) algorithm to identify an approximate number of topics that solves for the convex hull of the word co-occurrence matrix. After five runs, this algorithm returned an average of 74 topics. I then compare a range of

related models based on Roberts et al.’s (2013) “goodness of fit” measurements. After testing models ranging from 20 to 100 topics, 70 to 80 emerged as a desirable topic range, confirming the results of Lee and Mimno’s (2014) algorithm. I then tested each model with 70 to 80 topics (70, 71, 72...80), ultimately arriving at 74 as the number of topics that satisfied this suite of fit statistics. Model in hand, a human reader still finds it hard to interpret a 74-topic model. Presented with endless word probabilities and document compositions, some have likened the researcher’s task to “reading the tea leaves” (Chang et al. 2009). To balance the need for a model with sufficient complexity without sacrificing substantive interpretability, I develop a method for weighting topics according to their corpus coverage. I calculate this corpus coverage weighting (CCW) by using the returned gamma matrix (document-topic proportions) to create a count of how many articles fall under different document proportion thresholds (10% - 60%) for each topic. I then weight these counts according to the document proportion threshold. Formally, this can be described as:

$$CCW_K = (1N_{10} + 2N_{20} + 3N_{30} + 4N_{40} + 5N_{50} + 6N_{60})_K \quad (1)$$

Where for each topic K , N_x represents the number of documents that contain at least x percent of topic K . This corpus coverage weighting balances topics that have both breadth (covering a small amount of many documents) with depth (covering a large amount of few documents) to aid interpretation of large topic models. Once weighted, I subset the top-20 topics (about 1/3 of the model) for subsequent analysis and select 10 for presentation below.¹³ I also supplement this data-driven topic selection with an additional 10 topics chosen for substantive interpretation.

¹³ See Appendix for CCW heatmap used to select 20-topic subset.

Results

Figures 2 and 3 present the results of a 74-topic structural topic model analysis on 4,054 academic articles from the *Journal of Pastoral Care and Counseling* between 1947 and 2018 using year as a topic prevalence covariate. The ten topics in Figures 2a-b were subset from the full 74-topic model by CCW as described above [see equation (1)]. I present these results by displaying the top-20 words by topic probability (beta) for each topic in the lower panes. These word probabilities are used to determine topic labels and rely on the researcher's subject expertise (DiMaggio et al. 2013; Marshall 2013). Of course, a topic model with high semantic coherence and topic exclusivity will make this task easier. In addition to these word probabilities, Figure 2a-b plots the document-topic probability (gamma) over time in the upper panes. Each colored line represents the proportion of text in a given year that concerned a given topic, with solid black lines providing a loess smoothed trend. Broadly, I identify three declining topics and three ascendant topics in these figures within this subset.

[FIGURE 2A-B ABOUT HERE]

The first two topics in Figure 2a suggest a decline in overarching language about the emotions a person/patient may feel (topic 20) and talk about fundamental “human nature” or the moral nature of human (topic 45). While these topics are admittedly broad compositionally, I argue that the sharp decline in topic 45 signals a turn to individualistic language in recent decades. The third topic in Figure 2a represents an unambiguous decline in traditional religious language, especially between 1947 and 1970. The top five words in this topic – *god*, *christian*, *jesus*, *christ*, and *church* – signal strong semantic exclusivity. At the beginning of the 1950s, this topic comprised about 5% of the content in all articles, dropping to 2.5% by 1970 and hovering around 1% today. This trend mirrors larger trends in American religiosity as documented by Putnam

(2012), Chaves (2017), Wuthnow (1990), and Bellah et al. (1985) and is particularly striking within the pages of a professional journal on pastoral care.

These downward trends are paired with ascendant themes of body / time (topic 24) and love (topic 43) presented in Figure 2b. While topic 24 remains fairly broad, the inclusion of *god* in the top-ten words that make up topic 43 suggests a changing language of divinity in today's pastoral care. Whereas *god* was found in the company of words like *jesus*, *christ*, *christian*, and *church* in the 1950s, today it is accompanied by a suite of ecumenical terms: *love*, *heart*, *breath*, *hand*, *life*, *care*, *tree*, *mother*, *sing*, and *music*. The centrality of *patient* in topic 61 signals the increasingly medical context in which pastoral care occurs today, surrounded by attendant words like *chaplain*, *hospital*, *staff*, *visit*, and *nurse*. Lastly, topic 10 in figure 2b demonstrates modern clergy's increasingly phenomenological approach to their professional duties. Patient's stories, experience, and narrative construction are welcomed by an occupation whose professional identity is increasingly focused on listening, reflection, and conversation.

Figure 3a-b presents an additional ten topics that, while not falling in the top third of topics by CCW, nonetheless represent important substantive trends illuminated by the present analysis. The first two topics in Figure 3a represent the aforementioned theological debates in post-1960 America. Responding to rising religious pluralism and counter-culture movements, the academic knowledge system of the pastoral profession came under scrutiny. As Abbott (1988) notes, when the divergence between practice and abstract theory becomes too great, profession conflict ensues. Of particular note is the surfacing of Anton Boisen and Richard Cabot by name in topic 71. As the founders of the modern CPE movement, their inclusion in this topic offers some face validity to the thematic topics identified in this analysis. The next two topics in Figure 3a demonstrate the early emphasis on psychoanalysis – especially the work of Sigmund Freud and Oskar Pfister in

topic 1– and the mental health movement of post-WWII America in topic 14. I argue that the declining prevalence of these topics suggest a resolved jurisdictional dispute that arose at the turn of the century (and partly inspired the JPCC’s formation). As subsequent decades brought professional developments in both fields, these competing occupations were institutionalized and developed new jurisdictional lines, diminishing the need for cross-disciplinary language in recent decades. The last topic in Figure 3a similarly reflects clergy’s professional development as new techniques for efficacy and measurement fill recent academic articles on pastoral care. This trend speaks to today’s calls for evidence-based chaplaincy and the historical difficulty in measuring pastoral treatments.

[FIGURE 3A-B ABOUT HERE]

Turning to Figure 3b, topic 36 demonstrates the declining discussion of marriage and divorce as these issues increasingly fall to other professional jurisdictions. Topic 48 signals an institutionalization of Carl Rogers’ “client-centered therapy” as professionals increasingly deal with issues of forgiveness, relationships, shame, and empathy. Although, this finding should be considered in step with topic 20 in Figure 2a: rather than a general decline in emotionality, these topics may suggest a change in emotional emphasis. Topic 30 shows the precipitous increase of pastoral discussions about post-traumatic stress disorder. Straddling the line between mental health and cultural trauma, PTSD may occupy a difficult place in the professional system and religious authorities could be uniquely placed to deal with this population. Lastly, topics 54 and 55 provide evidence for the increasing concern surrounding death and dying for today’s pastoral professionals. Research on contemporary attitudes toward death and dying speaks to the increased anxiety afforded by a recent cultural developments, from a hyper-rationalized medical system to declining religious authority (Bendle 2001; Kubler-Ross 1969).

However, the shift from universal to particular language and religious to spiritual terminology may also signal new methods of inter-professional division of labor. As traditional clergy give way to full-time healthcare chaplains, this linguistic shift may signal new expectations for a new ministerial profession (Cadge 2012). Figure 4 presents raw word counts for four related terms: priest, pastor, clergy, and chaplain. As made apparent, discussions of chaplains have dominated the the focus of pastoral care since the 1980s. This emerges as an important reaction to declining religious authority: as pastors were edged out by medical practitioners, the reformulation of a deliberate medicalized spiritual care professional emerged as as way to sustain a slice of jurisdictional authority. In order to gain legitimacy in this secular space, however, healthcare chaplaincy had to eschew overt religious language in favor of modern individualistic spiritual conversations.

[FIGURE 4 ABOUT HERE]

Discussion

This paper set out to document the changing language of pastoral care in the twentieth century. I pair Chaves' (1994) theory of declining religious authority with Abbott's (1988) theory of professional systems to document the competing jurisdictional language of twentieth century pastoral care. I do this by analyzing the evolution of the pastoral academic knowledge system over more than 70 years, as evidenced through academic articles in the *Journal of Pastoral Care and Counseling* (N = 4,054). I use structural topic modeling to estimate a 74-topic model using year of publication as a topic prevalence covariate. While impossible to summarize seven decades of academic writing, three important conclusions can be taken from the results presented here. First, between 1947 and 2018 the language of pastoral care eschewed sweeping discussions of human nature and mankind for an individualistic phenomenology of personal narrative and experience

(cf. Figure 2a-b; topic 45 vs topic 10). As Holifield (2005) documents, this concern with “nature” was a hallmark of 19th-century pastoral theology as clergy tried to assess the appropriate balance between the “law” of effort and the “gospel” of relaxation. Today, heightened attention to religious pluralism and socio-cultural diversity has narrowed pastoral discussions to focus on individual experience and the construction of personal meaning. This finding reflects previous sociological attention to American religious individualism, as elaborated by Bloom (1992), Bellah (1970), and others (Beyerlein and Vaisey 2013; Hewitt 1989; Madsen 2009; Rieff 1966).

The second important conclusion is the changing language of religiosity since 1947. In the 1950s, nearly 5% of pastoral care articles dealt with traditional Christian terminology: *jesus, christ, god, christian, church*, etc. Today, this percentage hovers near 1% (see Figure 2a; topic 31). In its place there appears a new language of quasi-secular spirituality: *love, heart, breath, god, tree, mother, sing*, etc (cf. Figure 2b; topic 43). I argue this linguistic shift represents a direct response to social changes in the latter half of the twentieth century. As clergy face declining religious belief, behavior, and belonging, as well as rising immigration and multiple religious belonging (Chaves 2017; Cornille 2010), their ministry has responded by scrubbing their professional language of denominational specificity and opening the door to more inviting and ecumenical language. This finding strongly reflects Wuthnow’s (1990) account of the decline of denominationalism in the latter twentieth-century. Furthermore, according to Abbott, this move offers professional advantage over linguistically exclusive professions while at the same time diminishing occupational prestige. “A profession that forces clients to take treatment completely on its own terms risks heavy competition from those who talk to the clients in their own language” (Abbott 1988:47). My analysis extends this idea by documenting the dynamic transition from

pastoral linguistic exclusivity in the 1950s to an ecumenical linguistic inclusivity in the twenty-first century.

Lastly, this research documents the diminishing discussions about the related professions of psychology, psychoanalysts, and psychiatry among pastoral care professionals between 1947 and 2018. While contrary to initial expectations, I argue that this decline signals a solidification of jurisdictional boundaries among multiple related professions that emerged in the mid-twentieth century. When the *Journal of Pastoral Care and Counseling* began, there was a lively debate about the relationship between psychotherapy and religious professionals. Today, these concerns appear to have abated (see Figure 3a; topic 1 and 14). However, my results show a heightened emphasis on issues of research and measurement, as chaplains confront recent calls for evidence-based practice (Cadge et al. 2011). Together these findings shed light on the declining religious authority of pastoral care professionals in the twentieth century. As clergy replace denominational terminology with individualistic language, they increasingly employ the academic knowledge system of liberal pluralist theologies while attempting to balance the push for specificity and evidence-based treatments. The contemporary prominence of healthcare chaplaincy emerges as an important reaction to declining religious authority, as the ministerial professional increased efforts within secular institutions (Cadge et al. 2008). Results from my study suggest a heightened concentration on chaplaincy after the 1980s and shed light on the important linguistic differences that result from this new division of labor. Future work is encouraged to explore this “profession in process” (Cadge 2012) as it navigates the complicated space between religion, spirituality, life, and death.

Future directions

While this study provides a model for how computational text analysis can inform historical and theoretical debates, subsequent research is encouraged to apply this model to other types of pastoral and religious texts. The *Journal of Pastoral Care and Counseling* remains one of the longest running journals in the field, but it would be illuminating to explore journals that occupy other places on the theological spectrum. How have conservative publications responded linguistically to the social changes expounded above? In his work on American Evangelicals, Smith (1998) describes a kind of cultural doubling-down as religious minorities thrive on antagonistic external pressures (real or imagined). To the extent that this identity work is linguistic, longitudinal text analysis in this community of discourse would provide important evidence for this social-psychological behavior.

Future work is also encouraged to employ this model to test other aspects of Abbott's professional system. While the present study focused on the academic knowledge system, the availability of diagnostic manuals and treatment reports present fruitful data sources for longitudinal linguistic analysis. In particular, a focus on the legal dimension of jurisdictional claims would showcase another side of pastoral professional's changing authority. A legally enforced monopoly on professional practice remains the ultimate social legitimation. In her book *A Ministry of Presence: Chaplaincy, Spiritual Care, and the Law*, Sullivan (2014) documents the liminal legal space that modern chaplains occupy: at once a religious professional yet employed by a secular institution to care for an ill-defined and always-changing clientel. Future work could explore the legal landscape of personal problems professionals as it responded to the historical changes elaborated above.

While structural topic modeling allows a high-level view of linguistic shifts, future research should pair this technique with traditional content analysis and historical close readings. As DiMaggio (2013) and Marshall (2013) attest, the results of topic modeling are dependent on the researcher's subject expertise and researchers capitalizing on the recent boon of digital text should be wary not to discount the rich and informative historical scholarship on these issues. While the present study relied heavily on Holifield's (2005) historical study of pastoral care, future research in this vein might focus on Laderman's (1999, 2005) historical study of death in America, Collins' (1998) study of philosophical evolution, or Szacki's (1979) history of sociological thought. The availability of large-scale digital text repositories only makes this type of research more feasible, as my previous research can attest (Bernau 2018).

Lastly, this study speaks to larger theoretical concerns that could benefit from recent methodological advances in text analysis. In particular, the rise of individualized pastoral care language is aligned with Meyer's (2010) institutional analysis of individual centrality in modern society. Future research might look to other professional spheres to probe the degree of "individualization" present across multiple disciplines. Likewise, the emphasis on personal experience, narrative, and phenomenology in today's pastoral care journals is congruent with Rieff's (1966) "triumph of the therapeutic" and the changing role of religion in modern society. Future research might look at generalist religious dialogue rather than pastoral care in an attempt to see how far this therapeutic trend has diffused. The results of this study, along with these future directions, demonstrate how the rise of computational text analysis and attendant availability of digital text opens the door to historical sociologists looking to probe the linguistic landscape of the social world (Bail 2014; Bernau 2018).

References

- Abbott, Andrew. 1988. *The System of Professions: An Essay on the Division of Expert Labor*. Chicago: University of Chicago Press.
- Airoldi, Edoardo M. and Jonathan M. Bischof. 2016. "Improving and Evaluating Topic Models and Other Models of Text." *Journal of the American Statistical Association* 111(516):1381–1403.
- Bail, Christopher A. 2014. "The Cultural Environment: Measuring Culture with Big Data." *Theory and Society* 43(3–4):465–82.
- Bellah, Robert N. 1970. *Beyond Belief: Essays on Religion in a Post-Traditionalist World*. Berkeley, Calif.: University of California Press.
- Bellah, Robert N., Richard Madsen, William M. Sullivan, Ann Swidler, and Steven M. Tipton. 1985. *Habits of the Heart: Individualism and Commitment in American Life*. Berkeley, Calif.: University of California Press.
- Bendle, Mervyn F. 2001. "The Contemporary Episteme of Death." *Cultural Values* 5(3):349.
- Berger, Peter, Grace Davie, and Effie Fokas. 2008. *Religious America, Secular Europe?: A Theme and Variations*. New edition edition. Aldershot, England ; Burlington, VT: Routledge.
- Berger, Peter L. 1967. *The Sacred Canopy: Elements of a Sociological Theory of Religion*. Open Road Media.
- Bernau, John A. 2018. "Text Analysis with JSTOR Archives." *Socius* 4:1–2.
- Beyerlein, Kraig and Stephen Vaisey. 2013. "Individualism Revisited: Moral Worldviews and Civic Engagement." *Poetics* 41(4):384–406.
- Biggart, Nicole Woolsey. 1983. "Rationality, Meaning, and Self-Management: Success Manuals, 1950-1980." *Social Problems* 30(3):298–311.
- Blei, D. M. 2012. "Probabilistic Topic Models." *Communications Of The Acm* 55(4):77–84.
- Blei, David M. and John D. Lafferty. 2006. "Dynamic Topic Models." Pp. 113–120 in *Proceedings of the 23rd international conference on Machine learning*. ACM.
- Bloom, Harold. 1992. *The American Religion: The Emergence of the Post-Christian Nation*. New York: Simon & Schuster.
- Bradshaw, Ann. 1996. "The Spiritual Dimension of Hospice: The Secularization of an Ideal." *Social Science & Medicine* 43(3):409–19.
- Browning, Don S. 1983. *The Moral Context of Pastoral Care*. Place of publication not identified: Westminster John Knox Pr.

- Bruce, Steve. 2011. *Secularization: In Defence of an Unfashionable Theory*. Oxford, UK: Oxford University Press.
- Bunting, Ian. 2000. "Pastoral Care at the End of the Twentieth Century." Pp. 383–99 in *A History of Pastoral Care*, edited by G. R. Evans. London: Cassell.
- Cadge, Wendy. 2012. *Paging God: Religion in the Halls of Medicine*. Chicago: University Of Chicago Press.
- Cadge, Wendy, Katherine Calle, and Jennifer Dillinger. 2011. "What Do Chaplains Contribute to Large Academic Hospitals? The Perspectives of Pediatric Physicians and Chaplains." *Journal of Religion and Health* 50(2):300–312.
- Cadge, Wendy, Jeremy Freese, and Nicholas A. Christakis. 2008. "The Provision of Hospital Chaplaincy in the United States: A National Overview." *Southern Medical Journal* 101(6):626–30.
- Chang, Jonathan, Jordan Boyd-Graber, Chong Wang, Sean Gerrish, and David M. Blei. 2009. "Reading Tea Leaves: How Humans Interpret Topic Models." in *Neural Information Processing Systems*. Vancouver, BC.
- Chaves, Mark. 1994. "Secularization as Declining Religious Authority." *Social Forces* 72(3):749–74.
- Chaves, Mark. 2017. *American Religion: Contemporary Trends*. Second edition. Princeton, NJ: Princeton University Press.
- Clooney, Francis X. 2010. *Comparative Theology: Deep Learning Across Religious Borders*. 1 edition. Malden, Mass: Wiley-Blackwell.
- Collins, Randall. 1998. *The Sociology of Philosophies: A Global Theory of Intellectual Change*. Revised edition. Cambridge, Mass.: Belknap Press of Harvard University Press.
- Cornick, David. 2000. "Post-Enlightenment Pastoral Care: Into the Twentieth Century." Pp. 362–81 in *A History of Pastoral Care*, edited by G. R. Evans. London: Cassell.
- Cornille, Catherine. 2010. *Many Mansions?: Multiple Religious Belonging and Christian Identity*. Reprint edition. Eugene Ore.: Wipf & Stock Pub.
- Cox, Harvey. 2013. *The Secular City: Secularization and Urbanization in Theological Perspective*. Revised edition. Princeton: Princeton University Press.
- D'Antonio, William V., James D. Davidson, Dean R. Hoge, and Mary L. Gautier. 2007. *American Catholics Today: New Realities of Their Faith and Their Church*. 50494th edition. Lanham, Md: Rowman & Littlefield Publishers.
- Denny, Matthew. 2017. "Replication Data for: Text Preprocessing For Unsupervised Learning: Why It Matters, When It Misleads, And What To Do About It."

- DiMaggio, Paul. 2015. "Adapting Computational Text Analysis to Social Science (and Vice Versa)." *Big Data & Society* 2(2):2053951715602908.
- DiMaggio, Paul, Manish Nag, and David Blei. 2013. "Exploiting Affinities between Topic Modeling and the Sociological Perspective on Culture: Application to Newspaper Coverage of U.S. Government Arts Funding." *Poetics* 41(6):570–606.
- Dobbelaere, Karel. 1987. "Some Trends in European Sociology of Religion: The Secularization Debate." *Sociological Analysis* 48(2):107–37.
- Dobbelaere, Karel. 2002. *Secularization: An Analysis at Three Levels*. Peter Lang.
- Douglas, Ann. 1998. *Feminization of American Culture*. New York: Farrar, Straus and Giroux.
- Finke, Roger and Rodney Stark. 1988. "Religious Economies and Sacred Canopies: Religious Mobilization in American Cities, 1906." *American Sociological Review* 53(1):41–49.
- Finke, Roger and Rodney Stark. 2005. *The Churching of America, 1776-2005: Winners and Losers in Our Religious Economy*. Revised edition. New Brunswick, N.J: Rutgers University Press.
- Fitchett, George and Nolan, eds. 2015. *Spiritual Care in Practice: Case Studies in Healthcare Chaplaincy*. London ; Philadelphia: Jessica Kingsley Publishers.
- Fuller, Richard C. and Richard R. Myers. 1941. "Some Aspects of a Theory of Social Problems." *American Sociological Review* 6(1):24–32.
- Garces-Foley, Kathleen. 2013. "Hospice and the Politics of Spirituality." Pp. 13–36 in *Spirituality in Hospice Palliative Care*, edited by P. Bramadat, H. Coward, and K. I. Stajduhar. Albany, New York: State University of New York Press.
- Grimmer, Justin and Brandon. M. Stewart. 2013. "Text as Data: The Promise and Pitfalls of Automatic Content Analysis Methods for Political Texts." *Political Analysis* 21(3):267–97.
- Gusfield, Joseph R. 1981. *The Culture of Public Problems: Drinking-Driving and the Symbolic Order*. Chicago: University of Chicago Press.
- Heilweil, Rebecca. 2019. "Deus Ex Machina: Religions Use Robots to Connect With the Public." *Wall Street Journal*, March 28.
- Hewitt, John P. 1989. *Dilemmas of the American Self*. Philadelphia: Temple University Press.
- Hoge, Dean R. 2011. "The Sociology of the Clergy." Pp. 581–98 in *The Oxford Handbook of the Sociology of Religion*, edited by P. Clarke. Oxford; New York: Oxford University Press.
- Holifield, E. Brooks. 2005. *A History of Pastoral Care in America: From Salvation to Self-Realization*. Revised edition. Eugene, OR: Wipf & Stock Pub.

- Hout, Michael and Claude S. Fischer. 2002. "Why More Americans Have No Religious Preference: Politics and Generations." *American Sociological Review* 67(2):165–90.
- Idler, Ellen L., George H. Grant, Tammie Quest, Zachary Binney, and Molly M. Perkins. 2015. "Practical Matters and Ultimate Concerns, 'Doing,' and 'Being': A Diary Study of the Chaplain's Role in the Care of the Seriously Ill in an Urban Acute Care Hospital." *Journal for the Scientific Study of Religion* 54(4):722–38.
- James, William. 1950. *The Principles of Psychology, Vol. 1*. Reprint edition. New York: Dover Publications.
- JPCC Inc. 2019. "Mission." *The Journal of Pastoral Care Publications, Inc.* Retrieved May 19, 2019 (<http://www.jpcc.org/mission/mission>).
- Kinney, Alexander B., Andrew P. Davis, and Yongjun Zhang. 2018. "Theming for Terror: Organizational Adornment in Terrorist Propaganda." *Poetics* 69:27–40.
- Knitter, Paul F. 2002. *Introducing Theologies of Religions*. Maryknoll, N.Y: Orbis Books.
- Knitter, Paul F. 2013. *Without Buddha I Could Not Be a Christian*. Second Edition edition. Richmond: Oneworld Publications.
- Kubler-Ross, Elizabeth. 1969. *On Death and Dying: What the Dying Have to Teach Doctors, Nurses, Clergy and Their Own Families*. English Language edition. New York: MacMillan Publishing.
- Laderman, Gary. 1999. *The Sacred Remains: American Attitudes Toward Death, 1799-1883*. New Haven: Yale University Press.
- Laderman, Gary. 2005. *Rest in Peace: A Cultural History of Death and the Funeral Home in Twentieth-Century America*. 1 edition. New York: Oxford University Press.
- Lamb, Christopher. 2000. "The Pastoral Care of People of Other Faiths." Pp. 454–63 in *A History of Pastoral Care*, edited by G. R. Evans. London: Cassell.
- Largen, Kristin Johnston. 2013. *Finding God among Our Neighbors: An Interfaith Systematic Theology*. Minneapolis: Fortress Press.
- Lechner, Frank J. 1991. "The Case against Secularization: A Rebuttal." *Social Forces* 69(4):1103–19.
- Macomber, William. 1908. *History of the Emmanuel Movement from the Standpoint of a Patient*. New York: Moffat, Yard and company.
- Madsen, Richard. 2009. "The Archipelago of Faith: Religious Individualism and Faith Community in America Today." *American Journal of Sociology* 114(5):1263–1301.

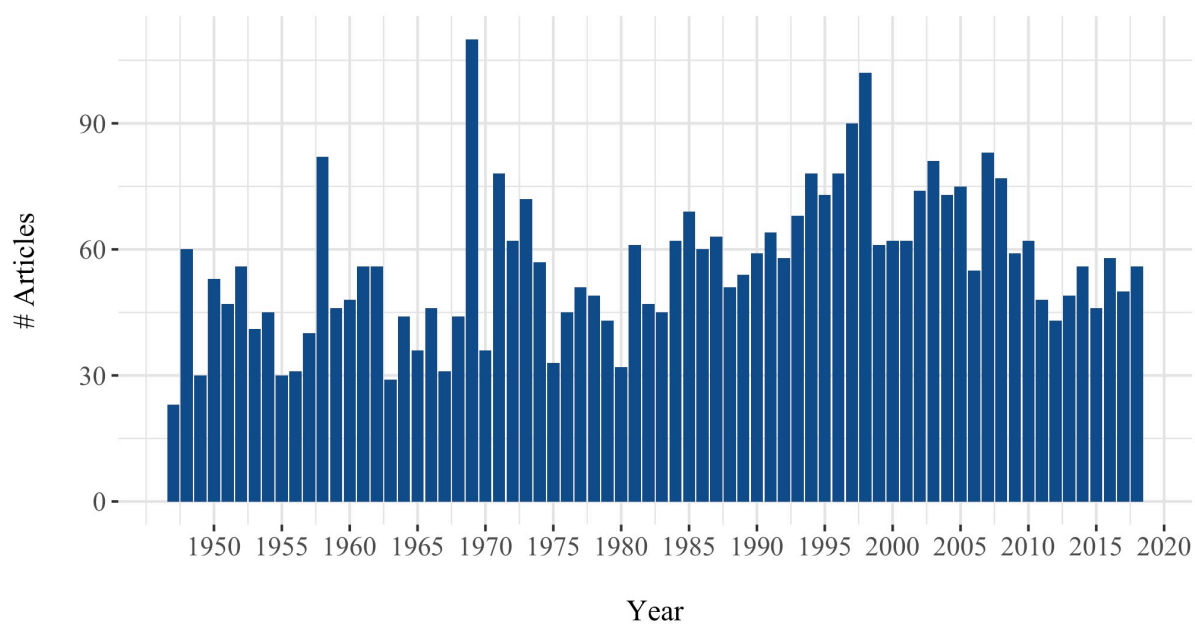
- Marshall, Emily A. 2013. "Defining Population Problems: Using Topic Models for Cross-National Comparison of Disciplinary Development." *Poetics* 41(6):701–24.
- Martin, David. 1978. *A General Theory of Secularization*. New York: Harper & Row.
- Massey, Kevin, Marilyn JD Barnes, Dana Villines, Julie D. Goldstein, Anna Lee Hisey Pierson, Cheryl Scherer, Betty Vander Laan, and Wm Thomas Summerfelt. 2015. "What Do I Do? Developing a Taxonomy of Chaplaincy Activities and Interventions for Spiritual Care in Intensive Care Unit Palliative Care." *BMC Palliative Care* 14.
- Meyer, John W. 2010. "World Society, Institutional Theories, and the Actor." *Annual Review of Sociology* 36(1):1–20.
- Mimno, David and Moontae Lee. 2014. "Low-Dimensional Embeddings for Interpretable Anchor-Based Topic Inference." Pp. 1319–1328 in *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Doha, Qatar: Association for Computational Linguistics.
- Mimno, David, Hanna M. Wallach, Edmund Talley, Miriam Leenders, and Andrew McCallum. 2011. "Optimizing Semantic Coherence in Topic Models." Pp. 262–272 in *Proceedings of the Conference on Empirical Methods in Natural Language Processing, EMNLP '11*. Stroudsburg, PA, USA: Association for Computational Linguistics.
- Murphy, T. 1877. *Pastoral Theology*. Philadelphia: Presbyterian Board of Publication.
- Powell, Lyman P. 1909. *The Emmanuel Movement in a New England Town: A Systematic Account of Experiments and Reflections Designed to Determine the Proper Relationship Between the Minister and the Doctor in the Light of Modern Needs*. New York, New York, London: GPPutnam, GPPutnam's sons.
- Prothero, Stephen. 2011. *God Is Not One: The Eight Rival Religions That Run the World*. Reprint edition. HarperOne.
- Putnam, Robert D. and David E. Campbell. 2012. *American Grace: How Religion Divides and Unites Us*. New York: Simon & Schuster.
- R Core Team. 2019. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing.
- Rieff, Philip. 1966. *The Triumph of the Therapeutic: Uses of Faith after Freud*. Wilmington, Del: Intercollegiate Studies Institute.
- Roberts, Margaret E., Brandon M. Stewart, and Dustin Tingley. 2013. "stm: R Package for Structural Topic Models." *Journal of Statistical Software* 42.
- Roberts, Margaret E., Brandon M. Stewart, Dustin Tingley, Christopher Lucas, Jetson Leder-Luis, Shana Kushner Gadarian, Bethany Albertson, and David G. Rand. 2014. "Structural Topic

- Models for Open-Ended Survey Responses.” *American Journal of Political Science* 58(4):1064–82.
- Rogers, Carl R. 1942. *Counseling and Psychotherapy: Newer Concepts in Practice*. Boston ; New York [etc.]: Houghton Mifflin company.
- Rogers, Carl R. 1951. *Client-Centered Therapy: Its Current Practice, Implications, and Theory*. Boston: Houghton Mifflin.
- Singer, Peter. 1993. *How Are We to Live?: Ethics in an Age of Self-Interest*. Amherst, N.Y: Prometheus Books.
- Smith, Christian. 1998. *American Evangelicalism: Embattled and Thriving*. University of Chicago Press.
- Smith, Christian, ed. 2003. *The Secular Revolution: Power, Interests, and Conflict in the Secularization of American Public Life*. Berkeley: University of California Press.
- Stafford, Mark C. and Mark Warr. 1985. “Public Perceptions of Social Problems: Some Propositions and a Test.” *The Journal of Applied Behavioral Science* 21(3):307–16.
- Starr, Paul. 1982. *The Social Transformation of American Medicine*. New York: Basic Books.
- Sullivan, Winnifred Fallers. 2014. *A Ministry of Presence: Chaplaincy, Spiritual Care, and the Law*. Chicago ; London: The University of Chicago Press.
- Szacki, Jerzy. 1979. *History of Sociological Thought*. Westport, Conn: Greenwood Press.
- Taddy, MA. 2012. “On Estimation and Selection for Topic Models.” in *the 15th International Conference on Artificial Intelligence and Statistics*.
- Taylor, Charles. 1992. *The Ethics of Authenticity*. Cambridge, Mass: Harvard University Press.
- Tillich, Paul. 1973. *Systematic Theology, Vol. 1*. Princeton, NJ: University Of Chicago Press.
- Tipton, Steven M. 1982. *Getting Saved from the Sixties: Moral Meaning in Conversion and Cultural Change*. Berkeley: University of California Press.
- Trilling, Lionel. 1973. *Sincerity and Authenticity*. Cambridge, Mass.: Harvard University Press.
- Tschannen, Olivier. 1991. “The Secularization Paradigm: A Systematization.” *Journal for the Scientific Study of Religion* 30(4):395–415.
- Wallach, Hanna M., Iain Murray, Ruslan Salakhutdinov, and David Mimno. 2009. “Evaluation Methods for Topic Models.” Pp. 1–8 in. ACM Press.
- Williams, Mari Lloyd, Michael Wright, Mark Cobb, and Chris Shiels. 2004. “A Prospective Study of the Roles, Responsibilities and Stresses of Chaplains Working within a Hospice.” *Palliative Medicine* 18(7):638–45.

Worcester, Elwood and Samuel McComb. 1909. *The Christian Religion as a Healing Power: A Defense and Exposition of the Emmanuel Movement*. New York: Moffat, Yard, Moffat, Yard and company.

Wuthnow, Robert. 1990. *The Restructuring of American Religion*. Princeton, N.J.; Oxford: Princeton University Press.

Tables and Figures

Figure 1: Journal of Pastoral Care and Counseling 1947-2018

N = 4054

Figure 2a: Topic composition and longitudinal trends

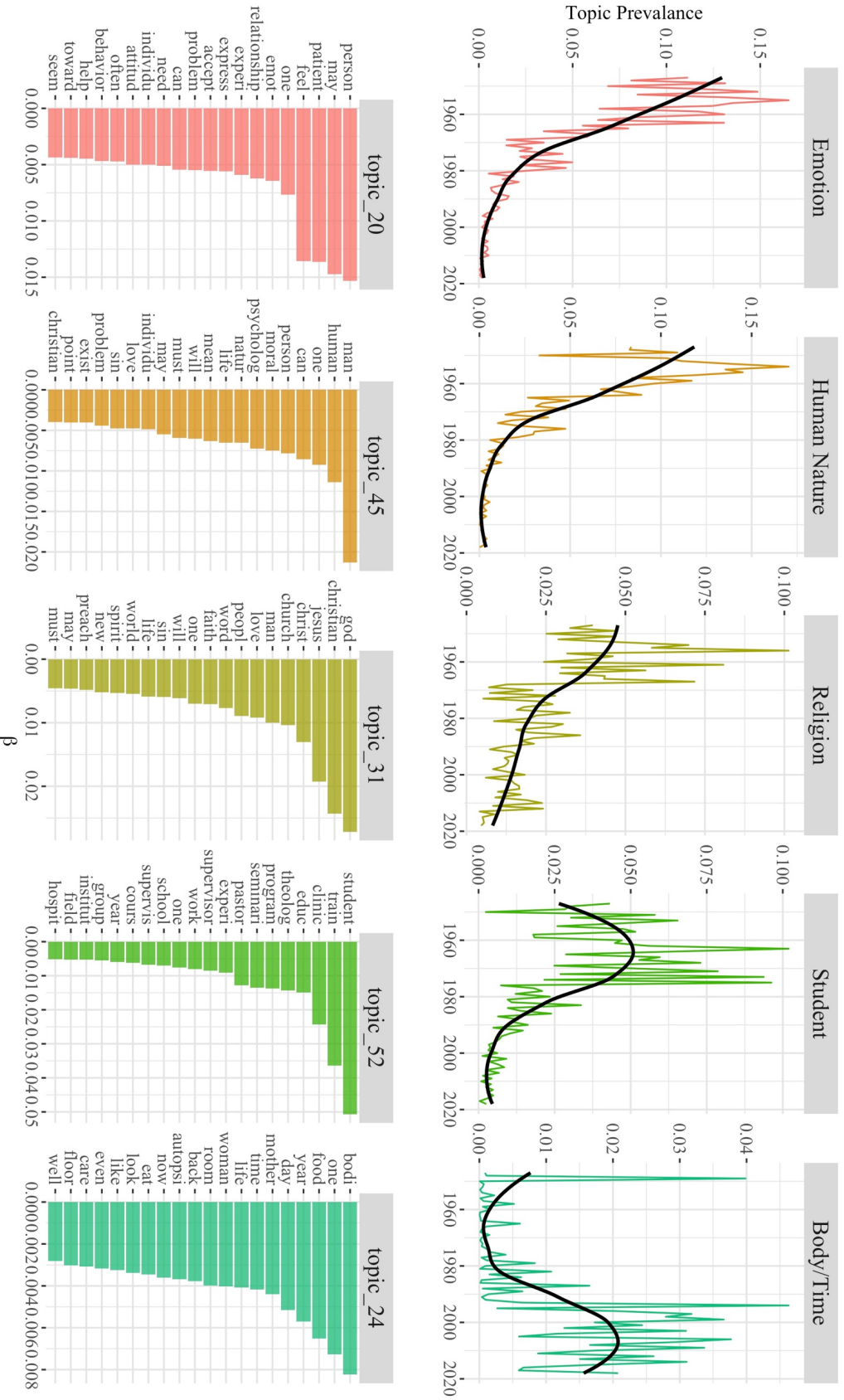


Figure 2b: Topic composition and longitudinal trends

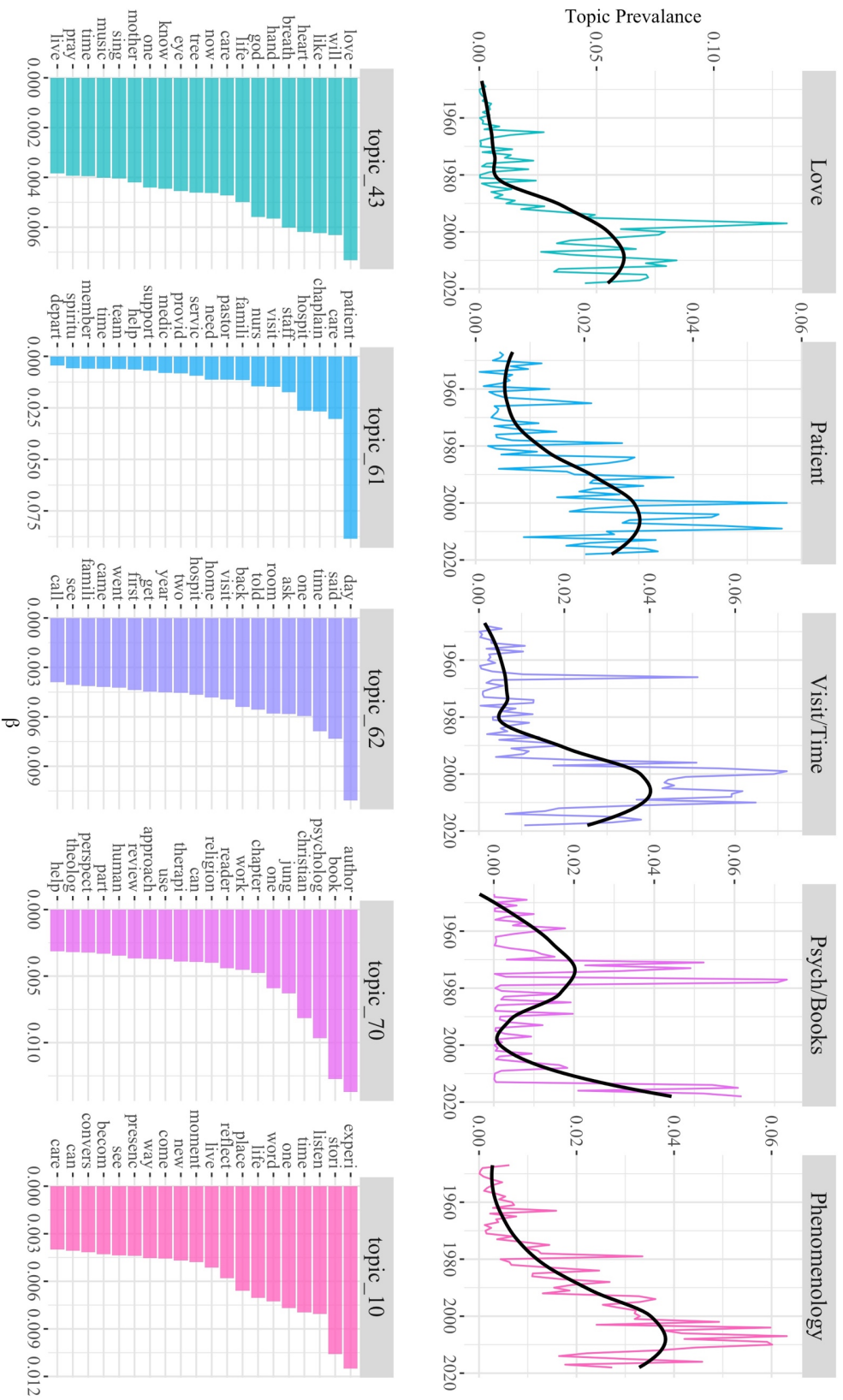


Figure 3a: Topic composition and longitudinal trends

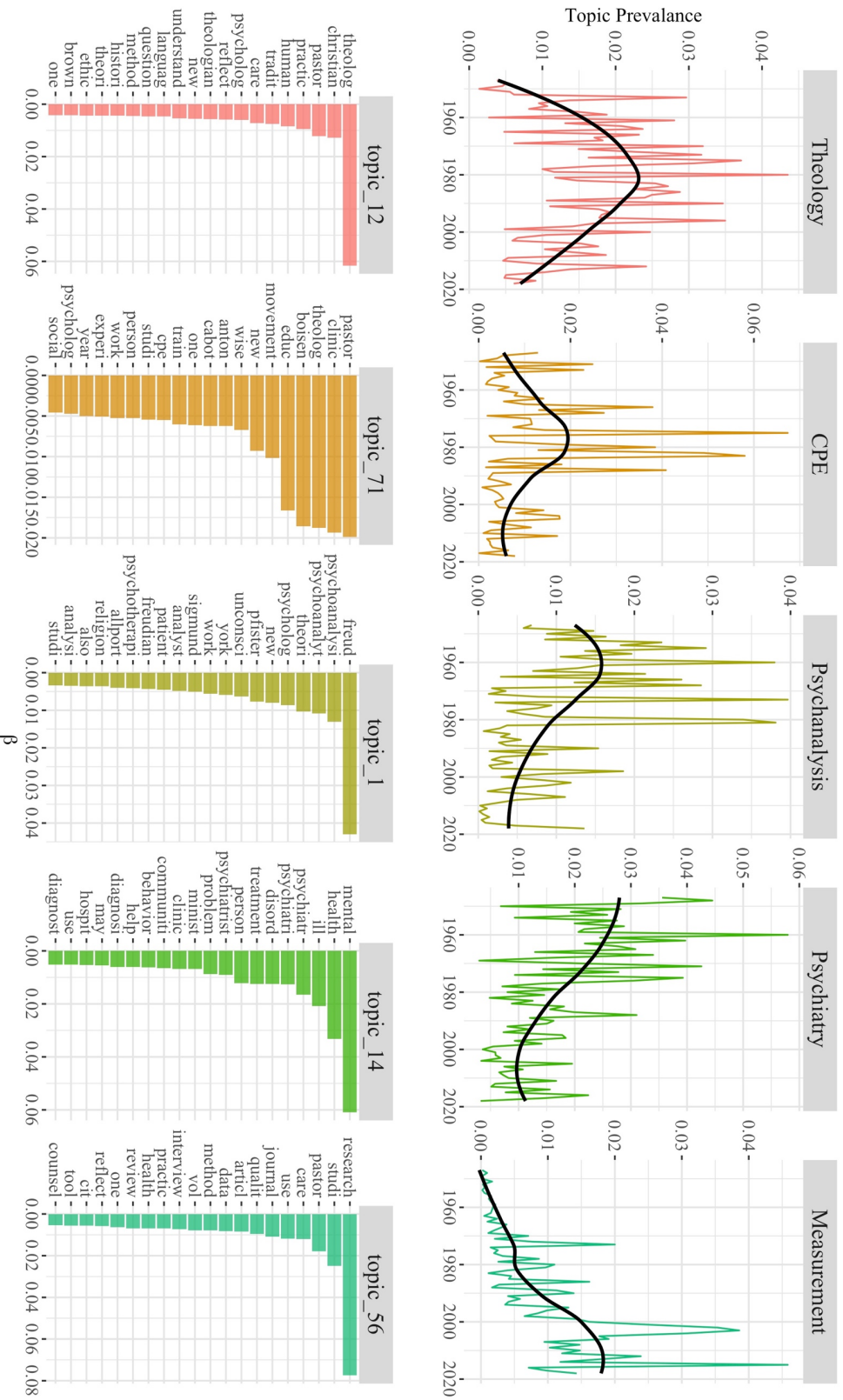


Figure 3b: Topic composition and longitudinal trends

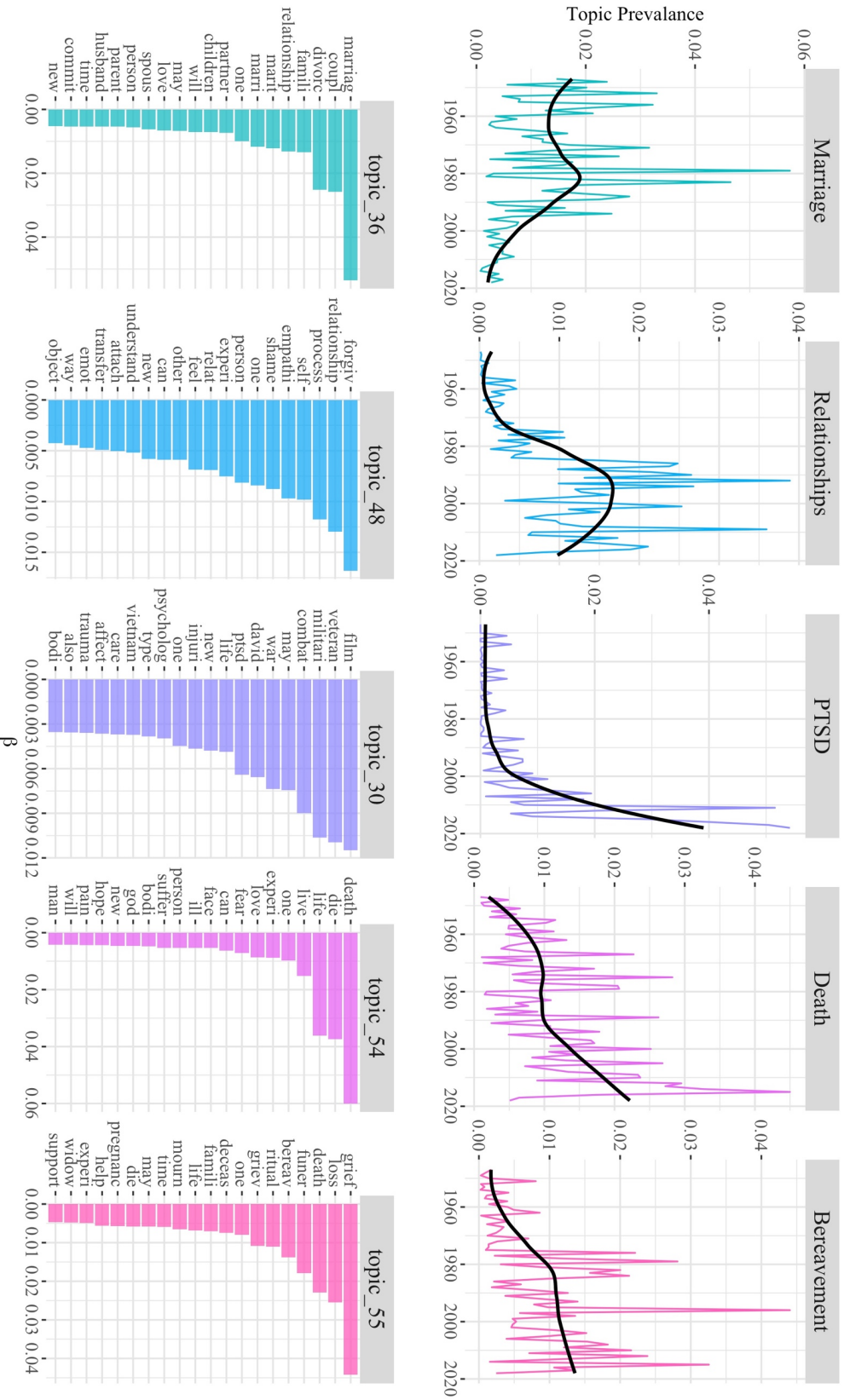
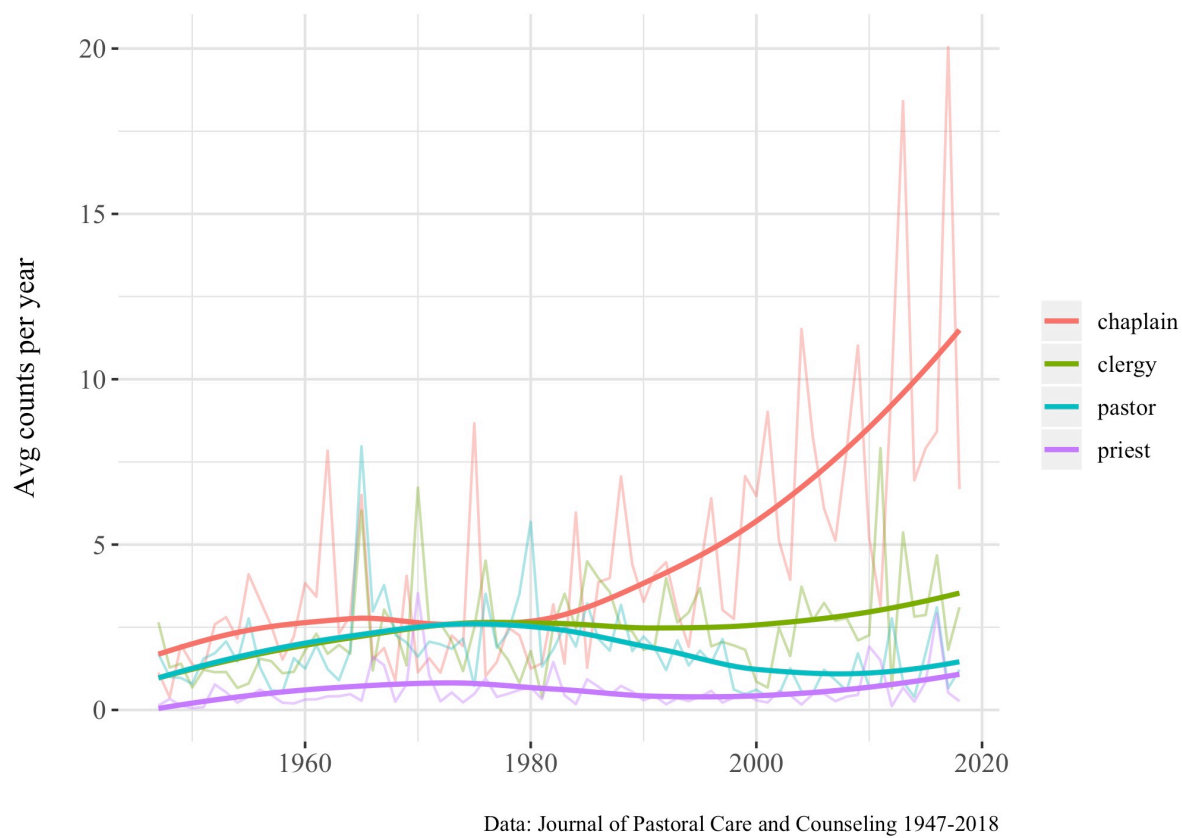


Figure 4: Average word frequencies per year: *priest*, *pastor*, *clergy*, and *chaplain*



Appendix

Figure A1: Corpus Coverage Weighting (CCW). Each shaded cell represents the number of articles that met the given threshold for each topic.



The Language of Religion and Spirituality in Modern Medical Institutions: Evaluating the Efficacy of Small-Corpus Word Vector Representations

John A. Bernau
Emory University

Keywords

pastoral care, chaplains, religion, health, death and dying, word vectors

Abstract

This study examines how modern chaplains talk about end-of-life care with respect to religion and spirituality. Drawing on interactional approaches to language, both social and syntactic, I trace the various “interpretive packages” employed to make sense of mortality in modern healthcare institutions. I do this through an analysis of 25 in-depth interviews with practicing healthcare chaplains using word vector representations, a new and underutilized technique for computational text analysis. Ultimately, I show how modern healthcare chaplains are more likely to evoke language of spirituality during end-of-life care than language of religiosity, and that this spiritual language appears less thematically unified than chaplains’ discussions of religion. My analysis also demonstrates the linguistic shifts that occur throughout the dying process. As a patient progresses through a terminal illness, talk of death moves from doctor, surgeries, and diagnosis; to meeting, understanding, anger, and afraid; to abstract discussions of death, culture, life, and history. While providing an analytical model for future studies, these exploratory findings echoes previous work exploring the politics of spirituality and the complicated meanings surrounding modern experiences of death and dying.

Introduction

In this study I trace the ways in which language of religion and spirituality operates in modern medical institutions. With a special emphasis on death and dying, I explore how patients, families, nurses, chaplains, and physicians work together to comprise an ecosystem of care to terminal patients. Drawing on interactional approaches to language, both social and syntactic (Firth 1968; Mead 1934), I identify the “interpretive packages” (Gamson and Modigliani 1989) chaplains employ when discussing matters of religion, spirituality, death, and dying. This substantive focus speaks to recent public interest in death and dying as a result of cultural, demographic, institutional,

and economic changes. In the last fifty years traditional religious engagement in America has declined and demographic diversity has increased (US Census Bureau 2012; Voas and Chaves 2016). These trends are matched with an aging population of Baby Boomers and a growing and costly medical system (Livne 2014). Together these changes have precipitated heightened public interest in end-of-life issues, as evidenced by best-selling books like Gawande's *Being Mortal* (2014) and Kalanithi's *When Breath Becomes Air* (2016).

In response to this public interest and the push towards professionalization, modern chaplains must contend with two counter-vailing trends. On one hand, liberal pluralistic theologies developed since the 1960s have stripped pastoral language of its denominational specificity, leaving an ecumenical linguistic inclusivity that lets patients define the terms of their encounter (Cadge 2012). While arguably a welcome response to a hyper-rationalized and impersonal medical system, this shift signals a ceding of professional authority as treatment is increasingly provided on clients' grounds (Bernau 2019b). On the other hand, recent calls for evidence-based practice have infiltrated medical chaplaincy in an effort to demonstrate efficacious and measurable treatment (Swift 2014). Thus, today's chaplains must balance the bureaucratic push towards specificity with the simultaneous expectation of spiritual flexibility.

I probe this interactional space using word vector representations: a recent and underutilized method of computational text analysis. This technique uses a machine-learning algorithm to create an n -dimensional model of language for a given text corpus. The resultant model assigns each word a numerical vector that represents its relationship to all other words in the corpus. This allows sophisticated analysis of semantic-syntactic word similarities. By representing each word as a numerical vector, researchers can compare words according to cosine similarity and plot this high-dimensional model in one- or two-dimensional space. On account of

its industry-focus and methodological sophistication, this method has been largely absent in the social sciences since its development (Garg et al. 2018). I employ this method to analyze 25 in-depth interviews with practicing healthcare chaplains. While word vector representations have traditionally been used on large text corpora, my results suggest that this technique produces fruitful results for much smaller corpora.

Ultimately, I demonstrate the complicated relationship between spirituality and religion at the end of life while also shedding light on the social interactions that occur among medical professionals in modern healthcare institutions. Specifically, I show how modern healthcare chaplains are more likely to evoke language of spirituality during end-of-life care than language of religiosity, and that this spiritual language appears less thematically unified than chaplains' discussions of religion. This finding echoes previous work exploring the politics of spirituality and the complicated meanings surrounding modern experiences of death and dying (Garces-Foley 2013; Giddens 1991; Mellor 1992). My analysis also demonstrates the linguistic shifts that occur throughout the dying process. As a patient progresses through a terminal illness, talk of death moves from *doctor, surgeries, and diagnosis*; to *meeting, understanding, anger, and afraid*; to abstract discussions of *death, culture, life, and history*. I begin by providing some theoretical background on the social psychology of language before turning to recent research on patient and chaplain experiences in modern medical institutions. I then discuss the study design and results before a concluding discussion.

Theoretical Motivation

The Sociology of Language

Sociological interest in language can be traced at least as far back as George Herbert Mead. Influenced by early American pragmatists, Mead explains how shared language arose as a solution to the problem of social interaction. In *Mind, Self and Society* (1934), he defines human “gestures” as instinctual behaviors that produce respondent behaviors in others. Only when gestures elicit stable and similar responses in others do they become “symbols.” The exchange of these symbols allows ideas to be shared across the solipsistic canyon of individuality. In this way, language – or the exchange of these significant symbols – becomes a fundamentally social act. By generating the ideas evoked by a speaker’s language, the listener is taking the perspective of the other.¹⁴ Linguistic meaning arises in the threefold relation of the symbolic gesture, the reception of this gesture, and the resultant social act. In other words, discussions about the “meaning” of a word like *mountain* are referring to a social process: *what is it like for a person to communicate about mountains? what is it like for a person to receive this communication? what happens after this word is communicated and received?*

Symbolic interactionists developed Mead’s theory into a wider theoretical and methodological agenda, focusing on the role of situational meaning as defined by relevant actors (Blumer 1969; Stryker 1980). As William Thomas famously said: “If men define situations as real, they are real in their consequences” (quoted in Stryker 1980:31). However, not all significant symbols are readily understood or agreed upon. Each interaction serves to validate or challenge individual definitions of reality, resulting in what Stryker refers to as “a ‘battle’– sometimes

¹⁴ Importantly, the byproduct of taking this perspective is the crystallization of the boundaries of an individual mind: it is only the awareness of other minds that one’s own receives ontological separation. Similarly, Sorokin (1964) argues this external awareness led to the development of human rights as societies became more mobile (Vucht Tijssen et al. 1995).

relatively benign and sometimes not— over whose and which definitions are to prevail as the basis for future interaction” (Stryker 1980:57). This battle is sometimes masked by routine interactions, but arises when encountering new individuals, new situations, or some combination of the two. For example, the first day at a new school produces anxiety as one prepares for a day of consequential situation-defining behavior. Teachers must similarly prepare for the first day of class as they “set the tone” for the entire semester. While these situations tend to arrive at collective definitions within the first week or so, the door is opened upon the disruption of this routine. As rebellious students soon discover, the introduction of a substitute teacher often presents new and exciting opportunities for situational definitions. In this way, language is used to both convey information and define social situations. Because there are many ways to employ language to these ends, sociolinguists examine “the social meaning of choices among linguistic variants” (Fasold 1984:x). Since Mead, social psychologists have produced a wealth of research examining these battles over situational definitions (Burke 1991; Goffman 1959; Ramirez 2006; Stets and Burke 2005).

Peter Berger (1967) adopts this interactional emphasis by putting language at the center of his phenomenological sociology and the task of world-construction. Together with Thomas Luckmann (1967), Berger defines three processes of externalization, objectivization, and internalization wherein humans 1) project meaning onto the natural world, 2) these meanings become crystallized as extra-individual, and 3) come to shape subsequent human behavior. In this framework, language provides the only metaphysical grounding for individual behavior. Without others, one’s externalized meaning cannot be affirmed and thus loses its ability to direct and shape human life. “In other words, the subjective reality of the world hangs on the thin thread of conversation” (Berger 1967:17). In one recent study, Shaw (2015) demonstrates this

constructionist approach to meaning using agent based modeling: a novel simulation of social behavior using rule-based computational models. She found that those who “interacted” with enough divergent opinions eventually conformed to the majority, producing “meaning-enclaves” based on interactional structure. While recent studies have challenged the homogenizing effect of majority opinions (Bail et al. 2018), the role of language and situational definitions remain an important part of our understanding of social meaning.

While the role of social interaction is clearly prevalent among sociologists, theoretical linguists apply this relational approach to words and symbols themselves. For example, Firth (1968) argues that meaning is not inherent in each individual word but rather embedded in the aura around related words. In this way, for example, two people could not understand a discussion of *mountains* without a prior understanding of *rocks*, *altitude*, *climbing*, *earth*, etc. In other words, “you shall know a word by the company that it keeps” (Firth 1968:11). This theory of “collocational meaning” contributed to later theories of “distributional semantics” (Sahlgren 2008)– or the idea that meaning arises from the patterns and clusters of individual words (Robins 1997). While subtly different than Mead’s theory of language, both approaches emphasize the interactional nature of linguistic meaning. Together, the dual interaction between people in their social context and words in their linguistic context give rise to the meaning found in effective language.

Cultural Sociology

In a similar vein, cultural sociologists have examined how linguistic and cultural frameworks coalesce into – variously – *habitus* (Bourdieu 1977), *schemas* (DiMaggio 1997), *frames* (Vicari 2010), *interpretive packages* (Gamson and Modigliani 1989), and *toolkits* (Swidler 1986). For

example, Gamson and Modigliani (1989) describe “interpretive packages”: a constellation of particular language (metaphors, symbols, catchphrases, etc.) that frames a particular issue. In dealing with a complex topic, these packages employ “condensing symbols” to serve as a shorthand for a collection of ideological positions. Used in many spheres of discourse, these are commonly evoked to situate understanding of a given issue. In the debate about nuclear power, they identify several interpretive packages used by media sources and citizens alike. The “progress” frame prevailed in early nuclear coverage but was later challenged by “runaway” and “devil’s bargain” frames during the energy crisis of the 70s, the Three Mile Island accident, and other prominent events. In a similar analysis, debates about the welfare state in America were found to revolve around four interpretive packages ranging from traditionally conservative to traditionally liberal: “welfare freeloaders”, “the working poor”, “poverty trap”, and “regulating the poor” (Gamson and Lasch 1983). Each interpretive package is made up of associated metaphors, exemplars, catchphrases, consequences, and appeals to principles. In media practice and beyond, each one of these “condensing symbols” are used as representations of a much wider political opinion that is rarely outlined in full.

To account for the many packages that constitute our cultural system, Swidler (1986, 2001) talks about “cultural repertoires”, or a cultivated set of skills and habits we use to solve problems. In this way, culture can be understood not as an “entire way of life,” or a unified system of values, but rather a patchwork of unorganized and often contradictory information. Much of this goes unused (DiMaggio 1997), and we have individual affinities for the culture we are more accustomed to (Bourdieu 1984; Swidler 1986). In her research on Americans’ conception of love, Swidler (2001) finds that people often use contradictory frames for explaining this concept. For example, when talking about love, one of her interview subjects who subscribed to a fully autonomous and

independent idea of marriage suddenly switched to a language of commitment and sacrifice when prompted to consider his wife with a life-threatening illness: In one situation it was best to have separate interests and not hinder the others' development of self, while a different situation requires an ultimate sacrifice of time and energy. "This sudden shift in cultural vocabulary was provoked when [his] attention shifted to a new scene, one that called up a different part of his cultural repertoire...When the vocabulary of respect failed him, an entirely different moral vision was available in reserve" (Swidler 2001:33).

These reserves are the raw materials we use to construct a meaningful world. When confronted with a problem, people look to the culture they have accumulated to make sense of and understand a situation. Sometimes it will be a part of a coherent interpretive package (with metaphors, catchphrases, examples, and appeals to principle), and other times it will be an inductively constructed amalgam of our previously exposed repertoires. "Making sense of the world requires an effort, and those tools that are developed, spotlighted, and made readily accessible have a higher probability of being used" (Gamson and Modigliani 1989:10). Taking death as a social problem (Berger 1967), I examine the interpretive packages and cultural repertoires employed in modern medical institutions to construct a meaningful understanding of our mortality.

Historical Background

Three social changes in the past fifty years have led to increased public interest in death and dying. The decline of traditional religiosity and increase of demographic diversity have complicated culturally dominant frames for understanding mortality, while a growing medical institution has changed the way most people experience their last moments. In order to understand contemporary

linguistic packages of death and dying, it is important to grasp the importance of these historical social trends.

Secularization and Religious Pluralism

The twin issues of religious diversity and secularization are often seen as two sides of the same coin. Under Berger's (1967) classical treatment, declining religious consensus slowly erodes religion's taken-for-grantedness. While declining consensus can have many origins, the most straightforward causal agent is, simply, new people. Nearly 1/8 of Americans today are foreign born and Protestants are slowly losing their status as an American majority, hovering around 50% (Chaves 2017). While secularization has been criticized for being an amorphous and unwieldy theory, most secularization theorists today agree on a three-level process; individual, organizational, and societal. These levels account for declining rates of individual belief and practice, the declining importance of religious doctrines in the functioning of the State, and the relegation of religion to the private sphere (Casanova 1994; Dobbelaere 2002; Giddens 1991). In Bruce's (2011) synthetic treatment, secularization can be understood as a web of intersecting social changes – from the Protestant Reformation and the growth of capitalism to socio-cultural diversity and structural differentiation – that together result in “the displacement of religion from the center of human life” (Bruce 2011:1). Of these, four emerge as especially relevant: the rise of monotheism, the Protestant Reformation, “societalization,” and increasing cultural diversity.

First, Bruce argues that the rise of monotheism changed the way people saw religion by relegating it to a wholly separate and unreachable sphere. Before, people experienced religion in every manner of spirits, demons, saints, and angels. Furthermore, these beings were in direct contact with humans and subject to the manipulation of religious rituals and offerings. Greek and

Roman gods were even known to mate with humans. With monotheism, these spiritual beings were consolidated into one Supreme Being that existed on a celestial plane separate from humankind. This differentiation meant that the human world was no longer imbued with everyday spiritual forces. Additionally, this Supreme Being was not subject to the whims of human rituals or manipulation. People could increasingly interpret and act in their daily life without immediate consideration of religious matters. According to Bruce, this was the very first step into allowing the plausibility of a godless cosmos to come about.¹⁵

Second, while the Catholic Church resurrected a shade of this religious immanence with the canonization of saints and angels and the paying of indulgences, the Protestant Reformation led to further differentiation between worldly concerns and the spiritual realm. In addition to bringing about a different relationship to work and economy (Weber 2011), the Reformation removed the church as a spiritual mediator between man and God. No longer was salvation attainable through rituals or confessions, but instead through the exclusive faith and good works of the individual. This increasing individualism, paired with rising literacy rates and the widespread distribution of the Bible, meant the declining power of church authority and with it spiritual unanimity.

A third factor leading to secularization is found in “societalization” (Wilson 1982). Drawing on the work of Durkheim, Bruce (2011) and other theorists explain religion’s strength in terms of its relevance to the community. But with rising industrialization, urbanization, and bureaucracy, religion lost its power to speak directly to important moments in people’s lives. The sacred canopy was no longer reaffirmed at important community events like first harvest festivals or seasonal celebrations, and religion lost its symbolic power to speak to cohesive communities.

¹⁵ Berger refers to this process as “transcendentalization” (1967).

Lastly, Bruce extends the classical ‘pluralism qua secularization’ line of Berger et al, by making a prediction: as long as egalitarian democratic societies value social harmony above religious orthodoxy, secularization will follow diversity. In order to serve and maintain a religiously diverse population, societies will have to either remove explicit religious doctrines from the happenings of the State, or whitewash religious differences into a vague “civil religion” (Bellah and Hammond 1982). Together these factors, among others, contribute to the secularization paradigm that many scholars argue offers the best explanation for the place of religion in modernity.

Of course, critics have attempted to disentangle religious pluralism and secularization. One of the first exemplars of this approach, Finke and Stark (1988) use US census data from 1906, to argue that areas marked by increasing religious diversity experienced ascendant religious adherence. This “supply-side” argument borrows from economic theory by claiming religious diversity will allow churches to better cater to the religious “market” of a given population. Similar studies have flourished in the last twenty years (Finke and Stark 2005; Iannaccone 1994, 1996; Stark 1999; Yang 2006, 2011). However, in their meta-analysis of the pluralism-secularization connection, Chaves & Gorski (2001) examine 193 independent tests as reported in 26 published articles. Drawing on the work of Olson (1999) (and later Voas et al (2002)) they reveal a curious mathematical relationship that has been driving the appearance of positive correlations in previous pluralism research. Essentially, the mathematical relationship between pluralism and participation is constrained to be negative or positive depending on whether large or small denominations vary the most. Furthermore, most measures of pluralism are calculated by a measure of participation, which then negates its ability to also predict religious participation due to multicollinearity. This circular relationship, paired with the problem of denomination size variations, leads to a convincing rebuttal to Finke and Stark’s economic models. As Gorski & Altinordu (2008) remark:

"Because it defines secularization as a decline in religious demand, and because it defines religious demand as constant, the religious economies model simply defines secularization out of existence in much the same way that neoclassical economics defines irrational action out of existence" (2008:58).

Aside from these critiques, secularization has also been challenged to explain global trends like the US fundamentalism or the 1979 Iranian revolution (Berger 1999; Berger, Davie, and Fokas 2008). This awareness of the continued relevance of religion was given momentum by Peter Berger, who himself led the secularization paradigm only a few decades prior. Speaking to this, Berger asserts: "My point is that the assumption that we live in a secularized world is false. The world today, with some exceptions to which I will come presently, is as furiously religious as it ever was, and in some places more so than ever. This means that a whole body of literature by historians and social scientists loosely labeled 'secularization theory' is essentially mistaken" (1999:2). However, many argue that these global trends are not enough to reject the underlying premises of secularization theory (Lechner 1991). Bruce, for one, argues "there is ample evidence of Christianity in the USA losing power, prestige, and popularity" (2002:204), and Chaves' recent work shows clear evidence of generational decline in religious belief and participation (Chaves 2017; Voas and Chaves 2016). Alas, debate over macro-theories of societal change will likely always have enough exceptions to sustain heated debate (Schnabel and Bock 2017, 2018; Voas and Chaves 2018). Instead, Chaves and Gorski (2001) argue that "the quest for a general law about the relationship between religious pluralism and religious participation should be abandoned," offering instead that "the most valuable future work on this subject is likely to include investigations into the social, cultural, and institutional arrangements that determine, in part,

religious pluralism's consequences for religious vitality" (2001:279). To this end, I examine the role of religious diversity and its consequences for those placed in modern medical institutions.

Rationalization of American Medicine

In his Pulitzer-Prize winning history, *The Social Transformation of American Medicine* (1982), Paul Starr documents the rise of the medical institutional system after World War II devastated most European economies. In 1947, the US produced more than half of world's manufactured goods, 62% of the world's oil, and 80% of all automobiles. This economic prosperity brought considerable growth to the healthcare industry. Between 1950 and 1970, national healthcare expenditures grew from 12.7 to 71.6 billion dollars (Starr 1982:335). With this meteoric expansion, prestige and financial incentives now went to medical specialists, discouraging general practice physicians and precipitating the displacement of small offices by large medical schools and hospitals. With more physicians pursuing specialization, nurses and physician's assistants swelled the ranks of the medical workforce from 1.2 million people in 1950 to 3.9 million people in 1970 (Starr 1982:336). In contrast to smaller offices, large medical schools and hospitals prioritized research and training, often at the expense of patient-relations. With more hospital staff, physicians rarely had long-term relationships with patients and were able to see more patients in less time than ever before. Motivated by external funding and approval from colleagues, patient feedback ranked low on physicians' professional incentives. "All these factors contribute to professional autonomy and, not coincidentally, to the powerlessness of patients and to their objectification as 'clinical material.'" (Starr 1982:362). The 1970s saw a crisis of faith in this ever-expanding medical system. No longer able to hide behind the banner of scientific progress, public attention focused on economic and moral problems of the US system. Growing dissatisfaction with patient

experience emphasized the need to protect patients' rights in the face of medical specialization and bureaucratic efficiency.

The gradual introduction of for-profit hospitals added further complexity to this bureaucratic institution. While doctors had traditionally been motivated by their service orientation, charity mission, and fiduciary ethic, new incentives for profit-maximization created complications for traditional models of patient-care (Gray 1991; Potter 2001). Potter and Dowd (2003) document the rise of CEO turnover in for-profit hospitals, and Potter and McKinlay (2005) explain this shifting authority within the medical system. No longer the paternalistic doctor-patient relationship, the introduction of medical consumerism in the 1970s gave more power to the patient (or 'client') to pick and choose medical services. However, this short-lived patient authority was upended in the 1980s and 1990s as corporatist healthcare models placed growing authority in insurance companies and third-party payers. The rise of chronic disease further complicated the distribution of healthcare, as institutions now had to manage patient conditions over longer and longer periods of time. By 2000, infectious diseases accounted for less than 5% of US mortality, while three major chronic conditions accounted for over half (55%) of US mortality (Potter and McKinlay 2005:470). In this way, the move from paternalistic to consumerism to corporatist healthcare models exemplifies the increasing rationalization and bureaucratization that serve to distance the patient from the traditional (if somewhat idealized) doctor-patient relationship.

Patient Experience

Patient dissatisfaction of the 1960s was met with academic research concerning patients' experience of death in a growing medical institution (Hinton 1963; LeShan 1964). The most successful of these critiques was Glaser and Strauss's *Awareness of Dying* ([1965] 2005), a study

based on field observations and interviews with patients, nurses, and physicians to better understand the dying experience. In short, with larger staff and physician specialization, patients struggled to develop the close, long-term relationships necessary to have open and meaningful conversations about death. As a consequence, Glaser and Strauss reported many patients were not aware they were close to death. While hospitals may not have been ideal for dying patients, there were few other options available. This circumstance led Cicely Saunders to found and develop the first hospice facility to care for the terminally ill. As a nurse, physician, and social worker in the 1940s, she was immersed in the experiences and practices of death and was deeply impacted by Britain's involvement in World War II (Kutscher 1983). It was in this context where she met and befriended David Tasma; an injured veteran of the war. Upon conversations with Tasma, Saunders became intimately aware of the chaotic environment in which many veterans lived their last days. She had a new vision of a quiet, peaceful place where patients could go to live out their terminal condition. St Christopher's Hospice opened in Sydenham, London in 1967 as the first realization of Saunders's vision (Howarth 2007). Combining modern pain-relief technology with an emphasis on spiritual and psychological well-being, hospice was an increasingly attractive alternative for many terminal patients of the late 1960s and 1970s, and today there are over 4,000 hospice care facilities in Europe and the United States.

I draw on Potter and McKinlay's (2005) theoretical rubric of doctor-patient relationships to situate contemporary patient experience. While Lefton and Rosengren (1966) originally proposed two dimensions of patient care, lateral and longitudinal, Potter and McKinlay (2005) build on this to outline a four-category typology. "Organization personnel make a lateral investment in their client when they make an in-depth understanding of the client as a person by taking the time to understand their client's history and how it relates to their current situation"

(Potter and McKinlay 2005:470). Longitudinal investments involve concerted treatment and extensive follow-up of client relationships. These two measures can be understood as breadth and depth of care, respectively, and describe the two features of the ideal doctor-patient relationship. Despite this normative ideal, recent trends in American medicine signal a departure from this typology toward a model of care that is acute, symptomatic, and short in duration (Glaser and Strauss 2005; Hinton 1963; Starr 1982). I argue that hospital chaplains serve as one of the few counter-trends towards latent and longitudinal investments in the patients' experience within modern medical institutions.

Hospital Chaplains

Many doctors and staff members think of the chaplain as one who performs religious rituals and prayers, while chaplains characterize their work in broader terms: giving a sense of wholeness, presence, and healing to the patient (Cadge, Calle, and Dillinger 2011). These differences are a significant source of stress, especially among chaplains working in hospice (Williams et al. 2004). In an effort to alleviate these identity concerns, a group of scholars developed a 'taxonomy' of 100 chaplain activities aimed to improve communication and coordination among palliative care teams (Massey et al. 2015). Idler et al (2015) classify the frequent activities of healthcare chaplains into two groups: "doing" and "being." While existential activities like active listening and spiritual assessment fall under "being", many of chaplains also find themselves in a more active or "doing" role: filling out advance directives with the patient, providing food, etc. Using 1,140 recorded chaplain visits, they found more than half (53%) involved some "doing" activity. Contrary to what many doctors and staff members think, chaplains do surprisingly few religious practices (i.e. administering sacraments, reading scripture): only 3% of recorded visits involved these activities.

In addition to chaplain activities, Idler et al (2015) also analyzed more than 1,500 conversations between chaplains, patients, and their families. Analogous to the activity clusters, conversations fell into two groups: “practical matters” and “ultimate concerns.” While ultimate concerns (i.e. emotions, religious and existential matters) were discussed in more than half of the conversations, practical matters (i.e. financial concerns, hospice care, advance directives) were discussed more frequently: 75% of patient conversations and 84% of family conversations. Whether this emphasis is indicative of patient changes (diminished religiosity) or the chaplaincy profession (passive roles, liberal theology, etc.) is hard to say.

While staff efforts are increasingly devoted to acute, symptomatic, and short-lived patient interactions, chaplain can be seen as fulfilling the lost model of latent and longitudinal patient investments in modern medical institutions (Potter and McKinlay 2005). Chaplains have the time – first and foremost – but also the social, spiritual, and emotional training to sit with patients amidst a chaotic medical environment.

Death and Dying in Modernity

Most people die in hospitals (Flory et al. 2004; PBS 2014). The decline of traditional religiosity (or religious consensus) and the rise of a rationalized bureaucratic medical system means that our modern experience of death straddles institutional fields with opposing logics. On the one hand, ecumenical spirituality eschews specificity, tradition, and denominational theology in favor of agnostic language of hope, presence, and space. Garces-Foley (2013) speaks to the politics behind the changing language of ‘spirituality’, arguing that this ostensible shift towards openness in fact serves to alienate those seeking religious consolation. On the other hand, medical bureaucracy champions rationalization, evidence-based practice, and efficacious time-optimization. Drawing

on Weber's theory of charisma and routinization, Bradshaw (1996) identifies a 'secularization of hospice' in which efficiency and medicalization serve to influence patients' attitudes towards death.

In his excellent article "Death in High Modernity," Mellor (1992) synthesizes Giddens's theory of ontological security (1991) with Berger's (1967) social constructionism to offer a concise summary of the present problem:

"Modernity is characterized by a wholly unprecedented series of mechanisms which remove problems of meaning from public space, relocated them in the privatized realm of individual life and experience, thereby creating historically unique threats of personal meaninglessness... The finitude of human life is paramount amongst these problems, and is the one left most conspicuously unanswered, so that in a cultural milieu which offers unprecedentedly extreme dangers to the maintenance of ontological security, death is especially hard to deal with... Although it could be argued that modern societies are culturally diverse, and exhibit a degree of flexibility which allows people to draw upon a variety of cultural resources in order to deal with death, it could also be argued that this diversity compounds the difficulties individuals experience when death is encountered... The more diverse are the approaches to death in modern societies, the more difficult it becomes to contain it within a communally-accepted framework, and thus limit the existential anxiety it potentially offers to the individual" (Mellor 1992:16–19).

In this way, we can see how cultural diversity and pluralism of opinion pose a threat to the sacred canopy. As soon as consensus is lost, the religious worldview loses its taken-for-granted nature and the sacred canopy becomes "dissolved into a set of leaky umbrellas" (Lechner 1991:1103). The rationalization of medical care makes this loss of consensus even more stark: *if we have answers, solutions, and procedures for every imaginable problem, where is our answer to death?* Amidst all of these changes, chaplains are called upon to help patients make sense of suffering and death. As a result of the theological shifts since the 1960s, this task is increasingly ambiguous with respect towards religion. No longer are chaplains simply expected to offer a biblical interpretation of suffering or conduct religious rituals. Instead, modern healthcare chaplains are ecumenical meaning-makers that assist patients in accessing their cultural resources. Sometimes this means

openly naming death and facilitating conversations among patients and families: "helping [patients] make sense of what is happening and to situate the deaths they see in broader contexts and perspectives" (Cadge 2012:174). Other times it means offering presence to the dying in a context where doctors and nurses don't have the luxury to sit with patients for extended periods.

This study is an exploratory study of the language of healthcare chaplains. I draw on the sociology of language, particularly the colligation of language into interpretive packages, as well as theories of secularization and the rationalization of modern medicine to understand how chaplains navigate the complex interactional space that marks our contemporary experience of death and dying today. Drawing on Idler et al. (2015) I examine the conversations that chaplains have regarding "ultimate concerns" and "practical matters." Specifically, I set out to address three questions: 1) how do chaplains employ the language of religion and spirituality in modern healthcare settings? 2) how do chaplains talk about death and dying in modern healthcare settings? 3) how do chaplains employ the language of religion and spirituality when dealing with death and dying specifically?

Study Design

The data for this study comes from an 18-month study of a palliative care program at a large metropolitan acute care hospital the southeast United States. The data involves 25 in-depth interviews with practicing healthcare chaplains collected in 2013. Nine chaplains participated in this study (four staff chaplains and five chaplain residents) and gave three individual interviews (beginning of the study, middle, and end). Five chaplains were female, four were male; two were Hispanic, four were African American, and three were white. As described previously, these "chaplains covered all services provided by the study hospital, a 511-bed community-based, acute

care teaching facility located in an urban area in the southeast. The hospital provides a full range of inpatient services, admitting over 23,000 inpatients annually. About 70 percent of patients are African American, and patients come from diverse socioeconomic backgrounds with many moderate or low income (21 percent of patients are on Medicaid with a further 5 percent uninsured). Chaplains were assigned by a mixture of units and patient populations; our chaplains mostly saw a patient population that was diverse in terms of diagnosis, but we did include a dedicated palliative care chaplain and one assigned to maternal and infant care” (Idler et al. 2015:727). There were two chaplains who completed two out of the three interviews, while the rest completed all three. These interviews probe the emotional experience and practices of modern chaplains as they talk and listen to patients dealing with existential concerns, including end-of-life issues.

Word Vector Representation

To model the language of religion and spirituality in modern medical institutions, I employ a modern implementation of word vector representation – also known as word embedding spaces – a new technique for computational text analysis. The motivating principle for word vector representation comes from Firth’s (1968) remark “you shall know a word by the company it keeps.” A brief overview of computational approaches to text analysis will provide some necessary background here.

All techniques for computational linguistics rely on one fundamental principle: turning words into numbers. The most straightforward way to do this is simply replace each unique word with a number – converting every instance of “walking” to #543, for example. While allowing quick and easy word-frequency analysis, this method misses fairly obvious word relationships (i.e.

“walking,” “walk,” “walked,” etc.). Word stemming accomplishes this by removing a pre-defined set of word prefixes and suffixes and allows each conjugation of a unique word to receive the same unique numerical identifier. However, the underlying principle of numerical replacement remains the same. At the most basic, this allows descriptive analysis of word-frequencies across time, or across documents, etc. With every word represented as a unique number, what’s left is a large and unwieldy model of language.

Topic modeling, a popular technique for computational text analysis, summarizes this model of language by identifying latent variables (or “topics”) according to the distribution of words across given boundaries (or “documents”). In effect, every unique word is placed on a row of a matrix with every document in a column of a matrix. Reading down each column, you would see a word-frequency tabulation for each document. Topic modeling then condenses these columns into k -latent variables using a dimensionality reduction technique akin to PCA or factor analysis. Two things are important to note here. First, the underlying model here still relies on an atomistic model of language. Each unique word (or stemmed word) is represented by a single number. Second, topic modeling acknowledges this limitation by grouping words according to their document class to identify latent variables. Each document is a “bag of words” that represents some discrete collection, with the idea that co-occurrence in a document represents some form of semantic relationship.

Word vector representations extend this idea in a few important ways. Drawing on Firth’s theoretical linguistics, Lowe (2001) sketched the beginnings of this method in his conference paper “Towards a Theory of Semantic Space” at the *23rd Annual Conference of the Cognitive Science Society*. Essentially, instead of replacing each unique word with a unique number, word vectors replace each word with a vector of numbers. These numbers are the result of a scaled co-occurrence

matrix based on a set word-distance window (Bullinaria and Levy 2007). Computationally, word vectors are calculated in four steps. First, a corpus is prepared that preserves word-order (in contrast to topic modeling's "bag of words" approach). Second, each unique word in the corpus is assigned both a row and a column in an empty co-occurrence matrix. Third, cycling through the corpus in set increments – a 10-word window for example– the co-occurrence matrix is populated by counts of how many times word X occurs within a 10-word window of word Y. The resultant matrix represents each word according to its co-occurrence with every other word – or "the company that it keeps." Finally, this matrix is reduced to k -dimensions (likewise akin to PCA or factor analysis). This technique improves on topic modeling in two important ways. First, instead of representing each word with one unique number it represents each word with a vector of numbers (usually 100-300 in length). Second, instead of treating documents as the relevant category class, word vectors treat each 10-word window as the relevant category class. The upshot is a more refined model of language that mirrors the psychological mechanisms through which humans learn and process language (Bullinaria and Levy 2007). Infants rarely learn a dictionary list of vocabulary and their definitions. Instead, they observe words repeatedly occurring in similar contexts and create latent dimensions (or word vectors) that capture some underlying meaning.

The analytical benefits of word vector representations are many. For one, word vectors allow quantification of semantic relationships by measuring the cosine similarity of two word vectors. Akin to correlation, this allows the researcher to identify a target word and determine which words occur in similar linguistic contexts. Likewise, this one-dimensional comparison can be extended by comparing two target words and their associated words in a two-dimensional representation of semantic space. For example, in a corpus of all human language we could use word vectors to identify the top ten words that appear in similar contexts to the word *truck*:

highway, tires, loading, accidents, drivers, etc. A similar one-dimensional process could be done for *greenhouse: garden, flowers, local, fertilizer, etc.* While computationally sophisticated, this one-dimensional analysis might fail to produce substantive breakthroughs. However, by plotting both words on the x and y axes, we could analyze the top ten words associated with *truck* according to their contextual semantic similarity to *greenhouse*. We would likely see three clusters emerge here: one cluster of words about trucks and highway safety that are unrelated to greenhouse, one cluster of words about greenhouses and gardening that are unrelated to trucks, and a third cluster of words that are related to both: *gas, emissions, climate, change, EPA, renewable, energy, etc.* The parsing of this third cluster of words reveals the greatest advantage of word vector representations. By representing words according to the co-occurrence, we can effectively map semantic space and visualize the multi-vocality of human language.

Despite these analytical benefits, word vectors remain relatively rare in contemporary social science research. First, these models are computationally sophisticated with relatively high barriers of entry (Turian, Ratinov, and Bengio 2010). Second, while computer scientists continue to augment and improve existing word vector models (Mikolov et al. 2013; Pennington, Socher, and Manning 2014), the application of these models to traditional social science research remains uncertain (for an exception see Garg et al. 2018). Third, the type of corpus-based text data required to implement these models remains far from common the social sciences (Bail 2014; Bernau 2018). The present analysis evaluates the efficacy of using this technique on a relatively small corpus of 25 in-depth interviews and offers an initial foray into how word vectors might assist traditional theory-driven social science research.

Qualitative Interviews as Text-Corpus

Most prominent word vector models are trained on text-corpora of industrial scale. Google researchers Mikolov et al.'s (2013) popular *word2vec* model was trained on Google News' corpus of 33 billion words and 1,000 vector dimensions. Stanford researchers Pennington et al.'s (2014) popular *GloVe* model was trained on similar large datasets. Both these models use word-analogy tests to measure performance, evaluating the models according to their ability to match state capitals or national presidents. However, it remains unclear how to measure models of substantively different corpora. The present dataset of 25 in-depth interviews is of an admittedly smaller scope. With only 70,000 words, I show how the use of word vectors for small-corpus analysis still provides some substantively meaningful results for traditional social science research. Opening up this technique to smaller text corpora would go a long way in encouraging the uptake of this method among those without access to industry-sized datasets. Additionally, the use of in-depth interviews departs from the unstated word vector data-generation assumption of analyzing "words in the wild." Contrary to news corpora or internet search data, interview responses are fundamentally linked to researchers' questions. For this reason the interview guide becomes highly significant as the data-generation process. To avoid measuring an artifact of the interview structure, I wrote a function to remove all interviewer questions from the transcripts, leaving only respondents' answers. Thus, while respondents may exhibit some degree of linguistic mirroring, the data represents only the respondents' reflections as they discuss issues posed by interviewer. Ultimately, this type of analysis relies on the execution of best practices in qualitative interviewing: questions will necessarily introduce desired themes but remain open and avoid leading respondents in pre-defined directions (Lofland et al. 2005; Weiss 2004). As stated above, these interviews probe the emotional experience and practices of modern chaplains as they talk and listen to patients

dealing with existential concerns, including end-of-life issues. I have included the interview guide in the appendix.¹⁶

I include a number of procedural robustness checks to protect against any instability that may result from this small-corpus dataset. For each request, I wrote a function to create five separate word vector representation models and average the results of these models before running and reporting any subsequent analysis.¹⁷ For example, for a one-dimensional analysis of cosine similarity I identify a target word (e.g., *religious*). From each of the five separate word vector models I extract the top 50 related words according to cosine similarity. From this list of 250 words, I only keep words that occur in at least four of the five models (80% representation). I then average the cosine similarity across all models and report the top words associated with the original target word. This process is repeated for two-dimensional analysis. Thus, while there remain slight fluctuations as a result of a smaller corpus, the results themselves model and account for this instability.

Results

While the analytical opportunities are many, for the present article I identify ten substantively meaningful words to analyze and present. To probe the religious and spiritual language of modern end-of-life care, I select *death*, *dying*, *religious*, *spiritual*, and *conversation*. To probe the social and interactional linguistic space of modern medical institutions, I select *patient*, *family*, *chaplain*, *nurse*, and *doctor*. Together, these ten words capture key subjects and key actors of modern healthcare interactions around end of life care. However, even limiting the analysis to ten target

¹⁶ Descriptive plots of interview date, total word counts, and lexical diversity are available in the appendix.

¹⁷ Code available at <https://github.com/JohnBernau> [forthcoming].

words results in over 50 unique plots and analytical combinations. For this reason, I limit the results presented here to substantively meaningful findings. I proceed by presenting one- and two-dimensional results for selected subjects (death, dying, religious, and spiritual) before proceeding to two-dimensional results for selected actors. I then discuss important and substantively meaningful overlap between key subjects and key actors.

Key Subjects: death, dying, religious, and spiritual

Figures 1, 2, 3, and 4 represent the top twenty words by cosine similarity for *death*, *dying*, *religious*, and *spiritual* respectively. For example, Figure 1 represents the top words associated with *death* in this corpus. *Death* receives a cosine similarity of 1.0 and related words are measured according to how close they are to the *death* word vector. The top five words – *culture*, *practice*, *perspective*, *history*, and *spirituality* – all have cosine similarity above 0.67. Comparing this with the *dying* word vector in Figure 2, it becomes apparent that death is often talked about in fairly detached language whereas *dying* occurs in similar semantic space to words like *afraid*, *amount*, *scared*, and *crisis*. Looking at *religious* in Figure 3, we see a cluster of words like *background*, *academic*, *theology*, *cpe*, and *divinity*. Compare this with *spiritual* in Figure 4, whose semantic company includes *support*, *knowledge*, *supportive*, *tools*, and *situation*.

[FIGURES 1-4 ABOUT HERE]

Figure 5 presents the two-dimensional semantic space between *death* and *dying*, with cosine similarity to *death* on the x-axis and cosine similarity to *dying* on the y-axis. The broken line in the middle represents the parity line: words falling on this line appear equally in the semantic contexts of both words. While these terms appear semantically distinct, by plotting the top *dying* words according to the *death* vector, we can observe a rough approximation of the dying

process – beginning with *doctors, seriously, ill, surgeries* and ending with *critical, afraid*, and [code] *red*. This semantic separation of *death* is a hallmark of all subsequent findings here and represents a sharp distinction between death as an abstract cultural process and dying as a professional challenge involving the coordination of medical staff and resources. Figure 6 presents the two-dimensional semantic space between *religious* and *spiritual*, with cosine similarity to *religious* on the x-axis and cosine similarity to *spiritual* on the y-axis. These terms demonstrate considerable overlap, and yet by comparing the two we can observe which words are uniquely religious (*baptist, church, minister, cpe*), which words are uniquely spiritual (*document, provide, support, respect*) and which words appear in both religious and spiritual contexts (*human, history, development*).

[FIGURES 5-6 ABOUT HERE]

Figure 7 presents the two-dimensional semantic space between *dying* and *religious*, with cosine similarity to *dying* on the x-axis and cosine similarity to *religious* on the y-axis. Among top *dying* words, *doctors, meetings, surgeries* are the least similar to *religious*. While among top *religious* words, *baptist, theology, and cpe* are the least similar to *dying*. In the middle are words like *protestant, language, immediately, uncomfortable, and language*. Comparing this space to Figure 8, which plots the semantic space between *dying* and *spiritual*, we see a less focused collection of words. Notably, *prayed* is quite similar to *dying* but the farthest word from *spiritual*.

[FIGURES 7-8 ABOUT HERE]

Key Actors: patient, chaplain, nurse, doctor

Figure 9 presents the two-dimensional semantic space between *patient* and *chaplain*, with cosine similarity to *patient* on the x-axis and cosine similarity to *chaplain* on the y-axis. Importantly, this

plot demonstrates the nexus of staff care between the chaplain and patient. *Nurse* appears on the parity line while *staff* and *doctor* appear on mirror ends of the *chaplain* and *patient* quadrant respectively. Moving away from this nexus of care we find *family* on the patient side, and finally, the abstract *person*. A similar plot for *patient* and *doctor* is provided in Figure 10. Central words here suggest the primary role of the doctor in a patient's stay is explaining a diagnosis, with related words like *truth*, *code*, *wants*, *meeting* adding further clarity. Figure 11 displays the relationship between nurses and doctors, indicating doctors heightened training and role in patient diagnosis – in addition to *hey* and *whatever*, a result of modeling verbatim transcripts of in-depth interviews as opposed to polished and written language. In contrast, words that are similar to *nurse* but semantically far from *doctor* include *interaction*, *moved*, *pushing*, and *crazy*, *lady*.

[FIGURES 9-11 ABOUT HERE]

Key Subjects and Actors

Pairing these key subject vectors with key actor vectors, my analysis allows an examination of how each actor in the medical system engages with religion, spirituality, death and dying. Figure 12 and 13 present the semantic space between *patient* and *death*, and *patient* and *dying* respectively. Moving up the y-axis in Figure 12, the patient gets closer and closer to death: *doctor*, *meeting*, *visit*, *diagnosis*, *explain*, *grieving*, *critical*, and *complete*. Moving left to right on the *patient* axis, the *death* words become more and more focused: from *culture* and *life* to a patient's *struggles*, *idea*, and *history*. Figure 13 represents the intersection of *patient* and *dying* in semantic space, with *code*, *critical*, *diagnosis*, *die*, *dead* on the parity line. The last two plots (Figures 14 and 15) depict the semantic space between *chaplain* and *religious* and *chaplain* and *spiritual*. The nexus of Figure 14 contains words like *history*, *particular*, *develop*, *immediate*, *outside*, and *text*,

while the nexus of Figure 15 contains words like *closer*, *support*, *respect*, *connect*, *qualify*, *everyone*. These results shed light on important differences in the chaplains' twin roles: at once a trained religious authority and ecumenical spiritual counselor.

[FIGURES 12-15 ABOUT HERE]

Discussion

In this article I examined how the language of religion and spirituality operates in modern medical institutions. Using a corpus of 25 in-depth interviews of practicing healthcare chaplains, I employ word vector representations to analyze the language of death and dying as it exists in multi-dimensional semantic space. This technique draws on interactional approaches to language, both social and linguistic, to arrive at an approximation of the “interpretive packages” available when confronting end of life care in modern healthcare settings. I argue that death and dying today present historically unique complications as a result of widespread secularization and medical rationalization. Chaplains working in healthcare today must straddle two institutional fields with distinct operating logics. On one hand, religious decline and increasing diversity have precluded much denominational or tradition-based language taught in today’s seminary curricula. On the other hand, the rationalization of American medicine has pushed for greater systematizing of modern patient care. Thus, chaplains must remain spiritually open to patients’ definition of the situation while simultaneously charting their spiritual progress and defending their occupational efficacy. The results presented here offer both substantive and methodological conclusions and further directions.

Substantively, I show the complicated linguistic space that chaplains and patients must navigate when approaching end of life situations in a medical institution. While *dying* is closer to

spiritual than *religious* as measured by cosine similarity in semantic space, this closeness belies a thematic unity, as Figure 8 demonstrates. Thus, the move to spiritual-focused conversations is at the expense of specificity and direction, in line with Garces-Foley's (2013) assessment. As Mellor (1992) argues, this generality has the potential to negate the ability to form meaningful understandings of mortality and establish what Giddens (1991) calls "ontological security." My analysis also demonstrates the linguistic shifts that occur throughout the dying process. As a patient progresses through a terminal illness, talk of death moves from *doctor, surgeries, and diagnosis*; to *meeting, understanding, anger, and afraid*; to abstract discussions of *death, culture, life, and history*. Future research would benefit from larger and more diverse corpora on which to employ this novel computational technique. While interviews with healthcare chaplains provide one slice of this interactional space, a corpus of academic journals or newspaper articles or physician records would provide further evidence with which to understand this linguistic space.

Methodologically, I show the efficacy of using word vector representations on small-corpus text data. The billion-word corpora of industrial scale are not available to most researchers, and while the availability of digital text has been a boon for social science research, tracking down text data of sufficient size that preserves word order remains extremely difficult. Using a corpus of only 70,000 words I provide one approach to minimize vector instability by averaging the results of multiple models for each request. I also demonstrate coherent and substantively meaningful findings that encourage the use of this technique for smaller text-based datasets.

The use of interview transcripts and the inclusion of researcher questions threaten to disrupt the "words in the wild" assumption of semantic collocation. I address this issue analytically and rely on procedural best practices of the qualitative interviewers. I wrote a function to strip all interviewer questions from the transcripts leaving only chaplain responses. This removes any

explicit question wording or word associations brought by the interviewer. While presumably admitting some degree of linguistic mirroring on behalf of the respondent, faith in this method rests on the interviewer's ability to probe substantive issues without leading respondents' answers (Lofland et al. 2005; Weiss 2004). All this to say, future work will seek to pair word vector analysis with qualitative coding in a mixed-methods study. While most computational text-analyses provide high-level summaries at the expense of fine-grained specificity, the exploratory results of the present study may inform subsequent qualitative coding schemes that probe the relationship between religion and spirituality at the end-of-life. In this way computational approaches can serve as the bookends of text-based data analysis by first narrowing qualitative efforts and then augmenting main findings.

These models perform better with more data and future work should explore the computational consequences for various corpora sizes. Most models today are validated by word analogy tests, but these remain inappropriate for most subject-specific corpora. For example, while word vector representations trained on the Google News corpus would undoubtedly be able to identify the capital city of Montana, a word vector representation of Papal encyclicals or the works of William Shakespeare would require a different word analogy benchmark in order to validate individual models. In short, how should researchers determine the validity of competing word vector representations?

Another fruitful application of word vector models in the social sciences would involve the comparison of multiple word vector representations. Given two distinct models of language, researchers could feasibly compare word distances and similarities as they move across multiple word vector models. For example, while a corpus of twentieth century language might associate *death* with words like *hospital*, *doctor*, *terminal*, *cancer*, etc., a corpus from the Middle Ages might

return words like *plague*, *sin*, *punishment*, *wrath*, *family*, etc. With these two corpora, one could plot the semantic movement of death overtime as its meaning changes according to Firth's (1968) theory of collocation. To this end, recent researchers have experimented with word- and document-movers-distance (Kusner et al. 2015), a measure of document similarity based on word vector representations, although this assumes an overarching vector model rather than two separate models. While contemporary language of death and dying is continually in flux, the present study provides evidence for the emerging language of healthcare chaplains as they negotiate their complicated place as religious leaders in a secular institution. Drawing on recent theoretical work on the sociology of language, secularization, and medical rationalization, I employ word vector representations to demonstrate the promise of new computational techniques to better understand this "profession in process" (Cadge 2012).

References

- Bail, Christopher A. 2014. "The Cultural Environment: Measuring Culture with Big Data." *Theory and Society* 43(3–4):465–82.
- Bail, Christopher A., Lisa P. Argyle, Taylor W. Brown, John P. Bumpus, Haohan Chen, M. B. Fallin Hunzaker, Jaemin Lee, Marcus Mann, Friedolin Merhout, and Alexander Volfovsky. 2018. "Exposure to Opposing Views on Social Media Can Increase Political Polarization." *Proceedings of the National Academy of Sciences* 115(37):9216–21.
- Bellah, Robert N. and Phillip E. Hammond. 1982. *Varieties of Civil Religion*. San Francisco: Harper San Francisco.
- Berger, Peter, Grace Davie, and Effie Fokas. 2008. *Religious America, Secular Europe?: A Theme and Variations*. New edition edition. Aldershot, England ; Burlington, VT: Routledge.
- Berger, Peter L. 1967. *The Sacred Canopy: Elements of a Sociological Theory of Religion*. Open Road Media.
- Berger, Peter L., ed. 1999. *The Desecularization of the World: Resurgent Religion and World Politics*. Washington, D.C. : Grand Rapids, Mich: Eerdmans.
- Berger, Peter L. and Thomas Luckmann. 1967. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. New York: Anchor.
- Bernau, John A. 2018. "Text Analysis with JSTOR Archives." *Socius* 4:1–2.
- Blumer, Herbert. 1969. *Symbolic Interactionism: Perspective and Method*. University of California Press.
- Bourdieu, Pierre. 1977. *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- Bourdieu, Pierre. 1984. *Distinction: A Social Critique of the Judgement of Taste*. Cambridge, Mass.: Harvard University Press.
- Bradshaw, Ann. 1996. "The Spiritual Dimension of Hospice: The Secularization of an Ideal." *Social Science & Medicine* 43(3):409–19.
- Bruce, Steve. 2002. *God Is Dead*. Malden, MA: Wiley-Blackwell.
- Bruce, Steve. 2011. *Secularization: In Defence of an Unfashionable Theory*. Oxford, UK: Oxford University Press.
- Bullinaria, John A. and Joseph P. Levy. 2007. "Extracting Semantic Representations from Word Co-Occurrence Statistics: A Computational Study." *Behavior Research Methods* 39(3):510–26.

- Burke, Peter J. 1991. "Identity Processes and Social Stress." *American Sociological Review* 56(6):836–49.
- Cadge, Wendy. 2012. *Paging God: Religion in the Halls of Medicine*. Chicago: University Of Chicago Press.
- Cadge, Wendy, Katherine Calle, and Jennifer Dillinger. 2011. "What Do Chaplains Contribute to Large Academic Hospitals? The Perspectives of Pediatric Physicians and Chaplains." *Journal of Religion and Health* 50(2):300–312.
- Casanova, Jose. 1994. *Public Religions in the Modern World*. Chicago: University Of Chicago Press.
- Chaves, Mark. 2017. *American Religion: Contemporary Trends*. Second edition. Princeton, NJ: Princeton University Press.
- Chaves, Mark and Philip S. Gorski. 2001. "Religious Pluralism and Religious Participation." *Annual Review of Sociology* 27:261–81.
- DiMaggio, Paul. 1997. "Culture and Cognition." *Annual Review of Sociology* 23:263–87.
- Dobbelaere, Karel. 2002. *Secularization: An Analysis at Three Levels*. Peter Lang.
- Fasold, Ralph W. 1984. *Introduction to Sociolinguistics*. Oxford: Basil Blackwell.
- Finke, Roger and Rodney Stark. 1988. "Religious Economies and Sacred Canopies: Religious Mobilization in American Cities, 1906." *American Sociological Review* 53(1):41–49.
- Finke, Roger and Rodney Stark. 2005. *The Churching of America, 1776-2005: Winners and Losers in Our Religious Economy*. Revised edition. New Brunswick, N.J: Rutgers University Press.
- Firth, J. R. 1968. "A Synopsis of Linguistic Theory." in *Selected Papers of J. R. Firth: 1952-1959*, edited by F. R. Palmer. Longman.
- Flory, James, Yinong Young-Xu, Ipek Gurol, Norman Levinsky, Arlene Ash, and Ezekiel Emanuel. 2004. "Place Of Death: U.S. Trends Since 1980." *Health Affairs* 23(3):194–200.
- Gamson, William A. and Kathryn E. Lasch. 1983. "The Political Culture of Social Welfare Policy." Pp. 397–415 in *Evaluating the Welfare State: Social and Political Perspectives*, edited by S. E. Spiro and E. Yuchtman-Yaar. New York: Academic Press, Inc.
- Gamson, William A. and Andre Modigliani. 1989. "Media Discourse and Public Opinion on Nuclear Power: A Constructionist Approach." *American Journal of Sociology* 95(1):1–37.

- Garces-Foley, Kathleen. 2013. "Hospice and the Politics of Spirituality." Pp. 13–36 in *Spirituality in Hospice Palliative Care*, edited by P. Bramadat, H. Coward, and K. I. Stajduhar. Albany, New York: State University of New York Press.
- Garg, Nikhil, Londa Schiebinger, Dan Jurafsky, and James Zou. 2018. "Word Embeddings Quantify 100 Years of Gender and Ethnic Stereotypes." *Proceedings of the National Academy of Sciences* 115(16):E3635–44.
- Gawande, Atul. 2014. *Being Mortal: Medicine and What Matters in the End*. New York: Metropolitan Books.
- Giddens, Anthony. 1991. *Modernity and Self-Identity: Self and Society in the Late Modern Age*. Stanford, Calif: Stanford University Press.
- Glaser, Barney G. and Anselm L. Strauss. 2005. *Awareness of Dying*. New Brunswick, NJ: Aldine Transaction.
- Goffman, Erving. 1959. *The Presentation of Self in Everyday Life*. Garden City, N.Y.: Doubleday.
- Gorski, Philip S. and Ateş Altinordu. 2008. "After Secularization?" *Annual Review of Sociology* 34:55–85.
- Gray, Bradford H. 1991. *The Profit Motive and Patient Care: The Changing Accountability of Doctors and Hospitals*. Cambridge, Mass.: Harvard University Press.
- Hinton, J. 1963. "The Physical and Mental Distress of the Dying." *Quarterly Journal of Medicine, New Series* 32:1–21.
- Howarth, Glennys. 2007. *Death and Dying: A Sociological Introduction*. Cambridge, UK; Malden, MA: Polity.
- Iannaccone, Laurence R. 1994. "Why Strict Churches Are Strong." *American Journal of Sociology* 99(5):1180–1211.
- Iannaccone, Laurence R. 1996. "Rational Choice: Framework for the Scientific Study of Religion." Pp. 25–44 in *Rational Choice Theory and Religion: Summary and Assessment*, edited by L. A. Young. New York: Routledge.
- Idler, Ellen L., George H. Grant, Tammie Quest, Zachary Binney, and Molly M. Perkins. 2015. "Practical Matters and Ultimate Concerns, 'Doing,' and 'Being': A Diary Study of the Chaplain's Role in the Care of the Seriously Ill in an Urban Acute Care Hospital." *Journal for the Scientific Study of Religion* 54(4):722–38.
- Kalanithi, Paul and Abraham Verghese. 2016. *When Breath Becomes Air*. New York: Random House.

- Kusner, Matt J., Yu Sun, Nicholas I. Kolkin, and Kilian Q. Weinberger. 2015. "From Word Embeddings To Document Distances." P. 10 in *Proceedings of the 32nd International Conference on Machine Learning*. Vol. 37. Lille, France: JMLR: W&CP.
- Kutscher, Austin H. 1983. *Hospice U.S.A.* New York: Columbia University Press.
- Lechner, Frank J. 1991. "The Case against Secularization: A Rebuttal." *Social Forces* 69(4):1103–19.
- Lefton, Mark and William Rosengren. 1966. "Organizations and Clients: Lateral and Longitudinal Dimensions." *American Sociological Review* 31(6):802–810.
- LeShan, L. 1964. "The World of the Patient in Severe Pain of Long Duration." *Journal of Chronic Diseases* 17:119–26.
- Livne, Roi. 2014. "Economies of Dying The Moralization of Economic Scarcity in US Hospice Care." *American Sociological Review* 79(5):888–911.
- Lofland, John, David A. Snow, Leon Anderson, and Lyn H. Lofland. 2005. *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis*. 4 edition. Belmont, CA: Wadsworth Publishing.
- Lowe, Will. 2001. "Towards a Theory of Semantic Space." Pp. 576–81 in *Twenty-Third Annual Conference of the Cognitive Science Society*. Mahwah, NJ: Cognitive Science Society.
- Massey, Kevin, Marilyn JD Barnes, Dana Villines, Julie D. Goldstein, Anna Lee Hisey Pierson, Cheryl Scherer, Betty Vander Laan, and Wm Thomas Summerfelt. 2015. "What Do I Do? Developing a Taxonomy of Chaplaincy Activities and Interventions for Spiritual Care in Intensive Care Unit Palliative Care." *BMC Palliative Care* 14.
- Mead, George Herbert. 1934. *Mind, Self, and Society from the Standpoint of a Social Behaviorist*. Chicago: The University of Chicago Press.
- Mellor, Philip A. 1992. "Death in High Modernity: The Contemporary Presence and Absence of Death." *Sociological Review* 40:11–30.
- Mikolov, Tomas, Ilya Sutskever, Kai Chen, Greg Corrado, and Jeffrey Dean. 2013. "Distributed Representations of Words and Phrases and Their Compositionality." Pp. 3111–19 in *Advances in Neural Information Processing Systems*. Vol. 26. Neural Information Processing Systems.
- Olson, Daniel V. A. 1999. "Religious Pluralism and US Church Membership: A Reassessment." *Sociology of Religion* 60(2):149–73.
- PBS. 2014. "Why so Many People Die in Hospitals Instead of at Home." *PBS NewsHour*. Retrieved May 25, 2019 (<https://www.pbs.org/newshour/health/many-people-die-hospitals-instead-home>).

- Pennington, Jeffrey, Richard Socher, and Christopher Manning. 2014. "Glove: Global Vectors for Word Representation." Pp. 1532–43 in. Association for Computational Linguistics.
- Potter, Sharyn J. 2001. "A Longitudinal Analysis of the Distinction between For-Profit and Not-for-Profit Hospitals in America." *Journal of Health and Social Behavior* 42(1):17–44.
- Potter, Sharyn J. and Timothy J. Dowd. 2003. "Executive Turnover and the Legal Environment: The Case of California Hospitals, 1960-1995." *Sociological Forum* 18(3):441–64.
- Potter, Sharyn J. and John B. McKinlay. 2005. "From a Relationship to Encounter: An Examination of Longitudinal and Lateral Dimensions in the Doctor–Patient Relationship." *Social Science & Medicine* 61(2):465–79.
- Ramirez, Michael. 2006. "'My Dog's Just Like Me': Dog Ownership as a Gender Display." *Symbolic Interaction* 29(3):373–91.
- Robins, R. H. 1997. "The Contribution of John Rupert Firth to Linguistics in the First Fifty Years of Lingua." *Lingua* 100(1):205–22.
- Sahlgren, Magnus. 2008. "The Distributional Hypothesis." *Rivista Di Linguistica* 20(1):33–53.
- Schnabel, Landon and Sean Bock. 2017. "The Persistent and Exceptional Intensity of American Religion: A Response to Recent Research." *Sociological Science; Stanford* 4:686–700.
- Schnabel, Landon and Sean Bock. 2018. "The Continuing Persistence of Intense Religion in the United States: Rejoinder." *Sociological Science; Stanford* 5:711–21.
- Shaw, Lynette. 2015. "Mechanics and Dynamics of Social Construction: Modeling the Emergence of Culture from Individual Mental Representation." *Poetics* 52:75–90.
- Sorokin, Pitirim Aleksandrovich. 1964. *Social and Cultural Mobility*. New York: Free Press of Glencoe.
- Stark, Rodney. 1999. "Secularization, R.I.P." *Sociology of Religion* 60(3):249–73.
- Starr, Paul. 1982. *The Social Transformation of American Medicine*. New York: Basic Books.
- Stets, Jan E. and Peter J. Burke. 2005. "Identity Verification, Control, and Aggression in Marriage." *Social Psychology Quarterly* 68(2):160–78.
- Stryker, Sheldon. 1980. *Symbolic Interactionism: A Social Structural Version*. Caldwell, N.J: The Blackburn Press.
- Swidler, Ann. 1986. "Culture in Action: Symbols and Strategies." *American Sociological Review* 51(2):273–86.
- Swidler, Ann. 2001. *Talk of Love: How Culture Matters*. Chicago: University Of Chicago Press.

- Swift, Christopher. 2014. *Hospital Chaplaincy in the Twenty-First Century: The Crisis of Spiritual Care on the Nhs*. 2nd Edition. Burlington: Ashgate.
- Turian, Joseph, Lev-Arie Ratinov, and Yoshua Bengio. 2010. "Word Representations: A Simple and General Method for Semi-Supervised Learning." Pp. 384–394 in *Proceedings of the 48th Annual Meeting of the Association for Computational Linguistics*. Uppsala, Sweden: Association for Computational Linguistics.
- US Census Bureau. 2012. "U.S. Census Bureau Projections Show a Slower Growing, Older, More Diverse Nation a Half Century from Now." Retrieved September 20, 2017 (<https://www.census.gov/newsroom/releases/archives/population/cb12-243.html>).
- Vicari, Stefania. 2010. "Measuring Collective Action Frames: A Linguistic Approach to Frame Analysis." *Poetics* 38(5):504–25.
- Voas, David and Mark Chaves. 2016. "Is the United States a Counterexample to the Secularization Thesis?" *American Journal of Sociology* 121(5):1517–56.
- Voas, David and Mark Chaves. 2018. "Even Intense Religiosity Is Declining in the United States: Comment." *Sociological Science; Stanford* 5:694–710.
- Voas, David, Alasdair Crockett, and Daniel V. A. Olson. 2002. "Religious Pluralism and Participation: Why Previous Research Is Wrong." *American Sociological Review* 67(2):212–30.
- Vucht Tijssen, Lieteke van, J. Berting, Frank J. Lechner, and Netherlands. Nationale UNESCO-Commissie. 1995. *The Search for Fundamentals: The Process of Modernisation and the Quest for Meaning*. Dordrecht ; Boston: Kluwer Academic.
- Weber, Max. 2011. *The Protestant Ethic and the Spirit of Capitalism*. New York: Oxford University Press.
- Weiss, Robert S. 2004. "In Their Own Words: Making the Most of Qualitative Interviews." *Contexts* 3(4):44–51.
- Williams, Mari Lloyd, Michael Wright, Mark Cobb, and Chris Shiels. 2004. "A Prospective Study of the Roles, Responsibilities and Stresses of Chaplains Working within a Hospice." *Palliative Medicine* 18(7):638–45.
- Wilson, Bryan R. 1982. *Religion in Sociological Perspective*. Oxford University Press.
- Yang, Fenggang. 2006. "The Red, Black, and Gray Markets of Religion in China." *The Sociological Quarterly* 47(1):93–122.
- Yang, Fenggang. 2011. *Religion in China: Survival and Revival under Communist Rule*. 1 edition. Oxford ; New York: Oxford University Press.

Tables and Figures

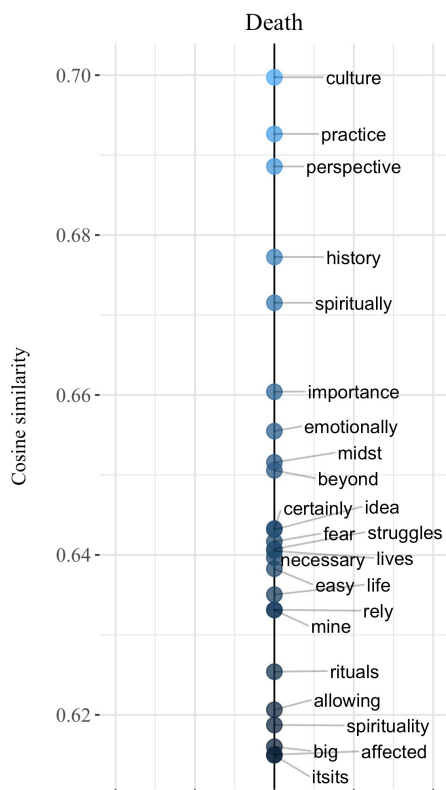
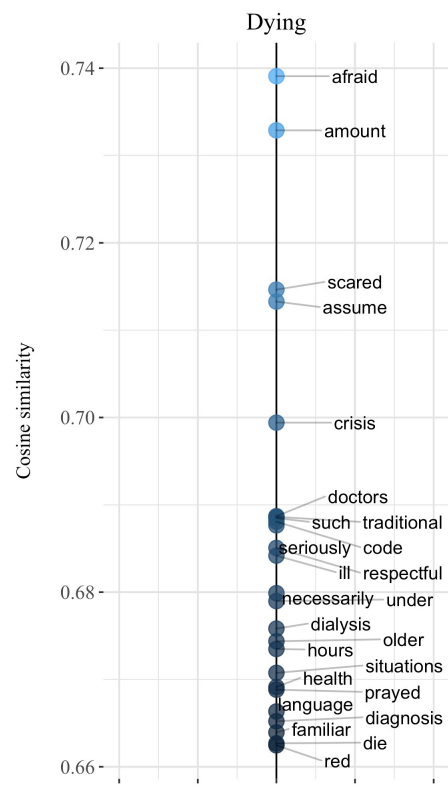
Figure 1: Top loadings on *death* word vector by cosine similarityFigure 2: Top loadings on *dying* word vector by cosine similarity

Figure 3: Top loadings on *religious* word vector by cosine similarity

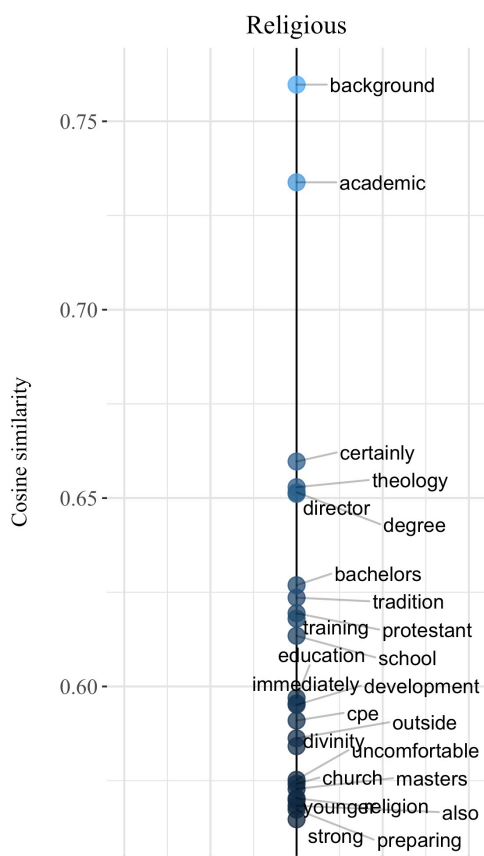


Figure 4: Top loadings on *spiritual* word vector by cosine similarity

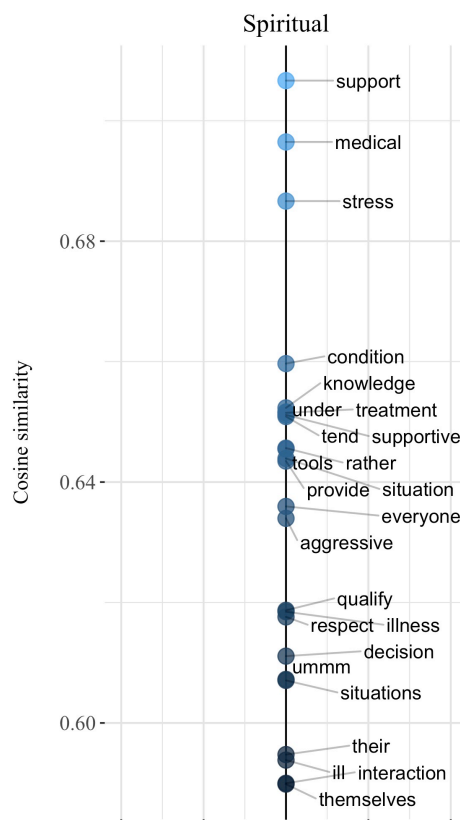


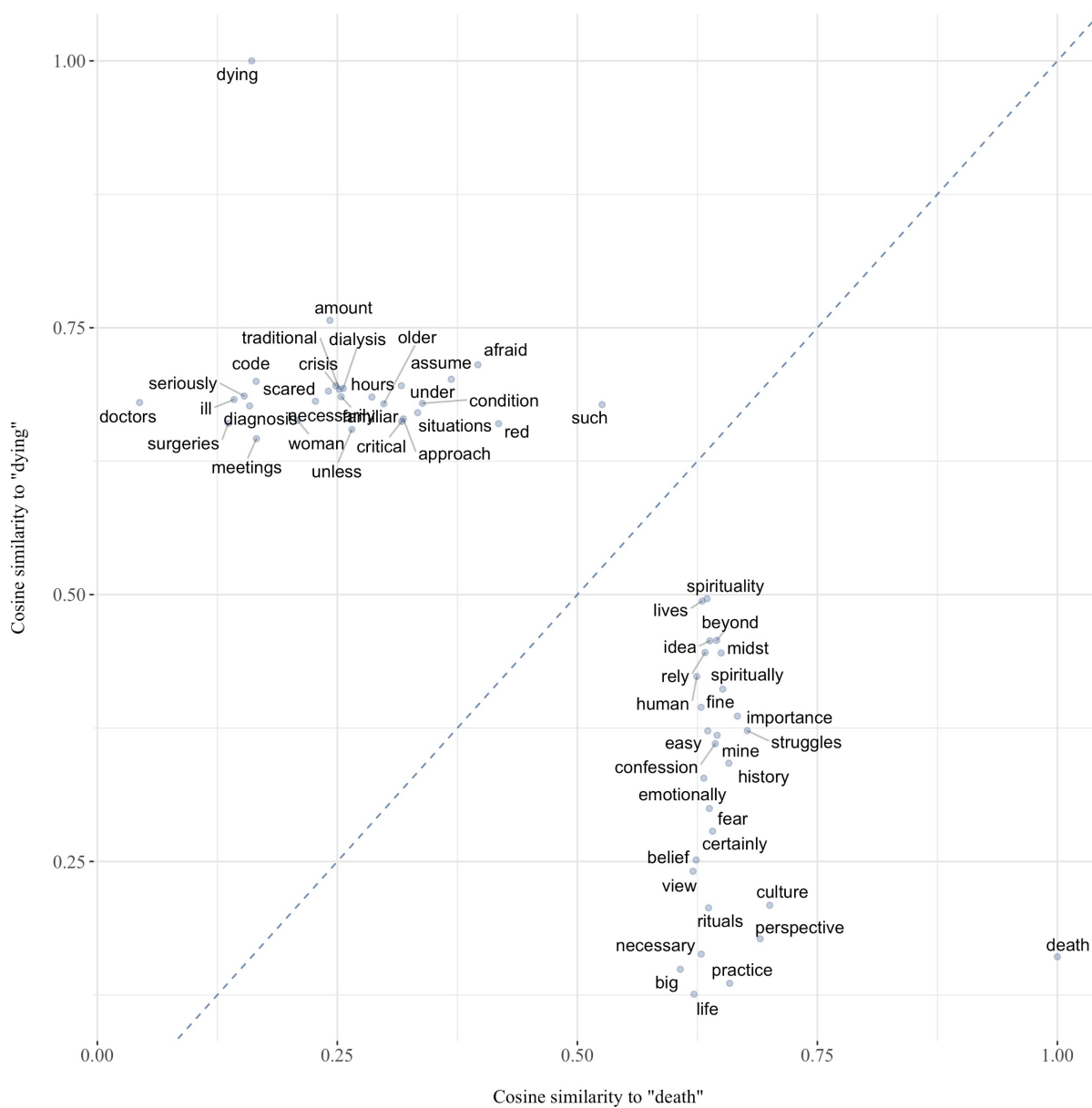
Figure 5: *Death* and *dying* two-dimensional semantic space by cosine similarity

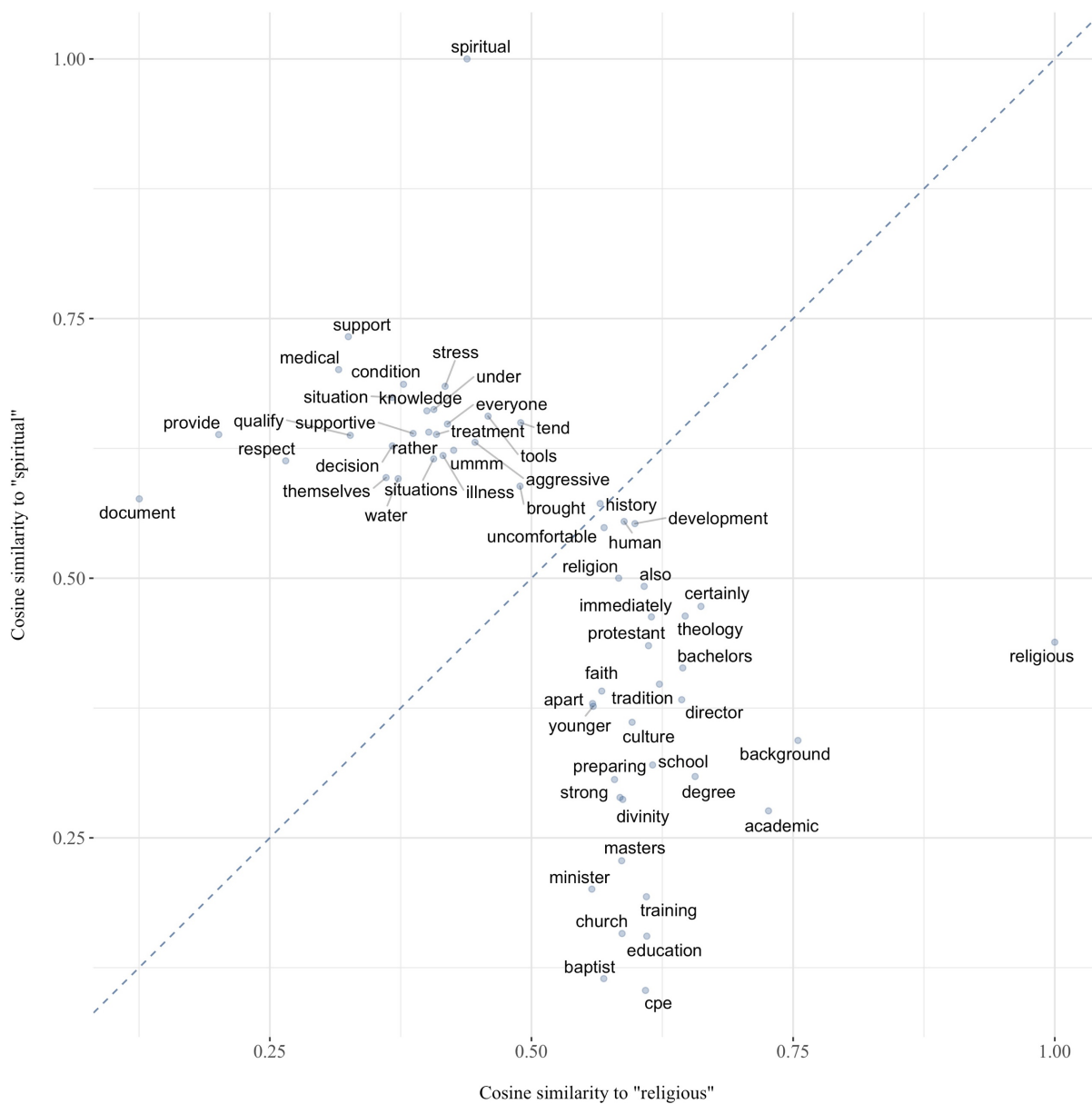
Figure 6: *Religious* and *spiritual* two-dimensional semantic space by cosine similarity

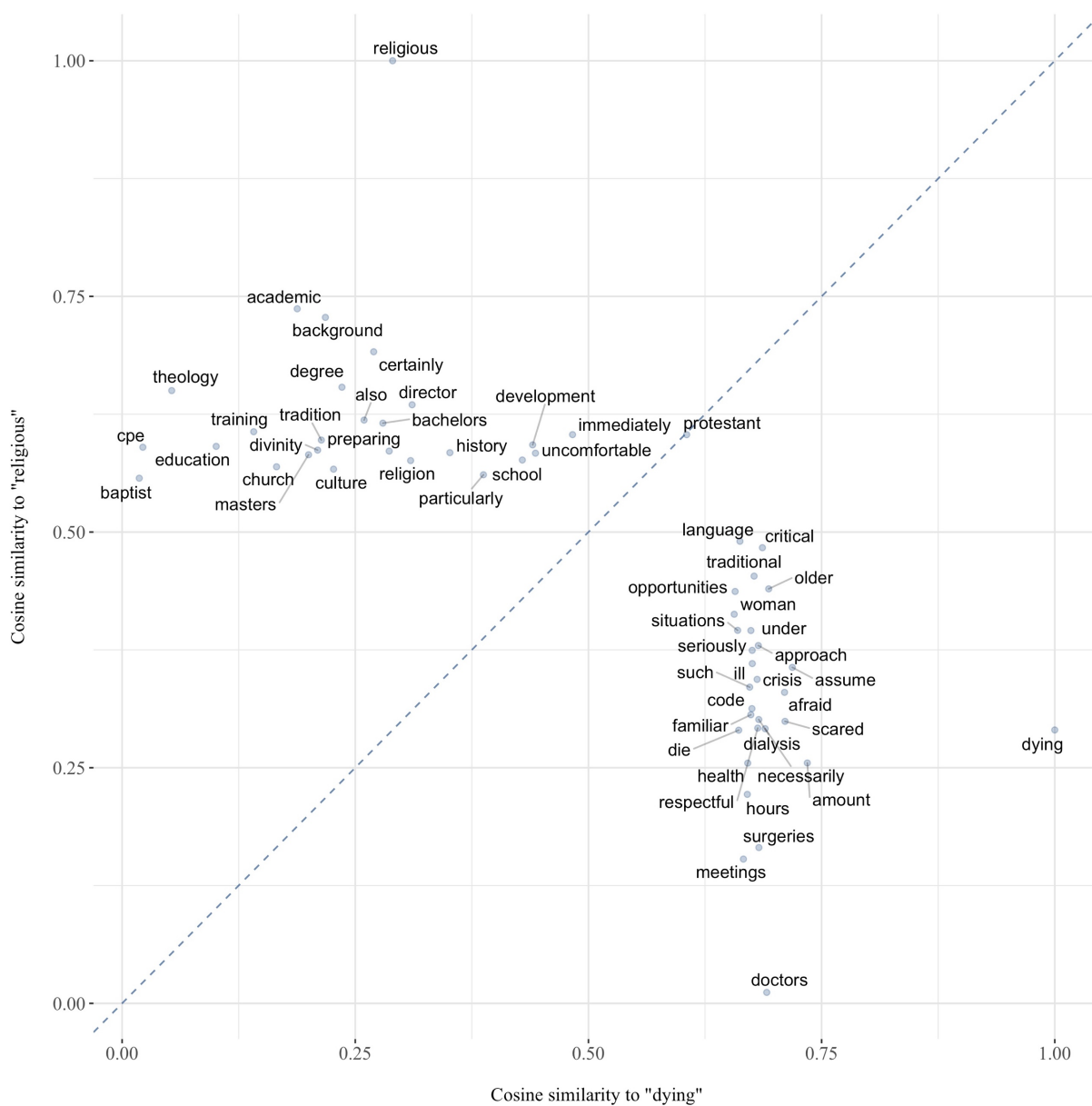
Figure 7: *Dying* and *religious* two-dimensional semantic space by cosine similarity

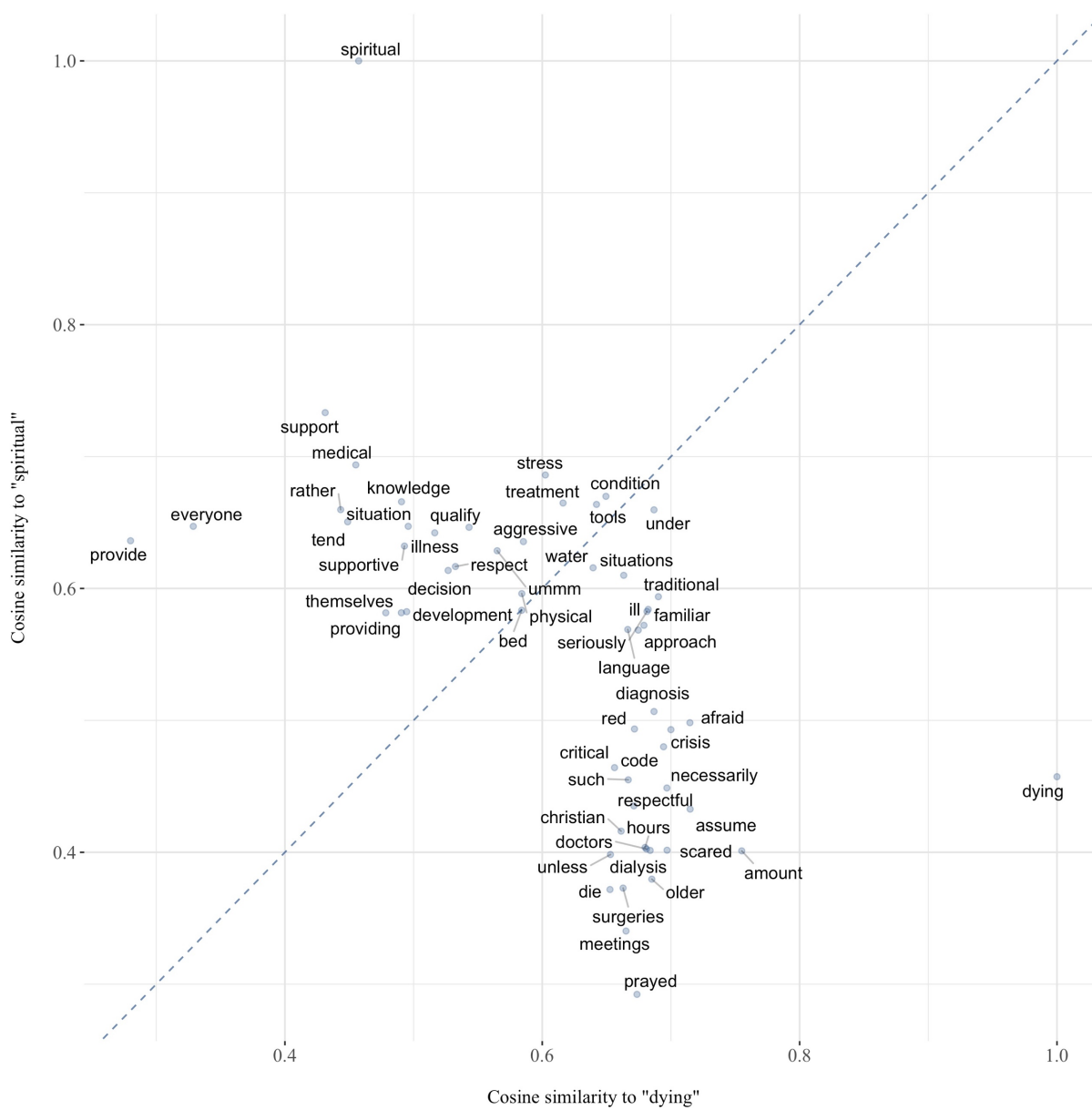
Figure 8: *Dying* and *spiritual* two-dimensional semantic space by cosine similarity

Figure 9: *Patient* and *chaplain* two-dimensional semantic space by cosine similarity

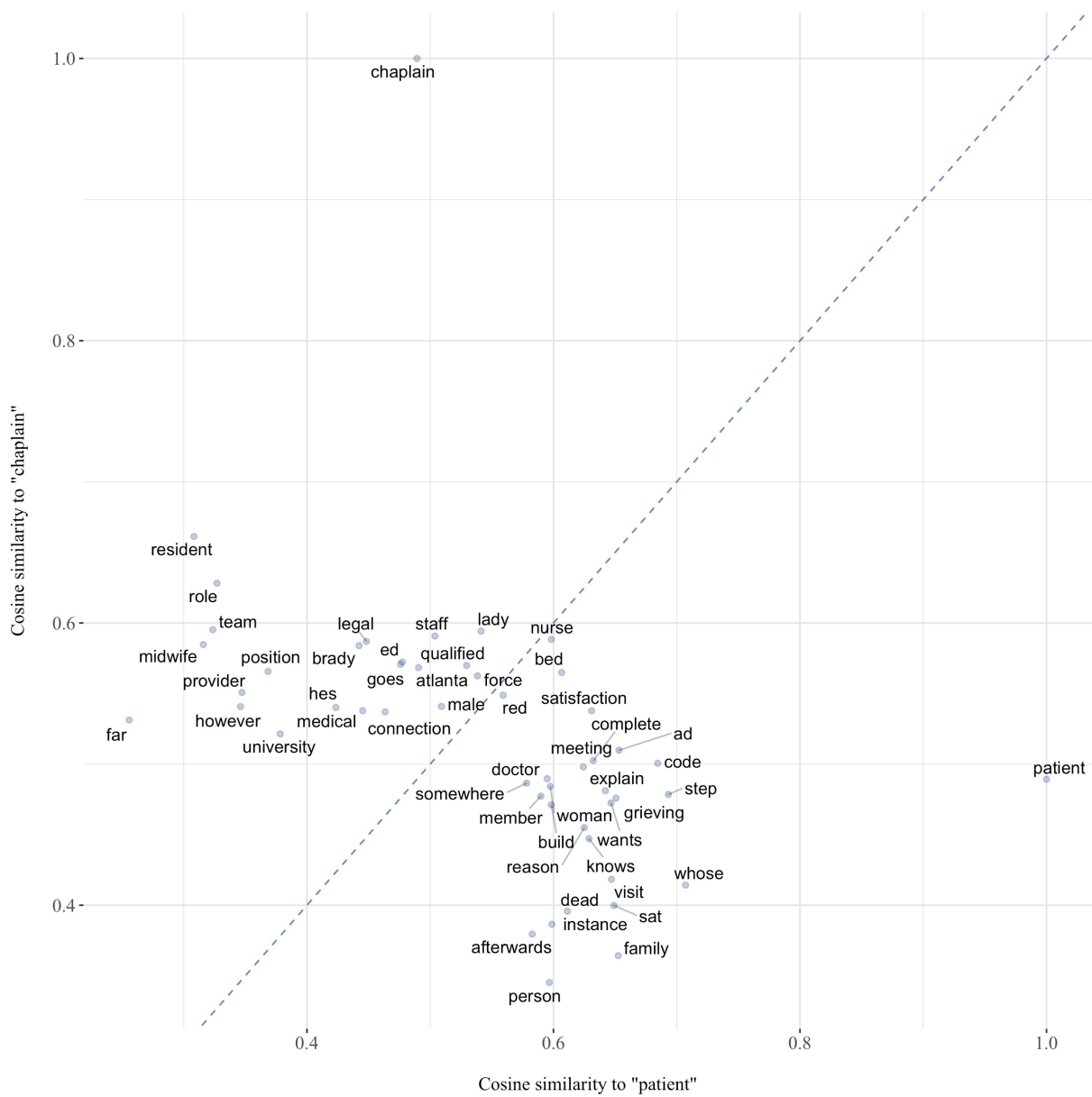


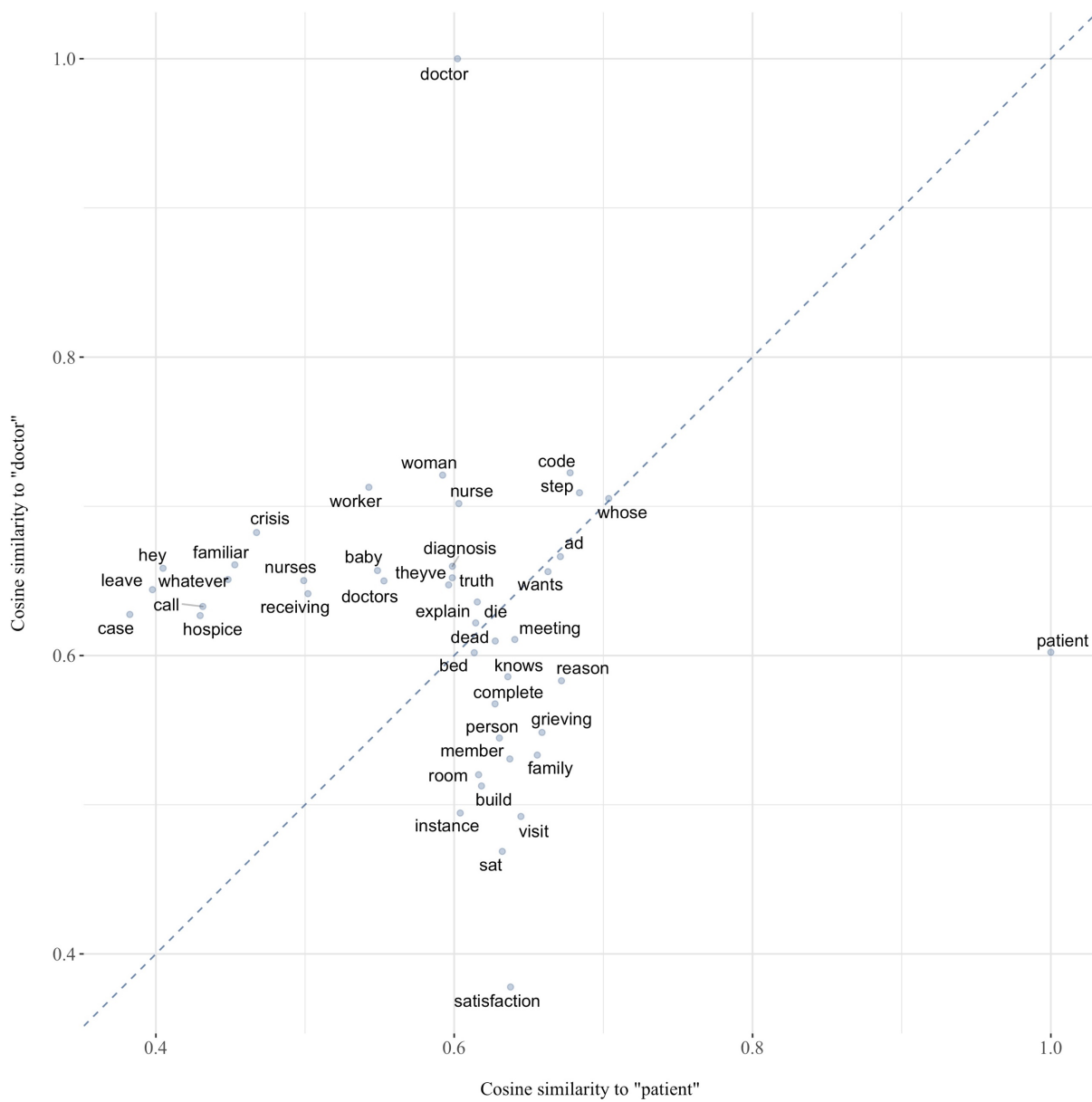
Figure 10: *Patient* and *doctor* two-dimensional semantic space by cosine similarity

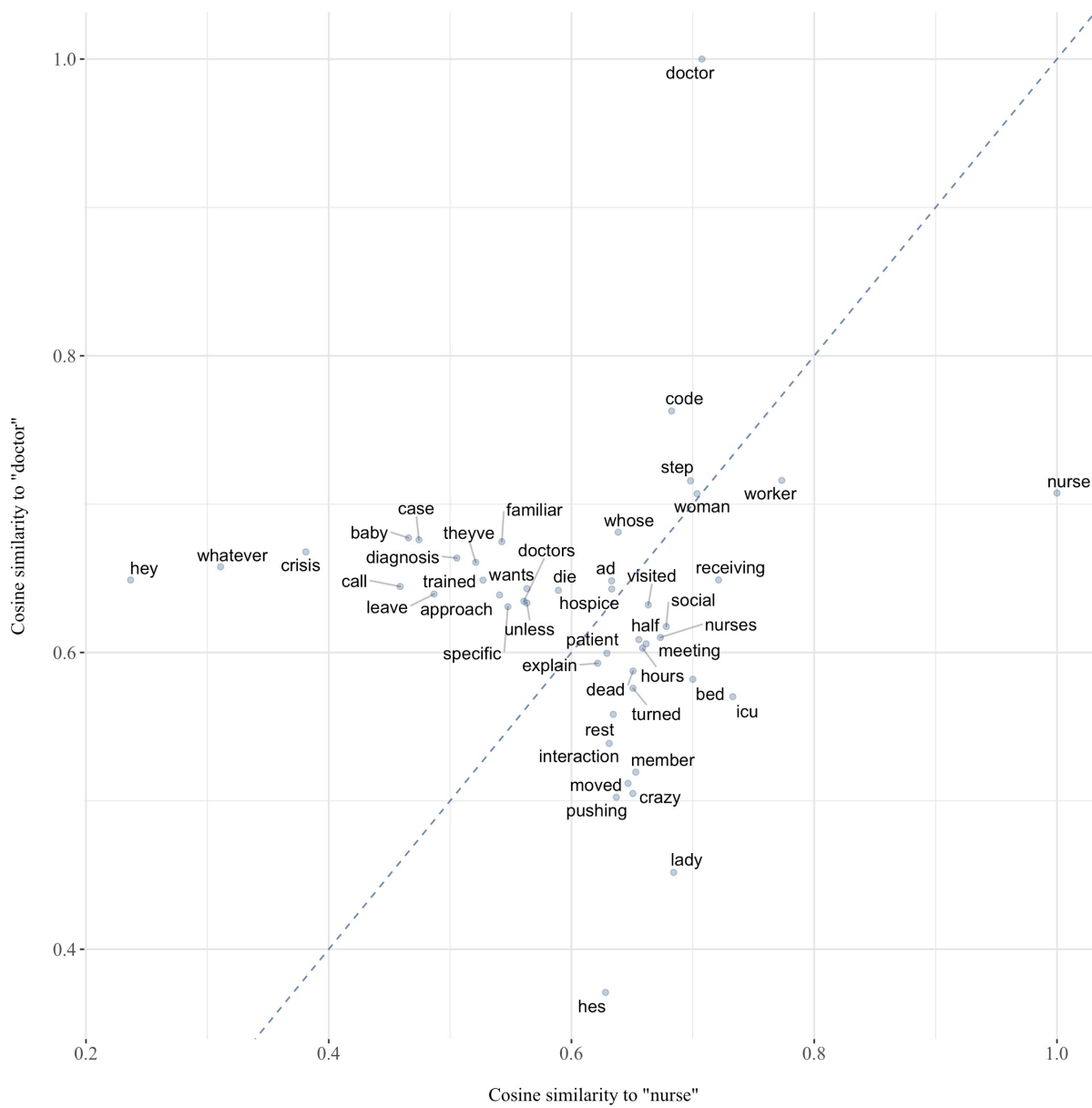
Figure 11: *Nurse* and *doctor* two-dimensional semantic space by cosine similarity

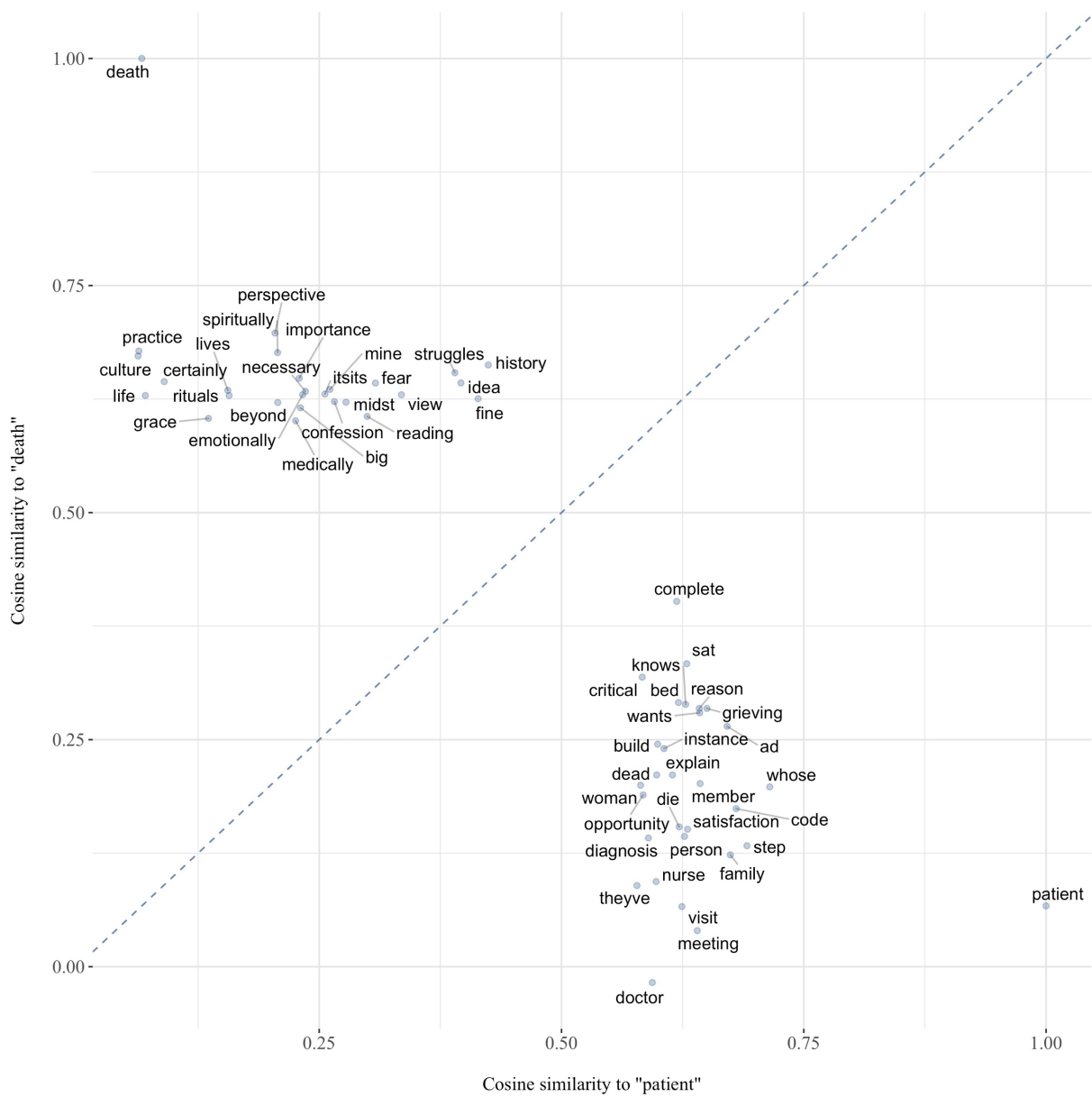
Figure 12: *Patient* and *death* two-dimensional semantic space by cosine similarity

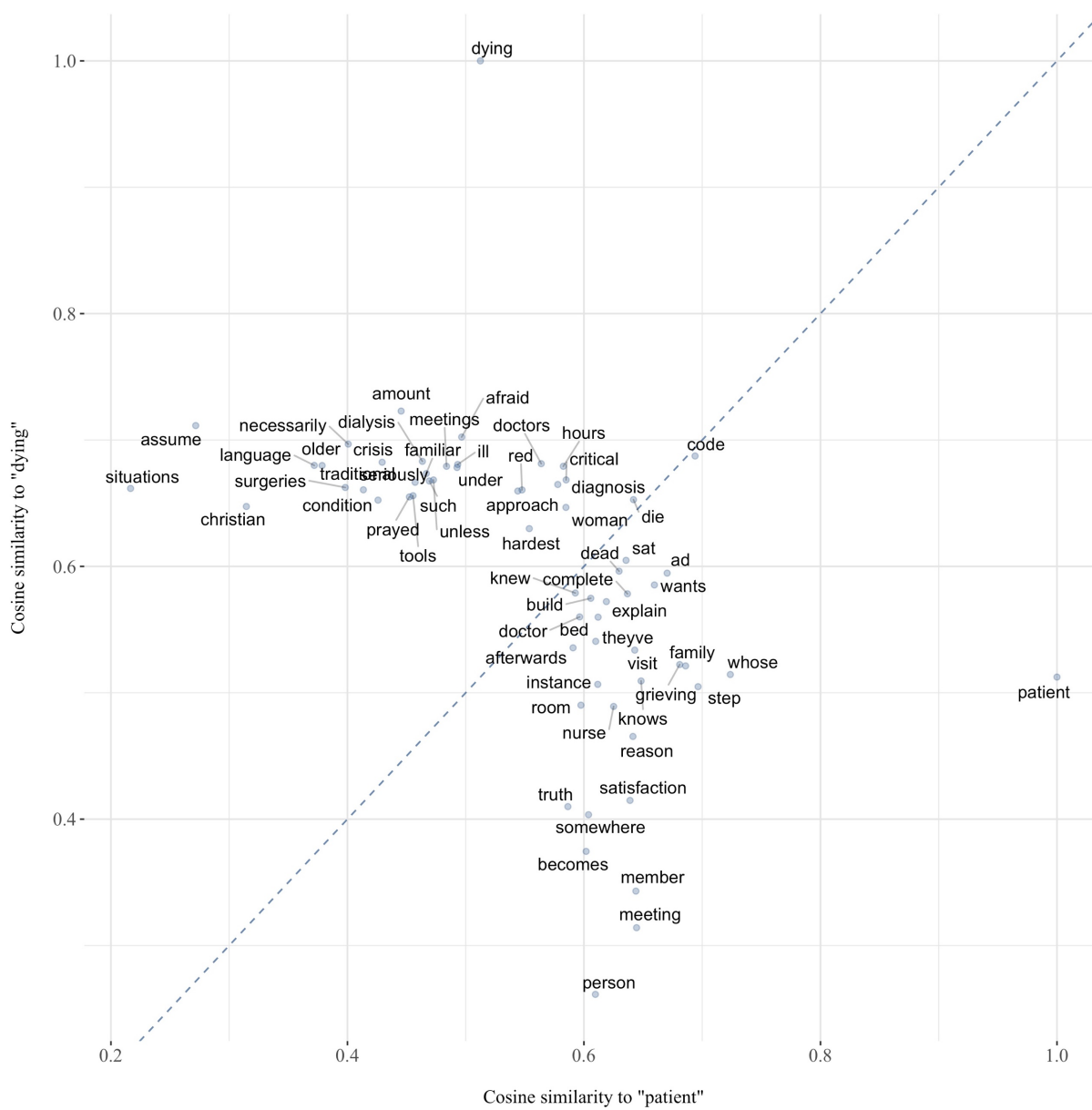
Figure 13: *Patient* and *dying* two-dimensional semantic space by cosine similarity

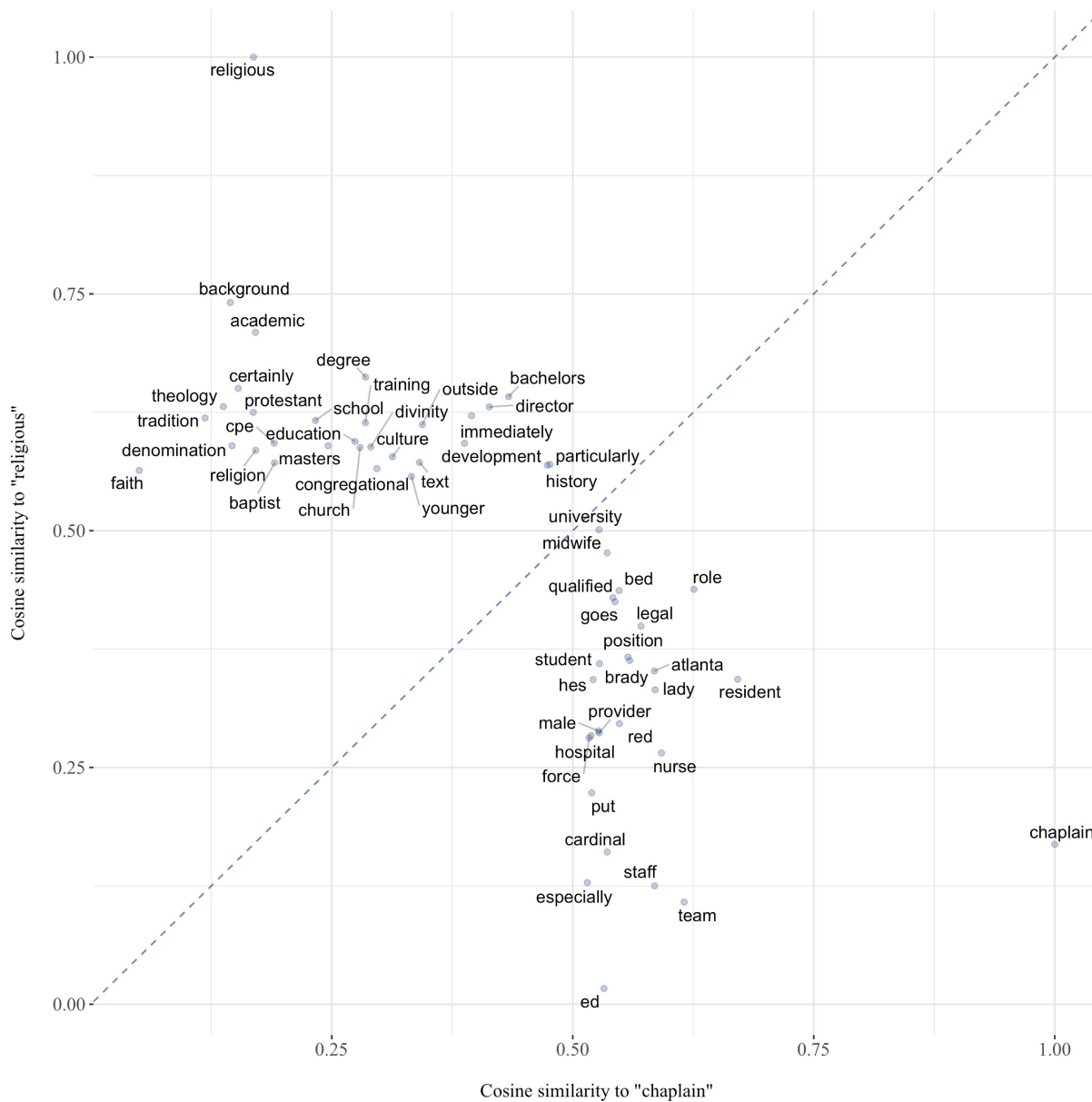
Figure 14: *Chaplain* and *religious* two-dimensional semantic space by cosine similarity

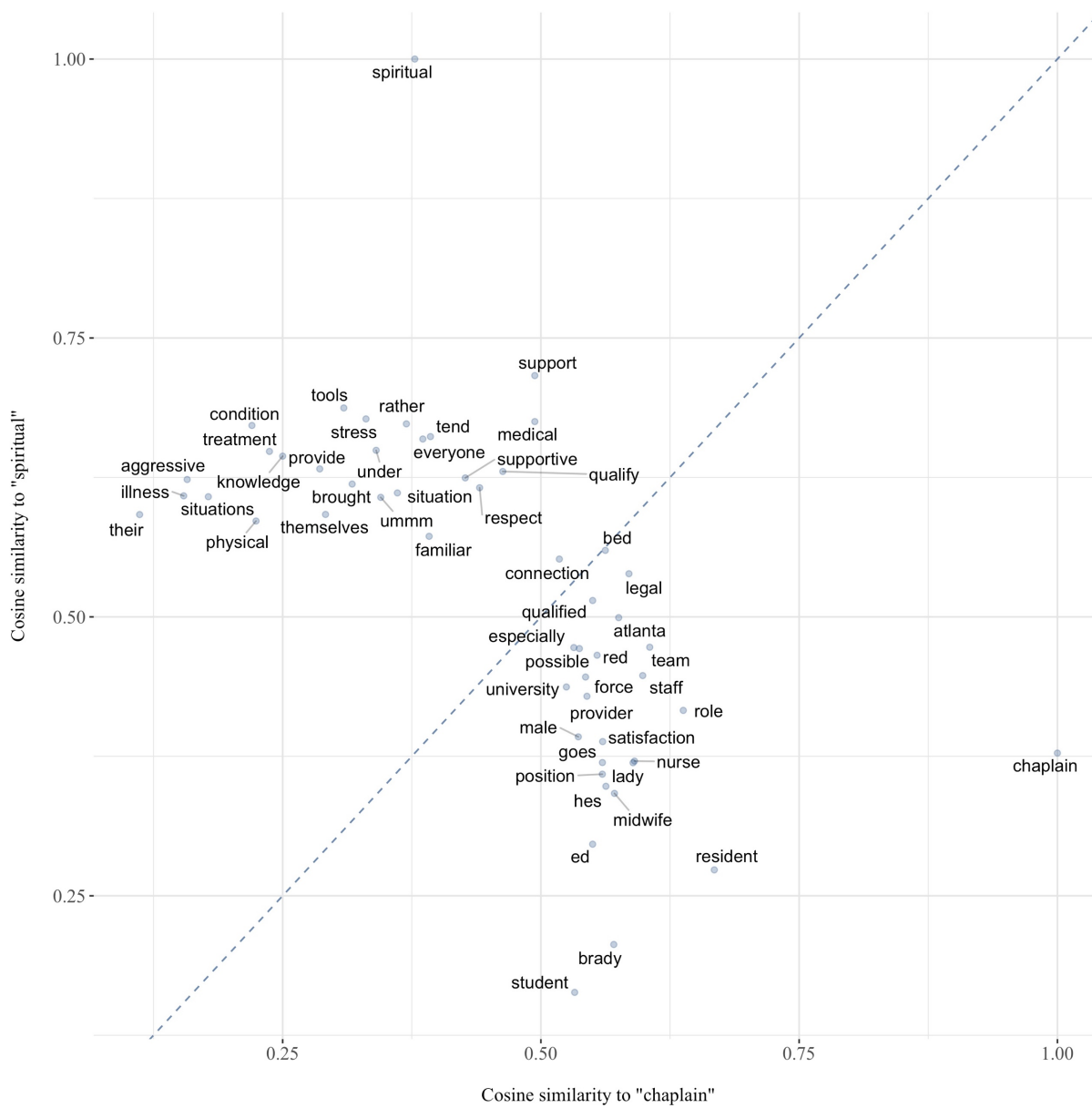
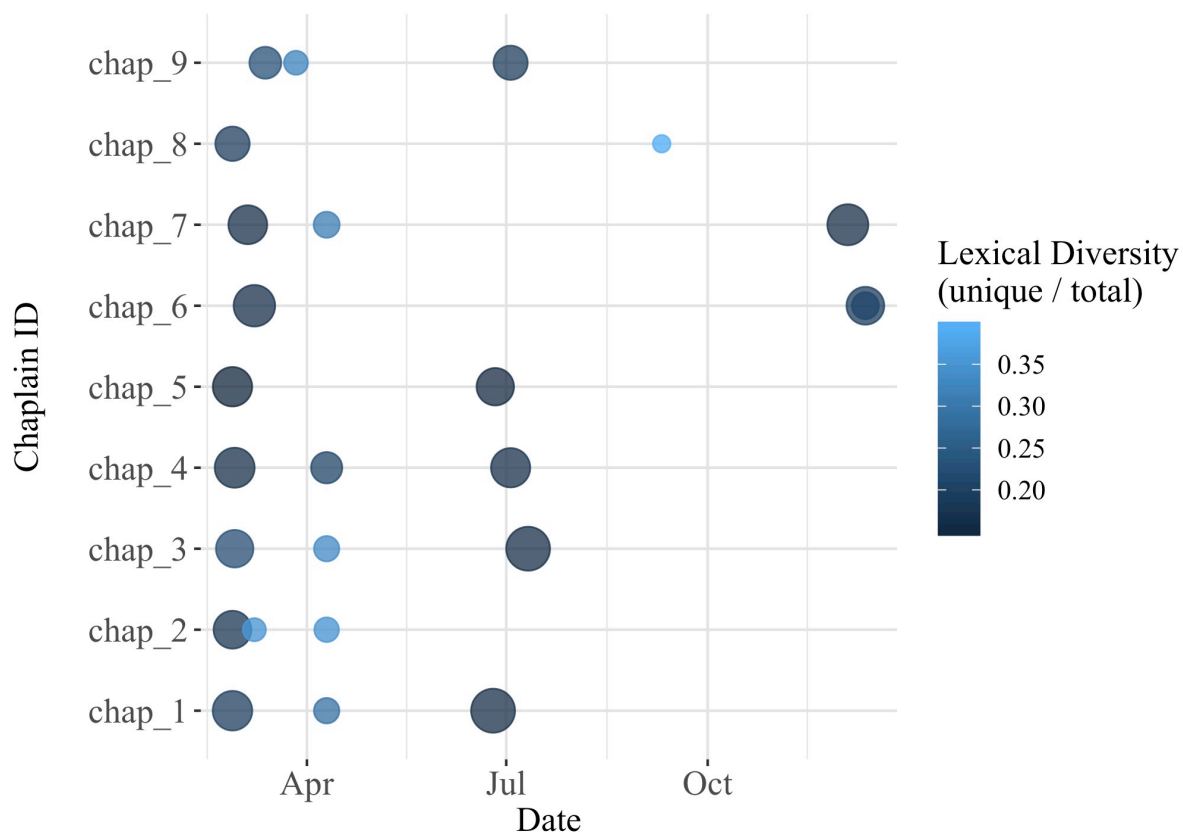
Figure 15: *Chaplain* and *spiritual* two-dimensional semantic space by cosine similarity

Figure A2: Date of interview (2013) and lexical diversity for each of the nine chaplain interviews



Item A3: Interview guide for nine in-depth interview of practicing healthcare chaplains

DRAFT IN-DEPTH INTERVIEW GUIDE CHAPLAIN or CHAPLAIN RESIDENT

Section I: Background Information about the Chaplain or Chaplain Resident

I would like to begin by learning a little about your background.

Length of time at EUHM:

Prior Chaplaincy or Clinical Pastoral Education experience:

Where?

How long?

How have these experiences been different /similar to your current assignment?

Other academic/ medical/clinical/religious training: Training in palliative care/hospice:

Personal religious background/faith:

Section II: Role as a Hospital Chaplain

Next, I would like to ask you some questions about your role as chaplain at EUHM.

View of own role as a chaplain or chaplain resident:

Name the most satisfying aspects...

Name any challenging or negative aspects...

How has prior training and experience prepared/ or not adequately prepared you for chaplaincy work at EUHM?

Describe ways working at EUHM has strengthened ability of chaplain to respond with spiritual care to seriously ill patients

Describe ways working at EUHM may have challenged your ability as a chaplain to respond with spiritual care to seriously ill patients.

View of own role on or in relationship to the palliative care team Draft 06/24/13

Attitudes about working with the palliative care team

Name the most satisfying aspects of working with the team. Name the least satisfying aspects of working with the team.

Probe for specific challenges

Name the most satisfying aspects of working in a palliative care setting.
Name any challenging or negative aspects of working in a palliative care setting.

Thinking about the hospital organization, its culture and its policies:

Name the most satisfying aspects of working as a chaplain in ECPS (Emory Center for Pastoral Services) at EUHM.

Name any challenging or negative aspects of working as a chaplain in ECPS at EUHM.

Probe for specific challenges

Name the most satisfying aspects of overall work life and/or education at EUHM.
Name any challenging or negative aspects of overall work life and/or education at EUHM.

Probe for specific challenges

Thinking specifically about your role as a chaplain and the work that you do in that role:

If you had the authority, is there anything you would change about your role as a chaplain or chaplain resident?

Probe for specifics

If you had the authority, is there anything you would change about palliative care at EUHM or the service from ECPS at EUHM?

Probe for specifics

If you had the authority, is there anything you would change about this hospital or its policies?

Probe for specifics

Section III. Patient Encounters (questions/approach adapted from a study by Daaleman et al., 2008)

As a follow-up to your participation in collecting time diary data, we would like to ask you to think about your encounters with two different types of patients.

First tell me about one patient where spirituality and spiritual care were essential aspects of your care and with whom you were confident of good care response.

In what ways were you specifically effective as a care responder?

What made you feel confident about the care?

What were some of the elements of this conversation that were most relevant?

Did you share the patient's faith tradition, beliefs, practices, or faith community? If not how did you resolve these differences in approaches to care.

Do you tend to focus on faith or religion explicitly or do you respond to a person's suffering in the context of hospitalization regardless of faith or religion?

Next tell me about a patient where spirituality and spiritual care were essential aspects of your care and with whom you tried to reach but with whom you were unable to help in this area.

Describe internal factors (of you the chaplain) that you felt hindered your ability to effectively respond to this patient.

Describe the condition and/or feelings of the patient that you felt hindered you from effective care responding.

What were some of the elements of this conversation that were most relevant to the lack of effectiveness in the care encounter?

Section IV. Religious Coping and End of Life Beliefs

How often in your daily life does your religion help you cope with problems? Some researchers have described positive religious coping methods such as: looking for a stronger connection with God; seeking God's love and care; seeking God's help to let go of your anger; trying to work together with God; trying to see your strengths; asking forgiveness; or focusing on religion to stop worrying. Would you say you cope with your everyday problems in a religious or spiritual way? Are there some other religious coping methods you could add to these?

Researchers have also identified what they call negative religious coping methods, such as: wondering whether God has abandoned you; or feeling punished by God; or questioning God's love; or wondering whether your religious congregation has abandoned you; or thinking that the

Devil caused a problem to happen; or questioning the power of God. Have you ever grappled with problems in these terms? Are there other "negative" religious coping methods that you could add to these?

We are also interested in chaplain's views of God's control over the length of time people live. Some people would say that the length of one's life is determined by God -- that it is God's will when one's life will end, and that people should not take matters into their own hands. On the other hand, some people would say that they believe that very sick people have the right to decide what kind of care they want at the end of life and should be given clear alternatives and

choices between aggressive treatment and hospice or palliative care. Which view would you say comes closest to your own? Would you say your views have changed since you began to practice as a chaplain?

Section V. Debrief

What is your overall attitude about the research project?

Name some specific strengths of this project.

Name some specific challenges of this project.

Is it important for chaplains to be engaged in health science research? Why or why not?

A sad and unexpected event that occurred this year was the death of your colleague and fellow chaplain, Juan Carlos. Can you talk a little about the impact his death has had on you personally?

How has his death affected the rest of your care team and your work culture?

Do you think his death has affected the research process in any way? If so, in what ways? Based on everything we have discussed today, do you have any final thoughts?

Dissertation Conclusion

John A. Bernau
Emory University

In this dissertation I explored contemporary linguistic approaches to death and dying. In chapter one I analyzed fifty years of *New York Times* articles to understand the reception of Kübler-Ross's five-stage model in popular culture. I also analyzed fifty years of academic articles to understand the model's reception in professional discourse. While the model enjoyed similar rates of diffusion in both arenas, I found these two corpora legitimated Kübler-Ross through different discursive logics: the commercial-entrepreneurial logic of popular discourse and the expert-elaboration logic of professional discourse. Marrying traditional content analysis with structural topic modeling I provide a model for how recent developments in computational text analysis can go beyond descriptive analysis to test and adjudicate between competing theoretical claims. This chapter brought at least two promising directions for future work. First, the process of institutionalization remains undertheorized in cultural sociology. Employing Wood et al's (2018) concept of *model of a frame* and Lizardo's (2017) distinction between public and personal culture, I argue that Kübler-Ross's five-stage model of death and dying can be understood as a part of immaterial public culture –or a model of a frame– that was received as declarative personal culture upon its release. Future work should further explicate the translation of a cultural object from declarative personal culture to immaterial public culture. In other words, how do popular ideas come to be shared? While my analysis demonstrated one example of this cultural transition, additional work should attempt a generalizable theoretical framework for cultural diffusion. Second, this chapter opened new possibilities for mixed-method research using large-text corpora. The use of computational techniques for “distant-reading” would serve

to guide and inform traditional approaches to historical and qualitative scholarship. For example, using a suite of original R functions (Bernau 2018), I have gathered full-text data for more than one hundred years of sociology journals. Using structural topic modeling, I could feasibly trace the emergence of various “schools of thought” in the discipline, and paired with author affiliation data, could effectively map the flow of ideas over the last century.

In chapter two I analyze over 70 years of academic articles in the *Journal of Pastoral Care and Counseling* (N = 4,054) using structural topic modeling. Building on chapter one, I add document-level covariates to the structural topic model estimation to better account for the longer timespan and thematic variation. Ultimately, I find a linguistic shift from the universal to the particular as pastoral care professionals drop language of human nature and morality for that of individual narratives and experiences. I also find a decline of overtly religious language since the 1950s in favor of a more ecumenical language of spirituality, hope, and presence. These linguistic shifts shed light on the past century of theological debate and social change while situating a better understanding of modern clergy and their cultural authority and professional jurisdiction today. This chapter suggests at least two exciting avenues for future research. First, subsequent work should apply this model to other types of pastoral and religious texts. While the *Journal of Pastoral Care and Counseling* is one of the longest running journals in the field, it remains only one of many voices. Using structural topic modeling to trace the co-evolution of liberal and conservative theological circles would inform historical work on American religion (Chaves 2017; Putnam and Campbell 2012; Wuthnow 1990), and examining other professional journals would shed light on occupational shifts throughout the twentieth century (Abbott 1988). Second, this chapter also spoke to larger theoretical concerns like Meyer’s (2010) institutional analysis of individual centrality and Rieff’s (1966) “triumph of the therapeutic” and the changing

role of religion in modern society. Future research might look to other professional spheres to probe the degree of “individualization” present across multiple disciplines, or to generalist religious dialogue to see how far this therapeutic trend has diffused.

In chapter three I borrow from interactional approaches to language, both social and syntactic, to trace the various “interpretive packages” employed to make sense of mortality in modern healthcare institutions. I do this through an analysis of 25 in-depth interviews with practicing healthcare chaplains using word vector representations. I show that modern healthcare chaplains are more likely to evoke language of spirituality during end-of-life care than language of religiosity, and that this spiritual language appears less thematically unified than chaplains’ discussions of religion. My analysis also demonstrates the linguistic shifts that occur throughout the dying process. In other words, as a patient progresses through a terminal illness, talk of death moves from doctor, surgeries, and diagnosis; to meeting, understanding, anger, and afraid; to abstract discussions of death, culture, life, and history. These exploratory results speak to the efficacy of using word vector representations on small-corpus text analysis, while encouraging future pairing with close reading and qualitative coding. Another fruitful application of word vector models in the social sciences would involve the comparison of multiple word vector representations. Given two distinct models of language, researchers could feasibly compare word distances and similarities as they move across multiple word vector models. Within two corpora, one could plot the semantic movement of keywords over time as meanings change according to Firth’s (1968) theory of collocation.

Through my work in this dissertation I have combined theoretical concerns in the cultural sociology of language with a firm grasp of historical changes in American religiosity and medicine to reach a better understanding of our language of death and dying. Analytically, I

think structural topic modeling is one of the most promising techniques for measuring what Gamson and Modigliani (1989) call *interpretive packages* and I am excited by the possibilities afforded by word vector representations and other new techniques in computational text analysis.

Furthermore, in this work I hope to have expressed the power of data visualization in communicating complicated statistical results. Too often social scientists hide behind statistical equations or impenetrable jargon, and by visualizing final results, I encourage empirical social scientists to use visualization as a universal language of communication. For example, while structural topic modeling relies on advanced machine-learning algorithms, the final output is essentially two matrices. The researcher must then decide how to communicate these results in a meaningful way. By developing a method for ranking top topics according to breadth and depth (or “corpus coverage weighting” CCW), I provide a method for sorting and communicating topic modeling results in a clear and simple way. In addition, I develop an original plotting scheme that balances these two matrices (gamma and beta, respectively) to present longitudinal topic composition and distribution over time. I also develop one of the first examples of visualizing word vector representations using cosine similarity. In its one-dimensional form, this method allows a quick and quantitative measure of one keyword and nearby words according syntactic-semantic similarity. In its two-dimensional form, this method allows a glimpse at the true high-dimensional space of word vector representations.¹⁸ Together I hope these efforts foster a greater appreciation for the communicative role of visualization in empirical social science.

¹⁸ For an excellent demonstration, see the following video by Google Developers in 2016: “A.I. Experiments: Visualizing High-Dimensional Space.” <https://www.youtube.com/watch?v=wvsE8jm1GzE>

With the support of the committee, friends, family, and colleagues, I look forward to further research as I continue to explore the theoretical, historical, and empirical nature of the social world.

References

- Abbott, Andrew. 1988. *The System of Professions: An Essay on the Division of Expert Labor*. Chicago: University of Chicago Press.
- Bernau, John A. 2018. "Text Analysis with JSTOR Archives." *Socius* 4:1–2.
- Chaves, Mark. 2017. *American Religion: Contemporary Trends*. Second edition. Princeton, NJ: Princeton University Press.
- Firth, J. R. 1968. "A Synopsis of Linguistic Theory." in *Selected Papers of J. R. Firth: 1952-1959*, edited by F. R. Palmer. Longman.
- Gamson, William A. and Andre Modigliani. 1989. "Media Discourse and Public Opinion on Nuclear Power: A Constructionist Approach." *American Journal of Sociology* 95(1):1–37.
- Lizardo, Omar. 2017. "Improving Cultural Analysis: Considering Personal Culture in Its Declarative and Nondeclarative Modes." *American Sociological Review* 82(1):88–115.
- Meyer, John W. 2010. "World Society, Institutional Theories, and the Actor." *Annual Review of Sociology* 36(1):1–20.
- Putnam, Robert D. and David E. Campbell. 2012. *American Grace: How Religion Divides and Unites Us*. New York: Simon & Schuster.
- Rieff, Philip. 1966. *The Triumph of the Therapeutic: Uses of Faith after Freud*. Wilmington, Del: Intercollegiate Studies Institute.
- Wood, Michael Lee, Dustin S. Stoltz, Justin Van Ness, and Marshall A. Taylor. 2018. "Schemas and Frames." *Sociological Theory* 36(3):244–61.
- Wuthnow, Robert. 1990. *The Restructuring of American Religion*. Princeton, N.J.; Oxford: Princeton University Press.