Automated text analysis for understanding radical activism: The topical agenda of the North American animal liberation movement

Zack W. Almquist and Benjamin E. Bagozzi

Abstract
It is difficult to study radical social movements due to their often covert, fluid, and fleeting qualities. As a consequence, data limitations and/or theoretical disagreements abound within research on such movements. We contend that the texts produced by radical movements and their supporters provide a window into group features, and that recent advances in automated text analysis methods afford a means for unlocking these texts in a systematic fashion. We evaluate the contentions through an automated analysis of the radical animal liberation movement’s primary North American publication. Our application provides novel insights into the topical agenda of animal liberationists, and the relative attention paid towards networking, (non)violence, radicalization, and direct actions. Examination of these topics over time further reveals a number of ideological and tactical shifts, which are predictive of future direct-action events. This demonstrates the benefits of automated text analysis for the study of radical movements and their texts.

Keywords
Environmental politics, radicalism, radical environmental activism, animal liberation front, animal rights, text-as-data

Introduction
Radical social movements occupy a central place within the study of political science. However, due to a paucity of data, it remains difficult to systematically study such movements—particularly over sustained time periods. As a consequence, theoretical disagreements abound within radical social movement research. Recent advances in automated text analysis—alongside the proliferation of radical social movements’ own texts, activity records, and communications on the Web—provide scholars with the ability to understand these otherwise hard-to-reach movements. To demonstrate the usefulness of these tools for political science research into radical and extremist groups, we quantitatively analyze the texts associated with a previously unexplored movement in this regard: the radical animal liberation movement (RALM).

As discussed in the Online Appendix, the RALM grew out of the broader environmental movement of the 1960s and 1970s in North America and Europe. From these early beginnings, the RALM gained notoriety for its aggressive efforts to end the exploitation of animal species by humans. It has also sprouted a number of longstanding and highly prominent transnational groups such as the Animal Liberation Front (ALF) and Stop Huntingdon Animal Cruelty (SHAC), as well as many regional groups. Given these movement features, among others, the study of RALM groups and their tactics is highly relevant to political
science and related social science research (e.g. Carson et al., 2012; Monaghan, 1997).

Yet researchers lack a comprehensive understanding of radical animal liberationists due to the clandestine nature of the RALM. This has led to a great deal of disagreement over the identity, tactics, and goals of the RALM. These disagreements have especially manifested in debates over the violent versus nonviolent identity of RALM groups (e.g. Best and Nocella, 2004; Monaghan, 1997). Still others debate the broader agenda of the RALM, with some characterizing it as a single-issue movement (Braddock, 2015; Poslusnka, 2015) and some instead characterizing the RALM as encompassing a broader intersectional agenda that addresses both animal and human injustices (Johnston and Johnston, 2017; Pellow, 2014).

To reconcile these disagreements, we apply unsupervised text analysis tools to the 30-issue corpus of No Compromise, a North American RALM magazine (zine) which billed itself as the “Militant, Direct Action Newsweekly of Grassroots Animal Liberationists & Their Supporters” (No Compromise, 1996: 2) during its publication from 1996 to 2006. We provide an extended discussion of No Compromise in the Online Appendix. There we contend that these texts produced by the North American RALM and their supporters provide researchers with an unprecedented window into the values, agenda, and goals of radical animal liberationists. The 30-issue No Compromise corpus is especially suited for these purposes, given its centrality to the RALM during the 1990s and 2000s, and the role of prominent RALM members in its authorship and publication. In analyzing this corpus with automated techniques, we can capture the dominant narratives of the North American RALM over a substantial time period, in a systematic fashion, without a priori assumptions regarding the RALM’s agenda.

We find that our identified RALM topics exhibit reliable predictive leverage for the forecasting of environmental direct actions. Our results also suggest that, over the 1996–2006 period, the RALM has a multifaceted agenda that touches on broader social justice themes. However, contra to Pellow (2014) and Johnston and Johnston (2017), our identified rhetoric pertaining to human oppression, power, capitalism, and inequality is less than prominent, and often takes a back seat to discussions of (non)violence, ecotage, and animal abuse. In support of recent empirical studies (Braddock, 2015; Carson et al., 2012), we likewise find that a significant portion of the RALM’s agenda centers on debates over (non)violence and ecotage, and increasingly so throughout the 1990s and 2000s.

Analyzing RALM texts

Given the limited circulation of No Compromise, and its time period of publication, we were unable to locate a complete record of No Compromise in machine-readable form. Fortunately, PDF-image files of all 30 issues have been uploaded to a digital publishing platform (issuu). We converted each to machine-readable text using OCR software. We defined the relevant “document” unit in this case to be the document page, and then preprocessed these texts in preparation for analysis. These steps are discussed in detail in the Online Appendix, and produced a corpus with 1020 unique documents and 16,949 unique word-stems. These documents were then paired with a time-counter corresponding to each document’s publication issue for use as an independent variable.

We use these No Compromise documents to discover the North American RALM’s underlying agenda from 1996 to 2006. To do so, we apply unsupervised topic models to our final documents so as (a) to uncover the latent topics that are discussed across documents, and (b) to associate these topics with the temporal dynamics of topical attention within the No Compromise corpus during the years 1996–2006. We favor topic models because they allow one to recover quantity (a) in an automated fashion. The most commonly used topic models do so by treating documents as combinations of multiple topics, where a topic is represented by a set of words, and documents are mixtures of these word-defined topics.

To recover quantity (b) mentioned above, we specifically utilize the Structural Topic Model (STM; Roberts et al., 2014). We favor the STM over other topic models because the STM allows us to incorporate document-level information—namely our time-counter variable corresponding to the ordering of each issue’s publication—as a predictor of variation in attention towards different RALM topics across documents. This, in turn, allows us to evaluate how the timing of publication affects a RALM document’s relative topical attention. When we find variation in this regard, we interpret this as a shift in No Compromise’s—and, by extension, the North American RALM’s—agenda focus.

To model the No Compromise corpus’ topical prevalence as a function of the aforementioned time-count covariate, we follow extant analyses of comparably sized radical environmentalist corpora (Almquist and Bagozzi, 2019; Braddock, 2015) to estimate a total of 10 topics for this primary STM, using 50 different initializations to ensure a final STM run that maximizes the semantic coherence and exclusivity of our estimated topics. The Online Appendix demonstrates that (a) these STM choices are defensible and (b) our STM conclusions are robust to alternate time windows and modeling choices.

RALM topics

Our STM uncovers the 10 topics that best characterize our page-length documents for the entire 30-issue No Compromise corpus. Each topic has a corresponding word distribution wherein each word in our corpus is assigned a probability of association to that topic. From these
probabilities, we determine the most highly associated words with each of our 10 topics using frequency exclusivity scoring metrics (FREX). We then interpret and label our topics based upon an examination of the 20-top FREX words for each topic, and a close reading of documents that were classified with highest probability for each topic (see the Online Appendix for example documents). Figure 1 presents our 10 topics alongside each topic’s label and top FREX word-stems.

The topics identified in Figure 1 correspond to substantively coherent constructs. Two topics relate to different aspects of the criminal justice system, and/or its association with the illegal activities that the RALM is involved in. *Legal Troubles* clearly encompasses discussions of the criminal prosecution, trials, and imprisonment of animal liberationists. *Prisoner Support* is less apparent from its topwords. However, our readings of this topic’s associated documents indicate that it primarily corresponds to *No Compromise*’s efforts to support imprisoned animal liberationists, with several topwords in Figure 1 being drawn from prisoner addresses listed within *No Compromise*’s prisoner support sections. Another topic encompasses broader discussions of the RALM’s overall *Movement Identity*, with topwords relating to the illegal activities associated with these activities.

Given the latter points, discussions of *Non*Violent Resistance as a RALM tactic appear distinct from discussions of the movement’s broader goals and efforts to influence the public (*Movement Identity*). However, *Non* Violent Resistance’s invoking of past resistance movements supports Johnston and Johnston’s (2017) and Pellow’s (2014) interpretations of the RALM as engaging with broader social justice movements and resistance efforts. Notably, *Non* Violent Resistance appears to capture long-running “violence vs pacifism” debates within the North American RALM, and *No Compromise* in particular. Such debates were perhaps most acute during *No Compromise*’s editor Freeman Wicklund’s embracement of pacifism and departing letter in *No Compromise* #8 (Talon Conspiracy, 2011).

An additional pair of topics are related to the tactic-based topics identified above, in that they speak to the potential targets of the North American RALM and its protest strategies. *Hunting* contains topwords such as “trapper,” “whale,” and “dolphin”—and thus appears to identify activities of animal hunting and fishing, in addition to the actors associated with these activities. *Animal Research* instead appears to relate to scientific research conducted on
animals or genetics, in addition to attention towards animals raised for food. Hence, this topic is largely focused on (the mistreatment of) animals in captivity, and shares similarities with the theme of animal victimization that was identified within more qualitative assessments of ALF narratives (Braddock, 2015: 47). Finally, Membership Drive corresponds to No Compromise’s efforts to solicit support for its continued publication, and to facilitate networking among RALM activists.

Altogether, these identified topics suggest that our STM analysis is performing as expected and is yielding a range of theoretically salient themes. We find it reassuring that Hunting and Animal Research clearly emphasize various elements of animal victimization, given that this theme has been repeatedly identified within more qualitative assessments of ALF texts (e.g. Braddock, 2015). It is likewise reassuring that Prisoner Support, Movement Identity, and (Non)Violent Resistance exhibit overlapping content with the issues that were identified within a qualitative analysis of contemporary (i.e. 2005–2015) RALM documents by Johnston and Johnston (2017); and within the RALM fieldwork and interviews conducted by Pellow (2014).

Extending our comparisons even further afield, we can also note that our STM’s protest-, ecotage-, and (non)violence-oriented topics also suggest that the North American RALM shares a number of tactical similarities with radical environmental groups more generally. For example, Almquist and Bagozzi (2019) find similar STM topics in an analysis of a UK-based radical environmental zine published during an overlapping time period.

However, many animal-oriented themes—such as animal morality and animal kindheartedness—identified in past readings of ALF narratives (e.g. Braddock, 2015) are not featured within our topics, implying that the No Compromise publication may function more as a tactical guide for established animal rights activists than as a socialization or recruitment mechanism for potential animal rights sympathizers. We also do not find comparable critiques of capitalism, expressions of solidarity with indigenous movements, or emphasis on critical feminism to those noted in Johnston and Johnston (2017). For instance, Johnston and Johnston (2017) find that 90%, 27%, and 23% of all North American RALM documents in their sample pertained to these three thematic areas, whereas these themes are largely absent from Figure 1. While the RALM may have broadened its discourse within the online materials that Johnston and Johnston (2017) consider, the most prominent North American RALM publication of the 1990s and 2000s appears to focus more squarely on animal abuse and ecotage.

**Topic variation**

We next evaluate the temporal variation in topical attention over the 1996–2006 period. To do so, we generate the estimated change in topical prevalence according to our STM’s
time-count covariate in Figure 2. Figure 2 depicts a movement, and movement identity, that is in flux over the 1996–2006 period. At the outset of No Compromise’s publication, roughly 25% of the zine was dedicated to accounts of Public Protest with only modest attention being paid to our remaining topics, and almost no discussion of animal abuses arising from Hunting or Animal Research. Over the course of our time series, however, attention dedicated to Public Protest waned, with discussions of (Non)Violent Resistance networking (Membership Drive) and Hunting steadily increasing. Animal Research similarly increases in attention within No Compromise from 1996 to 2006, albeit more unevenly, and with a large spike in attention in 2000. This spike in No Compromise’s attention towards Animal Research corresponds closely to the early-2000 founding of SHAC-USA in response to Huntingdon Life Sciences’ (HLS) establishment of a US headquarters and laboratories, and to SHAC-USA’s targeting of HLS and its affiliates.

After declines from 1997 to 1998, Ecotage Instructions and Legal Troubles also trend upward, albeit with some variability. The upward trend in Legal Troubles begins in 1998 and continues until 2004, encompassing a period of heightened legal action against radical environmentalists that has come to be known as the “green scare.” It then surges upward again during 2005—the year in which one prominent US official named the RALM as the number one domestic US terrorist threat (Pellow, 2014: 167). Notably, and intuitively, discussions of Ecotage Instructions sharply decline at this same instance.

Movement Identity exhibits a rise in attention at the beginning of 2000 but in 2003 begins to decline. These trends are perhaps due to the founding of SHAC-USA and the RALM’s increasing focus on HLS during this period. In support of this interpretation, North American RALM activists have noted that the early years of No Compromise saw a lot of dedication and courage, but sadly little in the way of new tactics or intelligent planning. That all changed in 2001 with the arrival of the anti-HLS campaign in the US. The focus suddenly shifted from scattershot regional targeting to a single, international pressure point. (Talon Conspiracy, 2012).

The subsequent post-2003 decline in attention towards Movement Identity may in turn be due to backlash towards the RALM’s increasing SHAC/HLS orientation. For instance, one RALM activist conceded that the anti-HLS movement, while still in its infancy in 2004, backfired after a group calling itself the Revolutionary Cells Animal Liberation Brigade (RCALB) carried out two bombings of HLS related targets in California (. . . and No Compromise) did their best to mitigate the harm of the actions while keeping activists focused on the real enemy. (Talon Conspiracy, 2013) Correspondingly, Prisoner Support garners nearly 30% of attention in 1997, but then noticeably declines, with virtually no discussion from 2002 onward.

Hence, No Compromise’s topical content over the 1996–2006 period was initially focused on RALM tactics, broadly defined. However, this content shifts away from the least violent of these tactics and more towards ecotage and debates over the use of (non)violence throughout No Compromise’s publication run. Actual RALM activities followed similar patterns, with the rise of SHAC-USA, and bombings by the Revolutionary Cells Animal Liberation Brigade. Alongside these trends, No Compromise appears to have become less of a discussion forum for active animal liberationists, and more of a platform oriented towards expanding RALM membership. For instance, we observe a marked increase in networking and membership drive efforts over the latter half of No Compromise’s publication in Figure 2. This occurs alongside increased accounts of Animal Research that are ostensibly intended to radicalize and/or mobilize RALM(-sympathetic) readers, and to further focus direct actions on targets such as HLS. Finally, Figure 2 likewise exhibits an increased—albeit highly variable—discussion of Ecotage Instructions from 1998 to 2006, all while actual accounts of ecotage decline and RALM Legal Troubles intensify.

Thus, the North American RALM changes its tactical repertoire over the 1996–2006 period, while also facing increasing challenges in recruitment, in the courtroom, and in group cohesiveness. To this end, the early 2000s surge in discussions of Movement Identity—and the rise to prominence of SHAC-USA—can be seen as potential catalysts for an identity shift within the North American RALM. These patterns suggest that researchers are wrong to characterize the North American RALM as having a stable agenda, support base, or tactical repertoire. Rather, the North American RALM is highly fluid in agenda and tactics over the 1996–2006 period. This fluidity appears to be partly shaped by internal movement struggles, such as controversial bombings committed by movement fringe groups and the rise of focusing groups such as SHAC-USA. At the same time, our findings also suggest that temporal shifts in the 1996–2006 RALM agenda were driven as much by external pressures as by internal pressures.

Predicting future direct-action events

We next assess whether our time-varying topics allow us to accurately forecast future RALM direct actions. We first derive each topic’s average prevalence across each of our 30 No Compromise issues from our STM, and lag each by one issue. We then hand-coded the individual direct-action events for the US and Canada that were listed in the “Diary of Actions” section of each No Compromise issue. Because the RALM’s direct-action
event reporting partly shifted to directactioninfo.org during the final 10 No Compromise issues, we identified unique events reported on directactioninfo.org and added these events to the appropriate No Compromise issue’s event records based upon each issue’s “Diary of Actions.” These steps generated a per-issue count of direct-action events (e.g. animal liberation acts, arsons, and/or property destruction) dependent variable, which we then logged and merged to our (lagged) topic prevalence measures.

Using these data, we evaluate the extent to which each topic’s lagged prevalence predicts the logged frequency of US- and Canada-based RALM direct-action events. We specifically estimate 10 bivariate regressions of logged direct-action events, each with a different issue-level topic prevalence variable as the predictor. Coefficient estimates, $R^2$ statistics, and mean square errors (MSEs) appear in Figures 3–4, and in Table A.1 of the Online Appendix. We find that increases in attention to Ecotage Accounts, Prisoner Support, and Public Protest are each associated with a significant ($p < .05$) increase in the logged number of direct-action events reported in an ensuing No Compromise issue. By contrast, increases in attention to (Non)Violent Resistance, Membership Drive, and Movement Identity each significantly ($p < .05$) decrease in the logged number of direct action-events reported in NC. Turning to the $R^2$’s and MSEs in Figure 4, we find that several of these statistically significant predictors—namely, Movement Identity, (Non)Violent Resistance, and Ecotage Accounts—exhibit sizable effects in terms of low prediction error and/or the overall share of logged direct-action events explained.

These results offer several important insights. Our finding that, even with a relatively small sample size, a majority of our STM-identified topics exhibit explanatory and/or predictive leverage towards RALM direct-action events indicates that future efforts to develop text-based forecasting models of radical direct-action events from RALM texts is worthwhile. The identification of Ecotage Accounts as a positive predictor of future RALM direct-action events suggests that more extensive past No Compromise “Direct Action Summary” sections are strong predictors of subsequent increases in direct-action events. Our findings for Public Protest suggest a similar dynamic: more No Compromise coverage of public protests reliably predicts more future events. Both patterns are consistent with past findings regarding the importance of the media in spreading protest actions by informing readers of past actions in other locales (Andrews and Biggs, 2006). Our findings that increased attention to (Non)Violent Resistance and Movement Identity decreases subsequent direct-action events suggests that internal debates over RALM identity and/or tactics yield declining direct actions among No Compromise readers in future periods. This interpretation is consistent with research suggesting that perceived network disagreements dampen political participation (Guidetti et al., 2015).

**Conclusion**

While data limitations ensure that the groups, tactics, and agenda of the RALM and other radical movements are often poorly understood and frequently disputed, the RALM and similar movements nevertheless produce a significant amount of text during efforts to recruit members, communicate with like-minded groups, and mobilize support. Methodological advances enable scholars to systematically examine these texts—and the groups that produce them—in novel manners. As we show, such methods not only allow one to uncover detailed information pertaining to radical environmental movements such as the RALM, but can also identify how a movement’s agenda varies over time and in relation to (future) external events.

We find that the North American RALM’s 1996–2006 agenda exhibits a small number of theoretically consistent themes. Contra to more recent RALM-findings, most speak directly to the core agenda of the RALM, with a focus on animal mistreatment and ecotage. Over time, we also observe decreases in agenda-attention directed towards public protest and prisoner support—and increases in attention towards ecotage, (non)violence, movement identity, and animal research. These trends map closely onto the rise of the anti-HLS movement, and related RALM legal issues. This suggests that the North American RALM is a fluid movement whose agenda is highly malleable both to external events and to individual groups within the movement.
Our analysis thereby demonstrates that STMs of radical groups’ texts not only exhibit validity relative to extant research and external events, but also provide researchers with unique theoretical leverage. Reinforcing these contentions, our Online Appendix presents an STM-application to a distinct radical movement: the Michigan Militia Corps. These STM-findings—obtained from a radical movement that occupies a distinct place on the socio-political spectrum to that of the RALM—underscore the applicability of our approach to a broad range of radical movements, and highlight the future promise of comparative automated text analyses of radical groups’ tactics and agendas. Indeed, given the rapid proliferation of online and/or digital communication media, the utility of STMs and related tools for the study of radical groups and their texts is only likely to grow in the future.

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ORCID iDs

Zack W. Almquist https://orcid.org/0000-0002-1967-123X
Benjamin E. Bagozzi https://orcid.org/0000-0002-6233-6453

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Notes

1. This topic thereby reflects the “animal rescue” theme identified in Braddock’s (2015) analysis of ALF narratives.
2. For example, the prosecution of the SHAC 7 under the US Animal Enterprise Protection Act.

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References


Figure 4. Fit indices for regression models of natural log (ln) direct-action events.

(a) R-Squared Statistics (b) Mean Squared Prediction Error


