

6 Framing extinction

Societal attitudes toward the passenger pigeon in editorials and opinion pieces

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Introduction

In October 2016, a World Wildlife Fund report warned that about two-thirds of the planet's wildlife could disappear by 2020. The report received considerable media coverage, and although it has been challenged as overstatement, its findings mostly align with much of the scientific research confirming the dramatic impact of human activities on biodiversity loss (Ceballos et al., 2015). Species extinction has always been of interest to various publics, but in the twenty-first century, the impacts of people on extinctions are unprecedented. Some scientists refer to this sixth extinction as an event "as extensive and rapid as five previous mass extinction events in the last 600 million years when 65 percent to 95 percent of marine animals previously known from fossil records disappeared" (Stork, 2009: 58). The current era, referred to as the Anthropocene (Young et al., 2016), raises questions about how modern society approaches the problem. One way to understand societal attitudes about extinction is to examine how we use language to refer to species and their conservation.

The passenger pigeon (*Ectopistes migratorius*), an iconic species, went extinct more than 100 years ago, when the last pigeon, Martha, died in the Cincinnati Zoo in Ohio. Her body was encased in ice and shipped to the Smithsonian Institution in Washington, D.C., where she was mounted and is now kept in a nondescript steel storage locker (Freedman, 2011).

Many news media used the 100th anniversary of Martha's death in 2014 to reflect on ways people impact and conserve nonhuman species. This study presents a qualitative exploration of the frames (Entman, 1993) used by writers of opinion pieces and editorials about this anniversary in print and online publications in the United States and Canada.

Statement of the problem and research question

Attitudes toward species, extinction, and conservation

Views about animals, environmental attitudes, and perceptions about nature's value can explain how we treat nonhuman species and how we approach

conservation efforts (de Pinho et al., 2014; George et al., 2016). Attitudes, in and of themselves, are an evaluation and a “tendency to respond” positively or negatively to the object in question (Fishbein, 1975). In this case, the attitude is toward animals broadly, and more specifically toward endangered species and extinction. Although extensive research on attitudes toward animals and conservation has examined anthropomorphic characteristics (Batt, 2009), children’s attitudes (Kellert and Westervelt, 1984), animals’ utilitarian value such as for food (Knight et al., 2004), and flagship species (Schlegel and Rupf, 2010), attitudes toward animal use are multidimensional and depend on context (Knight et al., 2010). Scientists, for instance, might believe using animals for medical science is a necessary evil benefitting people, while animal rights advocates may focus on morality and the cost to the animals themselves. Justification for protecting a species could also be based on belief in its potential “recreational” value to those who participate in wildlife-watching (Kerlinger et al., 2013) or on the belief that some species symbolize important ideologies, like the association between the bald eagle and American democracy (Petersen, 1999; Raymond and Schneider, 2014; Beans, 1997). Overall, the belief that a species is ecologically valuable because it helps keep the food chain intact, and thus helps maintain the balance of all life, is a strong basis for wanting to protect endangered species (Sax, 2001; Stein et al., 2000).

Media and the coverage of animals and extinction

Attitudes toward animals are manifested through a variety of mediated forms, such as news media (Anderson, 1997). For example, in an analysis of how hunting magazines portrayed the display of trophy animals, Kalof and Fitzgerald (2003) found extreme objectification and marginalization of animal bodies rather than love and respect for nature. Their study also linked collecting and exhibiting wild animals to domination, patriarchy, and colonialism.

Media representations of animals, extinction, and conservation in opinion pieces are important because that form is less constrained by journalistic norms and routines than news articles and has a stronger potential effect on public policy (Sommer and Maycroft, 2008). Op-eds, in particular, give voice to non-staff opinions that are separate – if not necessarily different – from a newspaper editorial board’s (Ciofalo and Traverso, 1994; Day and Golan, 2005; Sommer and Maycroft, 2008). Research has focused on characteristics of opinion piece authors (Golan, 2013; Mitman et al., 2012) and their communication strategies, such as rhetorical devices (Parks and Takahashi, 2016). Although such pieces are venues for public deliberation, most research shows only a limited diversity of voices. Instead, editorials, op-eds, and letters were used strategically for the authors’ or the newspapers’ specific purposes.

Little research has examined frames in opinion pieces on conservation issues. This study builds on previous non-framing research on opinion pieces to examine the moral framing – related to moral concerns of harm and care – of environmental issues (Feinberg and Willer, 2013).

The extinction of the passenger pigeon

Endangered species are often iconic in appeal, prompting some to be labeled flagship species: popular and charismatic species that stand as symbols stimulating conservation awareness and action (Douglas and Verissimo, 2013). This strategy has great potential to change people's behavior, including participating in conservation-related activities and fundraising (Leader-Williams & Dublin, 2000). Habitat demands of flagship species often correspond to needs of other species inhabiting the same regions, thus turning some flagship species into umbrella species (Schlegel and Rupf, 2010). However, not all flagship and iconic species are saved.

To understand social attitudes toward extinction, we focused on an iconic species: the passenger pigeon, which went extinct in 1914. Passenger pigeons once covered the skies of the Great Lakes Basin and elsewhere in North America, with historical accounts suggesting their population was in the billions. As a Smithsonian scientist explained, "One of their downfalls was their social structure. They had to be in huge colonies" (Freedman, 2011).

There is clear evidence that this species was "bewilderingly vast" in 1860 but virtually gone by 1900 (Greenberg, 2014: 192), and that it was forced westward and away from its eastern habitat (Fuller, 2014). Martha's death as an ending – the last known survivor of a species – was a milestone and a reminder of the fragility and vulnerability of seemingly strong and resilient species. Four years later, the last known Carolina parakeet (*Conuropsis carolinensis*) died in the same cage in the same Ohio zoo (Audubon, 2017). The 100th anniversary of Martha's death provided an opportunity to remind us about the importance of conservation (Schulz et al., 2014).

The passenger pigeon was nomadic, traveling in vast numbers, driven more by a need for food than seasonal changes (Greenberg, 2014). It was unclear whether the drop in its population was sudden, whether the population consistently replenished itself for decades in the face of extensive hunting – 50,000 a day were reportedly shot near Petoskey, Michigan, along the Lake Michigan shore in 1878, for example – or whether the numbers dropped dramatically while people remained unaware of the collapse. Fuller (2014) writes that as far as the decline goes, "the logical conclusion must surely be" that numbers had been dropping for years but because there were still millions of birds left, people largely remained indifferent to the plummeting numbers. When the "tipping point" came though, things quickly went south.

Although hunting was deemed primarily responsible for its extinction, that was not the only pressure the pigeons faced and might not have been the most critical. Greenberg (2014: 21) writes, "A number of known factors took their toll on birds, although the principal limitation was the forage base itself. As many birds as there were, the population could not exceed the capacity of their environment to sustain them."

Massive deforestation undermined a species that needed forests for food and shelter, especially because of their vast colonies. Cutting forests made land

available for agricultural or residential purposes; elsewhere, habitat was destroyed because trees were needed for firewood and building material. Adverse weather has always affected migratory birds (Greenberg, 2014), while predators, including hawks, owls, martens, weasels, raccoons, black bears, bobcats, and mountain lions, might have preyed on wounded birds. “It is impossible that billions of passenger pigeons did not affect the ecosystems that provided them with sustenance and quarters. Nor is it possible that their elimination in such a short time did not also impact those forests” (Greenberg, 2014: 25).

Thus our research question:

How do editorial and op-ed pieces on the passenger pigeon reflect societal attitudes toward endangered species, extinction, and biodiversity conservation?

Method

This study uses framing theory to analyze social attitudes toward extinction and conservation as manifested in newspaper opinion pieces. As Entman (1993: 52) wrote: “To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described.” We believe media opinion pieces reflect the central social attitudes associated with passenger pigeons’ extinction. By following a four-step framing process, our analysis reveals what kinds of information are made “noticeable, meaningful, or memorable” to audiences (Entman, 1993: 53), allowing us to investigate frames presented to the public and what attitudes the frames reflect to draw the public’s attention and awareness to extinction of endangered species.

This study focused on all editorial or op-ed commentary in U.S. and Canadian newspapers from September 1, 2013, to October 21, 2016. Although studies have reported inconsistent evidence about differences and similarities between editorials and op-eds (Golan, 2013; Golan and Wanta, 2004; Day and Golan, 2005), we analyzed them as a single category because we focused on broad societal attitudes rather than on specific individual positions.

The start date marks one year before the 100th anniversary of Martha’s death. Our search of the academic database NewsBank with a supplementary search of Google News turned up 88 pieces. We reviewed each item to determine whether it focused primarily on the passenger pigeon. We retained 39 opinion pieces for analysis. In addition to deductive coding, we analyzed the data inductively for emergent categories related to our research question. Then we conducted an axial coding to group the open codes into broader conceptual categories that are used in the findings section (Saldaña, 2015).

Findings

We looked at four ways in which pieces about passenger pigeon extinction were framed – problems defined, causes diagnosed, kinds of moral judgments made, and recommended remedies, if any.

Defining the problem

Initially, we examined how extinction was defined and whether it was referred to as an event specific to the passenger pigeon or as a broader environmental phenomenon posing a greater risk to multiple species. Most pieces defined extinction as a problem but in various contexts. Some simply used the word “extinction” loosely. Others (Turqman, 2014) more generally discussed consequences of extinction on ecosystems, the problem of “conflict,” for example, the balance between abundance and extinction of resources, the view of passenger pigeons as pests, and conflicts between pigeons and farmers. While this aspect was not thoroughly explained, the authors clarified that because passenger pigeons traveled in huge flocks, they wreaked havoc on crops and trees where they landed. Passing flocks stripped seeds off crops and deposited enormous amounts of dung. Historical records indicate that entire trees collapsed under the weight of large flocks. Most connections between the ensuing conflict with farmers and extinction were implicit in the analyzed pieces.

Extinction as a problem was not always specifically defined in relation to the passenger pigeon. A few pieces defined a global biodiversity crisis as the problem. Martha and passenger pigeons in general appeared multiple times to illustrate something larger, more ominous, and urgent: global extinction. A *New York Times* piece (Fitzpatrick, 2014) suggested that the bluefin tuna is “the passenger pigeon of the sea,” given how the last remnants of a once-abundant marine species are being plundered. The monarch butterfly, too, was said to potentially follow Martha’s path to extinction. Some pieces also said the planet is currently at the cusp of what scientists label the sixth mass extinction – but the first one in human history and the first one that humans directly contribute to. “The largely man-made crisis [of extinction] may have already raised the natural or ‘background’ extinction rate by a factor of 1,000. Iconic animals like tigers, sharks, gorillas, and elephants could follow Martha if more isn’t done to protect them,” as the Mother Nature Network put it (McLendon, 2014). Such parallels between the passenger pigeon and present-day extinction possibilities used other examples, too, while stressing that it took less than 50 years for what was likely North America’s most abundant bird species to plunge from 3 to 5 billion in the early to mid-1800s to zero in 1914. “Extinction was no longer just about dodo birds or rare species; it could happen to a creature once so plentiful that it was both a major food source and a pest of biblical proportions” (Eblen, 2014). Another piece published online by *Smithsonian* (Kutner, 2014) stated that Martha’s demise could be viewed as an opportunity to reflect upon our problem with sharing our planet with other creatures.

Diagnosing causes

Most pieces attributed passenger pigeon extinction to human activities. Some used a justifying tone, positing that the extinction resulted from social progress or asserting that people lacked awareness of the abundant species. Primary anthropogenic contributing factors included overhunting, commodification of the birds

as a food source, and the misperception that the species was so abundant and easy to capture and kill that extinction seemed far-fetched. Authors used evocative terms such as “mass slaughter” and the “holocaust suffered by passenger pigeons” to indicate the consistent level of exploitation and killing that eventually destroyed the species. Technological advances were blamed for overhunting, specifically the development of sophisticated firearms.

Besides overhunting and commodification as a food source, other commonly cited factors were habitat encroachment, habitat fragmentation, forest clearance for agriculture, habitat loss due to climate change, absence of laws or conservation movements to protect species, invasive species, pollution, degradation of migratory bird habitats, greed, lack of government commitment, and narrowly focused approaches to conservation that either disproportionately favor charismatic species or focus on individual species instead of protecting the overall habitat. Although not a common theme, more than one piece mentioned that passenger pigeons did not breed well in captivity, something that could have factored into their extinction. Discussions about naturally occurring causes such as diseases that could have contributed to extinction were rare.

Large-scale commercial destruction of the pigeons began in the 1840s and peaked in the late 1860s; billions were killed every year in this period but suggestions for legal protection confronted firm opposition from those who believed they needed no protection, given their abundance (Sutton, 2016). As deforestation spread, they lost roosting sites and sources of food. Industrialization brought the telegraph into the picture, along with railroads and an increased cache of firearms (Widmer, 2014), combined with a paucity of hunting regulations. The pigeons were docile, making it fairly easy for both subsistence hunters and professional market hunters to trap, kill, and sell them. Millions of dead birds were ferried in trains from capture sites to New York and Philadelphia restaurants (Fischetti, 2014). The passenger pigeon’s “cheap meat fed slavery and industrialization” (Yearley, 2014).

Notably however, not everything was pinned on unrestrained and brutal human beings. According to Fischetti (2014), “the pigeon’s biology didn’t help it survive the onslaught.” Because they thwarted predators largely through strength in numbers, the author wrote that when their numbers ultimately fell, they lacked other means of coping with natural and human predators. Another piece (GrrlScientist, 2014) cited a study showing the pigeon was not always as abundant as records might have indicated, but rather “experienced dramatic population fluctuations in response to variations in annual acorn production.” Ultimately, this study said, extinction likely resulted from the effects of these natural population fluctuations and anthropogenic activities. Their natural behavior – conspicuous roosting and breeding behavior – it said, might have made them easy targets of predators and hunters.

Moral judgments

Frames typically encompass moral judgments about problems, causes, and/or solutions. One major moral idea in these opinion pieces was that people tended to

believe the supply of the species was endless. Authors advocated greater awareness and more knowledge of both abundant and endangered species to protect today's natural heritage for future generations. This moral theme also faulted humans for holding pigeons in contempt, barely worthy of notice.

These pieces also discussed that humans have the capacity and intellect to protect endangered species and the intrinsic value of nature. Some writers asserted that more advanced technologies now allow humans to reflect on the past and hope for the future, especially to protect species from the brink of extinction. In this respect, de-extinction was framed as a morally debatable issue. Authors asked whether it was a good idea to bring back species that are gone. They cited the potential dangers of attempts to control and manage such aspects of the environment. These authors argued that past wrongs cannot be righted and projects centered around de-extinction could divert valuable funds from conservation projects. Another moral argument against de-extinction was the "Pandora's box" argument, the suggestion that human interference can let loose a host of unintended problems greater than those it was meant to solve.

Remedies

Pieces discussed both individual-level and societal-level remedies for extinction problems. At the societal level, they noted that conservation-related laws came too late for species like the passenger pigeon, and thus contemporary species and habitats need more regulations, protection, and restoration. Overall, authors suggested that endangered species must be saved to restore global ecosystems. To save species, humans need persistent and continued economic investment and commitment. Some pieces suggested that new media and social networks' power to disseminate information and provide an ever-expanding, accessible platform of knowledge (the *Know-o-sphere*), could spread knowledge of de-extinction and restoration ecology, saving more in the future.

We found a noticeable lack of recommendations for more funding for conservation agencies. When funding was referred to, it was usually in the context of noting that projects involving charismatic species often win disproportionately more money than those for lesser-known species. One piece mentioned how governments' anti-environment and pro-oil or pro-industry attitudes affect the amount of research funds for such projects. Laws, such as the Endangered Species Act, Migratory Bird Treaty Act, and Lacey Act, were cited as remedies to today's extinction crisis. No analyzed piece detailed how those laws might help safeguard endangered species.

Another remedy recommended abundance over preventing extinction – focusing on protecting habitats instead of preventing endangered species from going extinct. Some pieces said today's numerous, more imminent threats to endangered species call for strong leadership in government and policy-making.

De-extinction also appeared as a remedy. One piece said neither conventional genetics nor recent advances in paleogenetics – reassembly of recently extinct animals' genomes – were likely to make de-extinction possible. Results of this science are not precise, with too many unknown variables. Furthermore,

it is difficult to predict everything about an organism simply from its genome sequence. For example, young birds learn significant survival skills from adult birds, and a band-tailed pigeon's way of life differs greatly from that of a passenger pigeon. Thus even if – by a long stretch of imagination – a genetic replica of the passenger pigeon could be created, our best hope would be a bird that is partly band-tailed pigeon and partly passenger pigeon – a Band-Aid pigeon, as one piece suggests. Another piece said species such as the passenger pigeon and woolly mammoth should not be recreated merely because people might like to see them or to prove it can be done. Only one piece cited de-extinction as a possible remedy against extinction itself by mentioning initiatives like the Great Passenger Pigeon Comeback project and the idea of Revive and Restore (Louk, 2014). Another floated the idea that public oversight might remedy the risks posed by de-extinction projects.

Some pieces urged more public involvement in knowledge-raising and educational initiatives to help them adapt to a sustainable future.

Discussion and conclusions

Our examination of editorial pieces revealed several patterns of framing consistent with Entman's (1993) definition of how issue-oriented frames function compared to more abstract frames. They pinned responsibility for extinction almost exclusively on human activity without the broader range of causes found in the literature (Fuller, 2014), some of which narrowed the cause to indigenous tribes or colonists. References to other causes occurred only twice, once to disease and once to the role of genetics in shaping the pigeon population. Specific human activities leading to extinction were overhunting, human consumption, and commodification of nature. When extinction was discussed, it was usually in terms of charismatic fauna such as monarch butterflies rather than ecosystems.

Moral judgments emerged strongly and consistently, with extinction consistently treated as caused exclusively or almost exclusively by human activity. This may reflect societal attitudes toward species conservation. This anthropogenic cause was consistently labeled as an unambiguous moral failure that should not be repeated. People are bad, the pieces asserted, and people have the capacity and intellect to be responsible for caring about nature; only carelessness or lack of foresight stands in the way. Slaughter of the pigeons was treated as relentless and merciless, an avian holocaust (Jacobs, 2016). It was also presented as a metaphor for the dangers of inattention to species survival and a warning to consider costs and consequences of human actions on fauna before it becomes too late.

However, these moral judgments did not lead to deeper discussions of policy remedies. Few policy recommendations emerged; those that did tended to refer to the continuing importance of relying on current legal structures such as the Endangered Species Act to prevent future extinctions. Unexplained were such specifics as more funding for agencies, the role of past environmental actions in future extinctions, the Lacey Act, the Migratory Bird Treaty Act, the

Know-o-sphere, technologically oriented solutions, or the role of strong leadership (Revkin, 2014; Fitzpatrick, 2014). The possibility of genetic technology to bring back extinct species was mentioned, but those pieces were ambivalent about chances for success.

Our analysis of the pieces, all of them issue-specific, found Entman's four components of frames emerging consistently. Each piece included at least one example of problem definition, cause attribution, moral evaluation, or remedy. Frequently there were more than one, and occasionally all four. Framing can describe this. However, the consistency of the framing pattern is better explained by framing's tendency to draw on an existing stock of broader cultural meanings. Pieces about the centennial of the passenger pigeon's extinction related to deeper themes, such as the special status of nature and the wild environment, the finality of extinction, and the need to preserve wildlife (McShea, 2014; Smith, 2014). Furthermore, this pattern occurred across a broad-enough spectrum of media to suggest that connections between frames and the culture occur regardless of the intent of individual media or journalists. That is, connections take place at an unconscious level and separately from the process that ensures journalistic accuracy and objectivity. Journalists appear unaware of this process that leaves them vulnerable to media manipulators and has a measurable effect on public opinion about the topic being framed.

These pieces consistently framed the extinction of the passenger pigeon – and by extension, threats to current and future endangered species – as a moral failure by humans. This failure was attributed to the utilitarian function of the species in a time when humans didn't know best. However, the present provides technological know-how to save endangered species, not only because of their utilitarian value (such as coral reefs for tourism) and eco-systemic value (such as bees for pollination), but because of their intrinsic value (the majestic nature of bald eagles). This reflects a shift in societal attitudes toward animals, particularly charismatic and iconic species. However, these pieces overlook an important component: an explanation of why conservation of endangered species is important for our own survival. This could ultimately prove the strongest motivator for a systemic commitment to conservation.

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