

American Generation of Environmental Warnings: Avian Influenza and Global Warming

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Abstract

Journalistic reporting of global warming and of avian influenza rose and fell nearly simultaneously in newspapers of the United States, Canada, Britain, Ireland, and Australia. Some international news peaks are reasonably interpreted as American-generated "media events" of ambiguous connection to worsening real-world threats.

Major international concern about avian flu, beginning in October 2005, resulted from a flurry of activity in Washington, D.C. to rapidly increase federal preparedness for a possible pandemic. This, in turn, was a face-saving action by the Bush administration after its dismal response to Hurricane Katrina, only weeks earlier.

Major international coverage of global warming began in 1988 when NASA scientist James Hansen testified before Congress that the summer's drought was the result of climate change. Worldwide coverage dropped after 1992 while mean global temperature continued to rise. Coverage revived in 2006-07, largely but not exclusively due to the promotional efforts of Al Gore.

Keywords: avian influenza, global warming, climate change, agenda-setting

Introduction

At any given time there are numerous potential environmental hazards that risk entrepreneurs try to bring to public awareness through the mass media. The risk entrepreneurs are often professionals residing in environmental and health organizations, in governmental and intergovernmental agencies, and in universities (Friedman 1986; Mazur 2004; Shabecoff 2003). Sometimes they are amateurs, motivated by community problems, as famously and successfully at Love Canal (Mazur 1998a). Those most seasoned have symbiotic relationships with journalists specializing in environment, health or science, giving newsworthy material to the reporters, while reporters (and editors or producers) give visibility to the entrepreneurs' issues.

It is difficult placing an issue on the national media agenda, and few threats actually become major news stories. Among those that do, there is little correlation between the level of expertly-assessed risk and the amount of media coverage (Singer and Endreny 1994; Mazur 2004). Commentators too often cite journalists as the originators or authoritative agents who "construct" a dramatic news story (e.g., Zelizer 1992). More accurately, the root of a growing story is the interplay of journalists and their sources, the risk entrepreneurs, who strive to place hazards in the news and to define their meaning. Van Ginneken (1998) names the White House, an inveterate spinner of news, as the number one newsmaker in the world.

The global media market is increasingly interdependent and has a shared sense of "newsworthiness," shaping common narratives around the world (Price 2002; Shoemaker and Cohen 2005). American news organs, and secondarily British ones, are the major sources of foreign news for the English-speaking audience, other English-language organs, and probably, with France, for non-English language news outlets as well. The Associated Press (AP), a cooperative news service owned mainly by U.S. newspapers, with 242 bureaus and over 6,000 subscribers in 2005, processing 20 million words daily, is the dominant institution in the world news system. For comparison, the British news service Reuters sends 1.5 million words daily. *The New York Times* sends stories to 130 newspapers abroad, while 300 foreign newspapers subscribe to the Los Angeles Times/Washington Post News Service (Hachten and Scotton 2007; van Ginneken 1998).

The International Herald Tribune, owned by *The New York Times*, was in 2005 the first newspaper in history to publish the same edition simultaneously in all inhabited continents. Nearly half its readers are European businesspeople, diplomats and journalists. "These non-American readers are part of an 'international information elite' who, regardless of geographic location, share a similar rich fund of common experience, ideas, ways of thinking, and approaches to dealing with international problems" (Hachten and Scotton 2007, 80).

The New York Times is often first to nationally publicize particular risks and seems influential in setting the agenda for

other periodicals (Krimsky and Plough 1988; Lanouette 1990). Awareness of environmental threats crosses national boundaries. Issues can flow into the U.S. as well as outward. Examples of in-migration are the alarm raised in Britain that childhood vaccines might cause autism, and the famous thalidomide warning, which originated in Germany. Far more often, warnings flow out of the U.S. (Mazur 2006). Foreign editors are more attentive to American news and events than vice versa. The U.S. press gives relatively little coverage even to warnings that are salient in Europe like those over cell phones (“electrosmog”) and genetically modified food (Gaskell et al. 1999; Leiss 2001).

This study explores the implications of “quantity of coverage theory” (QCT) for the migration of U.S. environmental issues to other countries. To avoid difficulties raised by language translation, I limit the inquiry to five English-speaking nations: the U.S., Canada, the U.K., Ireland, and Australia.

Quantity of Coverage Theory

The most solidly demonstrated effect of news media on opinion is agenda-setting, the placing of certain issues or problems foremost in the minds of people, including policy-makers, simply by making them salient in news broadcasts and publications. Put succinctly, the news media are not successful in telling us what to think, but they do succeed in telling us what to think about (McCombs and Shaw 1972). According to QCT, which builds on agenda-setting, precisely what is said in news stories matters relatively little compared to the amount and saliency of exposure (Mazur and Lee 1993; Mazur 1998b). QCT asserts:

1. People do not usually attend to the detailed content of news coverage; instead they absorb simple images of hazards, like a “hole” in the ozone.
2. People are affected more by the quantity of coverage, especially the repetition of simple images, than by detailed content.
3. Public worry and government action rise and fall with the quantity and saliency of news coverage about a hazard.
4. The quantity of coverage given an alleged hazard is determined more by “externals”—such as the prominence of related issues, and relationships among journalists and their sources—than by authoritative evaluations of the validity or severity of the hazard.
5. Most environmental risk stories of national or international scope are first brought to widespread attention by a small, central group of large news organizations including major newspapers, wire services, and television networks; and by prominent sources including government and environmental spokespeople. Every

day these national organizations and influential sources produce a pool of news articles from which thousands of local organs select their news of the day. 6. Therefore the rise and fall of public and governmental concern may be traced back to the rise and fall of coverage by the central media.

Prior work on QCT asked how, from the many risk issues vying for news space, a few achieve peak coverage. Here I ask how threats that attain high U.S. coverage nearly simultaneously rise in the coverage of other nations, altogether amplifying the threat around the world (Pidgeon et al. 2003). Two competing hypotheses are pertinent.

Hypothesis 1. Simultaneous peaks in coverage occur because the central U.S. news organs and their sources influence the news agendas of other countries. Nations most likely to adopt U.S. risk issues are those in closest proximity or with dense trade and communication linkages. Canada is the best candidate, followed by the United Kingdom.

Hypothesis 2. Different national media independently report the same highly-newsworthy real-world events, without important influence from U.S. sources. An obvious example is the nuclear power accident at Chernobyl in 1986.

Methods

Faced with the difficulty of drawing an unbiased sample of risk issues, I selected for detailed study two environmental hazards covered by the American press in late 2006: avian influenza and global warming. For each nation I selected an important daily newspaper archived in Lexis-Nexis at least back to 2002. *The New York Times* is an obvious choice for the U.S. *The Toronto Star* is Canada’s largest metropolitan daily newspaper. Britain is represented here by the *Guardian* of London. Since 1859 *The Irish Times* has represented the views of the Anglo-Irish community and is now acknowledged as Ireland’s leading journal of opinion and information. *The Sydney Morning Herald* is one of Australia’s highest quality and most widely read newspapers.

Searching on “avian influenza” and “global warming” (in full text) provided counts of all articles by date in the selected periodicals. These were aggregated by month for avian influenza, and by year for the longer-running global warming case. Trends were checked for consistency with other newspapers in each nation, especially *The Washington Post*, Canada’s *Globe and Mail*, *The Times* of London, the *Irish Independent*, and Melbourne’s *Herald Sun*. Wire service stories were examined in the Associated Press archive accessible through Lexis-Nexis, while *New York Times* articles are disseminated by its own news service. Alternate

search terms (“bird flu,” “climate change,” “greenhouse effect”) produced slightly different counts but similar patterns, an advantage of comparing English-language newspapers, which use similar terminology.

The difficulty of drawing causal inferences from correlations among overtime trends is well known. The usual approach is to examine feasible alternative hypotheses to see if they can be eliminated. If so, the surviving hypothesis gains credibility (Nachmias and Nachmias 2007). I evaluated hypotheses by examining more fine-grained timing of peaks of coverage in each nation, or by correlating changes in a newspaper’s coverage with salient events such as the beginning of the flu season, the release of an important agency report, or a promotional visit to the nation by Al Gore. Themes were compared in the content of articles in different nations at crucial times, seeking similarities, differences, and changes over time. For the case of avian flu, which erupted suddenly and lasted a relatively short time, I interviewed by email in 2007 four reporters at the *New York Times* who wrote many or the most important of the stories. All responded promptly, and though unreflective about external forces governing fluctuating coverage, they nominated possible reasons for the surge of news in October 2005.

Avian Influenza

Avian influenza outbreaks among poultry occur worldwide from time to time, usually causing little harm. A lethal type of avian flu (A virus strain H5N1) began in Asia in 2003. Spread of H5N1 virus from person-to-person has been rare. Since people have little pre-existing immunity to H5N1, if the virus gains the ability for efficient transmission among humans, an influenza pandemic could cause many deaths (Centers for Disease Control 2006).

On February 19 and 20, 2003, the AP wire carried probably the first English-language news reports of a Chinese boy recovering from the H5N1 virus at a Hong Kong Hospital. The boy’s father and sister had already died, possibly from the same virus. *New York Times* Hong Kong correspondent Keith Bradsher reported this in a short article on February 20, following the next day with a longer piece elaborating the family’s circumstances and suggesting this might be another outbreak of “bird flu” like one in 1997 that killed six people in Hong Kong. American and Chinese health representatives were already meeting in Washington to discuss the outbreak. The next day, the World Health Organization (WHO) in Geneva alerted health officials around the world to increase

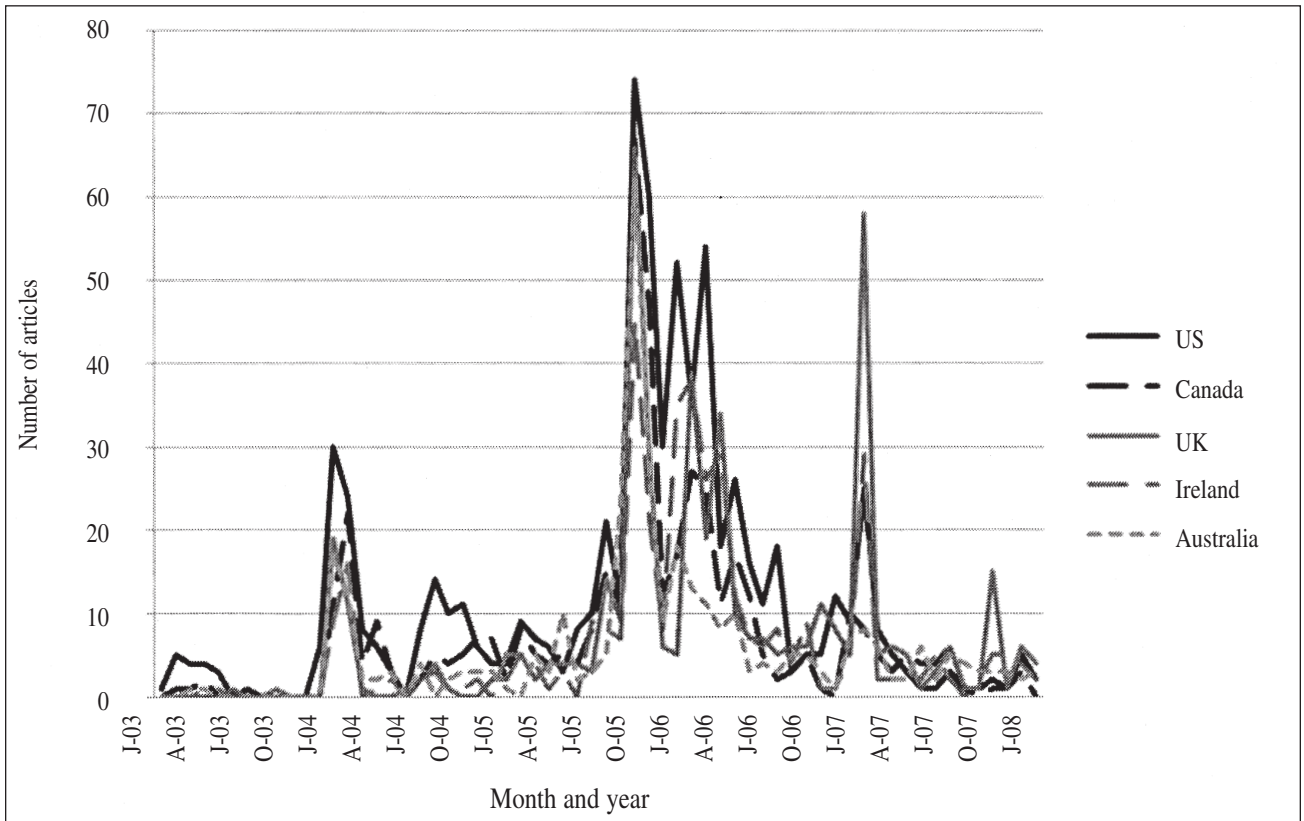


Figure 1. Number of Avian Influenza Articles, by Month and Nation

their preparedness in response to the Chinese deaths, but a WHO spokesman said that the current problem was “fairly low on the severity ranking” (Bradsher, *New York Times*, February 22, A3). Thus, the news sources for this first warning were in Hong Kong and WHO, but its conveyance to the Western public came primarily through *The New York Times*, while other English-language newspapers and the AP paid little attention throughout 2003.

Figure 1 shows trends in news coverage of avian influenza in the five nations from 2003 through February 2008. In contrast to the low coverage of 2003, there were in the following years two pronounced cross-national peaks, first in January 2004, then the highest and sharpest in October–November 2005, followed by a lull during the holiday season and then reviving until spring 2006. U.S. television-network news coverage follows these peaks, as usual, amplifying topics emphasized in the print media (Nisbet 2006).

Peaks do not occur regularly with the Northern Hemisphere’s flu season, and news peaks in Australia occur at the same time as those in the north. QCT presumes that each of these news peaks produced heightened public and governmental concern. U.S. opinion polls, though erratically timed, do suggest that American attention to avian flu tracked closely with the amount of media coverage (Nisbet 2006). Google Trends² shows the history since January 2004 of web searches for “avian influenza,” and these spike at the appropriate times. Governmental actions, and activity in the pharmaceutical industry, are amply reported during periods of high coverage.

The January 2004 Peak

In 2004 avian flu was barely reported until January 13 when there were short articles in *The New York Times* and *Guardian*, sourcing WHO, about the deaths in Vietnam of several children and an adult, all apparently contracting the H5N1 virus from chickens. AP picked up the story the following day. By then millions of fowl had died or been killed in Vietnam, Japan, and South Korea to contain the outbreak, but this was little reported.

All the while, Thailand, one of the world’s largest exporters of chickens, had been slaughtering poultry to stem an outbreak of what the government insisted was bird cholera, not influenza. On January 22, the *Guardian* and *New York Times* reported that Thailand confirmed two human cases of avian flu, apparently contracted from chickens, and that Japan was suspending poultry imports from Thailand. A Thai cover-up of H5N1, while continuing to export, was reminiscent of the Chinese cover-up of SARS in 2003 and certainly newsworthy. The next day, January 23, after the EU also suspended imports, bird flu was on the front pages of *The New York Times*, *Guardian*, and *Irish Times*, and inside the *Toronto Star*. (The U.S., Canada and Australia did not import poul-

try from Asia.) The stories are similar in content, describing the spread of avian flu through several Asian nations and their massive culls, the Thai cover-up, human deaths in Vietnam, the possibility that genetic changes could render H5N1 transmissible among humans and seriously lethal, and assurances from health officials that there was little risk from eating chicken.

These articles of January 22–23 ignited the first peak of news, which continued with follow-up articles nearly every day in most nations (less in Australia) until a widespread diminution after the first week of February 2004. Ultimately WHO confirmed 46 human cases of H5N1 in 2004, including 20 deaths in Vietnam and 12 in Thailand.³ This is a high fatality rate among confirmed infections, but a small number of deaths compared to normal seasonal influenzas that kill between 250,000 and 500,000 people yearly.

News coverage remained fairly low in all five nations during the remainder of 2004 and the first nine months of 2005. All the while, H5N1 continued to spread among Asian fowl, and health officials at WHO and elsewhere worried that a genetic change in the virus would render it transmissible among humans, causing a pandemic. In September, Indonesian health officials announced the H5N1 death of a woman in Jakarta, the nation’s fourth confirmed death from bird flu that year, but English-language coverage remained modest into early October.

The October 2005 Peak

Each nation’s newspapers included local themes in their reports on avian influenza, and the United States had its own major subplot. On August 29, 2005, Hurricane Katrina caused enormous damage along the Gulf Coast. Television news broadcasts from New Orleans, sustained for days, made visible the city’s suffering inhabitants and the lack of effective emergency response. President George W. Bush’s press secretary at the time, Scott McClellan, describes in his 2008 tell-all book the failed attempts by Karl Rove and other top advisers to portray the president as caring and personally involved in relief efforts. Bush’s accolade to his FEMA director, “Brownie, you’re doing a helluva job,” became iconic, resonating with his 2003 “mission accomplished” speech aboard the aircraft carrier USS Abraham Lincoln. In the weeks after the hurricane, U.S. journalists, politicians, and bureaucrats often linked preparation for a pandemic with the failure of preparation for Katrina (e.g. Rosenthal 2005).

Katrina accelerated the president’s eroding public and press support. FEMA’s bungled response required public-relations damage control. There were pronounced signals from the administration of its commanding stance on preparedness for a pandemic. On October 4, at one of the president’s rare press conferences, Mr. Bush commented,

I'm concerned about what an avian flu outbreak could mean for the United States and the world... If we had an outbreak somewhere in the United States, do we not then quarantine that part of the country? And how do you, then, enforce a quarantine? ...One option is the use of a military that's able to plan and move. So that's why I put it on the table... I noticed the other day, evidently, some governors didn't like it. I understand that. I was the commander in chief of the National Guard and proudly so. And, frankly, I didn't want the president telling me how to be the commander in chief of the Texas Guard. But Congress needs to take a look at circumstances that may need to vest the capacity of the president to move beyond that debate. And one such catastrophe or one such challenge could be an avian flu outbreak.

The following day, the *New York Times*, *Toronto Star*, and *Sydney Morning Herald* reported that Mr. Bush was considering using the military to enforce avian flu quarantines. Also that day a *Times* story by Gardiner Harris, headed "Fear of Flu Outbreak Rattles Washington" (October 5, 23), reflected the mood in the capitol:

Health officials have warned for years that a virulent bird flu could kill millions of people, but few in Washington have seemed alarmed. After a closed-door briefing last week, however, fear of an outbreak swept official Washington, which was still reeling from the poor response to Hurricane Katrina...

[Health and Human Services Secretary Michael] Leavitt warned in the briefing last week that an outbreak could cause 100,000 to 2 million deaths and as many as 10 million hospitalizations in the United States, one person who was present said...

The briefing "scared the hell out of me," Senator [Harry] Reid [the Senate's Democratic leader] said recently...

The Senate majority leader, Bill Frist of Tennessee, said he had been delivering speeches about improving the nation's preparedness for a flu pandemic since December. But as more birds have been discovered with the virus, concerns have grown. The poor response to Hurricane Katrina is also a factor, Mr. Frist said. "People watching on TV see that the government wasn't there in times of need," he said.

On October 6, the *New York Times* ran a front page story by Gina Kolata, reporting that the 1918 influenza virus,

"cause of one of history's most deadly epidemics," had been reconstructed and found to be a bird virus that jumped directly to humans, two teams of federal and university scientists announced yesterday."

The next day, President Bush met at the White House with leaders of the world's top vaccine manufacturers to discuss preparations for pandemic flu. The same day, health officials from 80 nations gathered in Washington to map a collaborative strategy for an outbreak. On Capitol Hill, Republicans and Democrats joined forces in response to "the looming threat." Federal officials announced that they were close to releasing a final draft of a national pandemic preparedness plan. Secretary Leavitt was about to visit Thailand, Vietnam, Laos and Cambodia, the countries most likely to be the source of an avian flu outbreak (Harris 2005; Weiss 2005; Kaiser 2004).

Washington's sudden sense of urgency was not universally shared. An October 7 report in the *Toronto Star* began, "Canadian health officials stood firmly by their decision not to begin developing and stockpiling a bird flu vaccine yesterday as the U.S. government began urging countries to organize and guard against a potential outbreak" (Leeder 2005).

The *New York Times* and *Toronto Star* covered the story most heavily and consistently during the October crescendo. The *Times* ran front-page stories on October 6, 8, and 9. Although newspapers of other nations reported President Bush's concern, comparison of day-by-day article counts during October shows them lagging the American buildup, though soon catching up.

Did the October 2005 peak of news coverage, unequaled before or since, reflect real-world findings about avian flu—that it was spreading dramatically or objectively worsening as a threat? Or was it a consequence of the Bush administration's response to Katrina? The cause of this peak can never be proven from trend data, so the best analytical strategy is to weigh the plausibility of alternative explanations. In my inquiries to *New York Times* journalists who were importantly involved in the 2005 reporting, no aspect of the disease itself emerged as sufficient to account for October's huge increase in news coverage. *Times* reporter Gardiner Harris attributed October's abrupt increase in news to "a flurry of Capital Hill briefings" (e-mail of 1/26/07). Keith Bradsher, who covered the Asian outbreaks for the *Times*, recalled President Bush's heightened interest in avian flu after reading a book during his August vacation about the 1918 flu pandemic. "The administration then began taking a series of steps in September, 2005 to address the problem" (e-mail of 1/27/07). Donald G. McNeil, Jr., longtime health writer for the *Times*, thought that President Bush's comments at his press conference, his first mention of avian flu and his remark about using the military to enforce quarantines, "were the watershed events in widening the coverage. Not only did it make the Washington re-

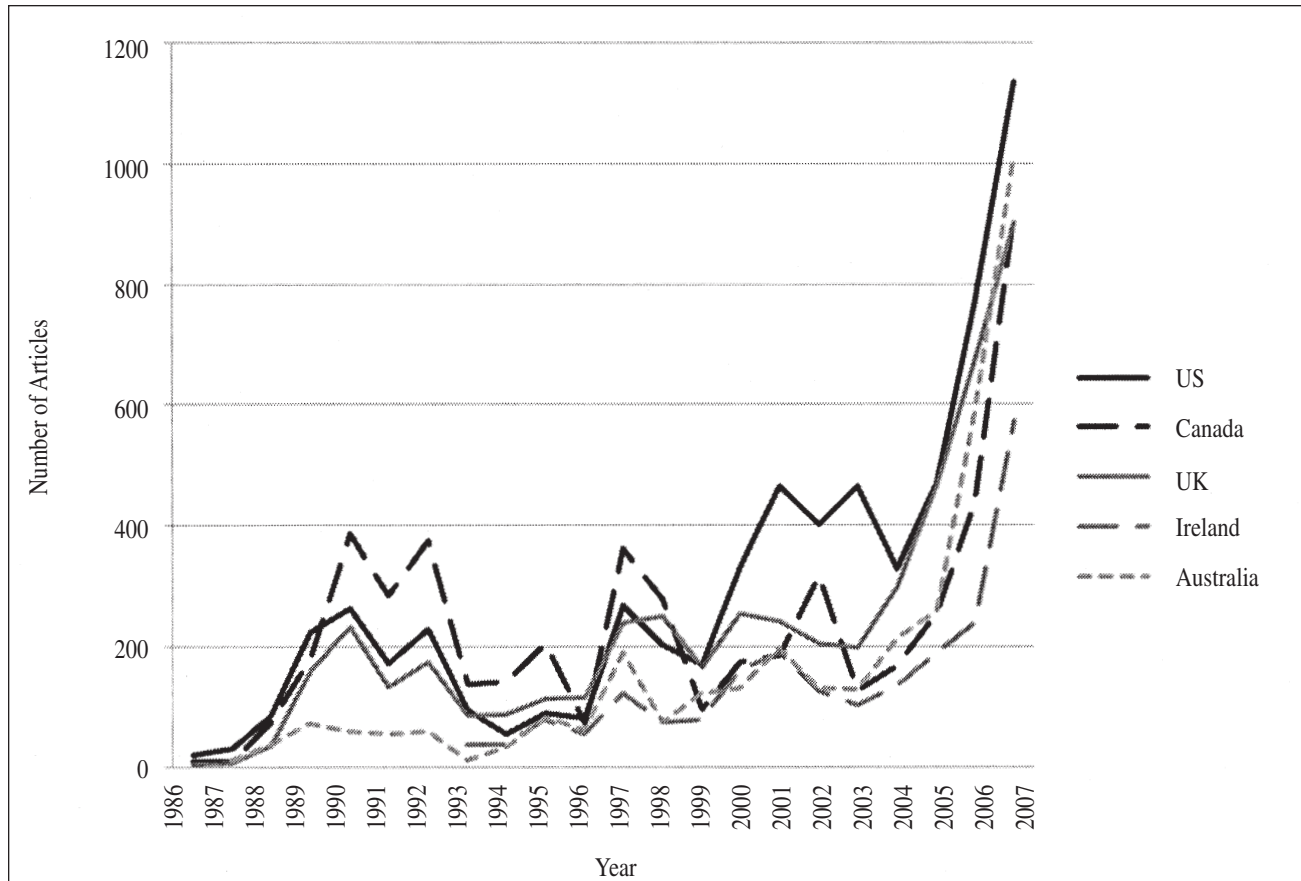


Figure 2. Number of Global Warming Articles, by Year and Nation

porters start paying attention to the story.... but it allowed the science reporters to start writing about Bush administration policy issues—like quoting scientists saying that quarantines don't work against flu, whether you use the army or not" (e-mail of 12/21/06). Altogether, there is considerable reason to attribute the American origin of the October 2005 news peak to political activity in Washington rather than important developments in the disease itself.

The story rapidly diminished in all five nations during spring 2006. In February 2007 there was an anomalously high revival in the United Kingdom, set off by an outbreak of H5N1 at a turkey farm in Suffolk, England. This was quickly suppressed by an efficient cull, but nonetheless triggered a huge burst of national publicity. Britain's turkey alarm goosed Irish coverage but had little effect elsewhere. Across the Atlantic, *The New York Times* commented, "this year...bird flu seems all but forgotten," while warning readers that avian influenza remained a threat (McNeil 2007). Indeed, H5N1 was then spreading through poultry in Africa, which lacks Britain's resources for control, and the first

human death in sub-Saharan Africa was verified barely a week earlier, but these were virtually unreported in the English language press.

Global Warming

Theorists since the 19th century have understood that atmospheric CO₂ traps heat from the sun, but not until the late 1980s did this become a serious concern. The *Global 2000 Report* commissioned by President Jimmy Carter, which appeared in 1980, considered a future of global cooling as likely as global warming.

Figure 2 shows yearly counts of news articles mentioning global warming for the period 1986 through 2007. There are simultaneous peaks of coverage across nations, first from 1988 to 1992, a second in 1997, a third less distinct peak beginning in 2000, and an enormous rise in 2006 and 2007.

The 1988-92 Peak

American concerns about the environment increased

sharply after 1986. This upswing was accompanied by a shift in focus from problems that are primarily local or regional in extent (e.g. acid rain, smog, waste disposal) to hazards with worldwide scope, initially the destruction of stratospheric ozone by man-made chlorofluorocarbons. The 1988-92 peak has been described and documented elsewhere, so I recap it very briefly here (Shabecoff 2003; Mazur and Lee 1993; Lambright 1995; Mazur 1998b).

A huge “hole”—actually a diminution in concentration—was discovered by British researchers in 1985 in the ozone layer over Antarctica, but it was not widely reported until 1986 when a U.S. scientific expedition gave a press conference from their base in Antarctica, via satellite, to reporters at National Science Foundation headquarters in Washington. Following the press conference was a wave of stories on television news and in the press, pointing the blame at CFCs.

Interest in greenhouse warming rose along with attention to the hole. Both are problems of the atmosphere, studied by some of the same scientists in the same institutions. In 1988 a U.S. drought, the worst in 50 years, caused major crop losses in the Midwest. New York City, home of most of the national media organizations, was sweltering. The drought became a *Time* magazine cover story on July 4.

Senator Timothy Wirth of Colorado scheduled hearings on the greenhouse effect for June 23, the anniversary of the hottest day ever recorded in the capital. The weather cooperated with a temperature that day hitting 38°C. NASA climate scientist James Hansen was scheduled to testify, as he had on three other occasions with little notoriety. But this time the hearing room was full of reporters expecting an important story related to the drought. That evening NBC television news showed Hansen’s statement that the greenhouse effect is probably causing global warming now, and the next evening’s broadcast connected the greenhouse effect with the drought. (Hansen later agreed that long-term climate change cannot be blamed for one season’s anomalous weather [Schneider 1989].)

Major newspapers carried the story—on page one in *The New York Times* (Shabecoff 1988). *Newsweek*’s cover of July 11, “The Greenhouse Effect,” was pegged on the drought and Hansen’s assertions. News reports during the summer of 1988 about hypodermic needle-polluted beaches on the East Coast and a massive forest fire in Yellowstone National Park amplified the image of intense heat.

During the summer of 1988, the skyrocketing coverage of global warming carried with it stories about man-made fires during the Amazon dry season, used to clear sections of rainforest for planting. Reporters flew to the Amazon to film the conflagration. (Amazon fires were more extensive the prior year but went unreported in the U.S.) These were juxtaposed against the huge Yellowstone forest fire. Appreciating

the press attention in 1988, biodiversity activist E.O. Wilson commented to me, “It’s a pity Yellowstone could only burn once.”

The clustering together of global environmental problems was by then common and received coverage in news media around the world. George H.W. Bush, during his 1988 presidential campaign, announced that he would be an environmental president. *National Geographic* magazine, for its final cover of 1988, featured a hologram of a crystalline “fragile earth” being pierced by a bullet. (The back of the magazine carried a hologram of McDonald’s, sponsor of this extraordinary cover.) *Time* magazine, instead of naming its usual Person of the Year for 1988, featured “Endangered Earth” as its Planet of the Year (January 2, 1989). The Exxon Valdez oil spill of March 1989 drove environmental attention still higher. This crescendo of media coverage and public concern reached a climax on Earth Day 1990, the most widely celebrated ever.

By 1992, U.S. press coverage and public concern were waning, even as leadership of the U.S. passed to President Bill Clinton and his environmentalist vice president, Al Gore. The sudden outbreak of the Gulf War in 1991, despite publicizing oil well fires started by Iraqi forces, seemed to break the flow of stories on the global environment, excepting a brief revival during the Rio “Earth Summit” of 1992. The collapse of the Soviet Union was a paramount story occupying news organs. Global temperatures fell in 1991 and 1992, probably because of aerosols produced by the Pinatubo volcanic eruption. All these factors contributed to the expiration of the endangered earth as a news story.

The 1997 and 2000 Peaks

American sources and media played no special role in these intermediate peaks. Unusually high coverage in 1997 is concentrated in the final months of the year and fully explained by the world’s nations meeting, first in Bonn, then Kyoto, to produce a protocol calling on industrial countries to reduce their carbon emissions at least 5% below 1990 levels by the year 2012.

Coverage is again high in 2000, especially during an international conference at The Hague in November to solidify implementation of the Kyoto protocol. This meeting was newsworthy because of its contentiousness, with the U.S., still under the Clinton administration, as well as Canada and Australia, resisting a strong regimen supported by the European Union. The conference ended in failure.

The 2006-07 Peak

Al Gore is often cited for his contribution to the 2006-07 revival of public concern. The American debut of *An Inconvenient Truth* at the Sundance Film Festival in January 2006,

then its European premiere at the Cannes Film Festival in May, received international news coverage, as did the film's two Academy Awards (February 25, 2007), and the announcement in October 2007 that Gore was a recipient, jointly with the U.N. Intergovernmental Panel on Climate Change (IPCC), of that year's Nobel Peace Prize. But it was the film's opening in theaters nationwide (May 2006 in the U.S. and Canada; September in Britain, Ireland, and Australia), accompanied by release of a book of the same title (Gore 2006), that pushed news coverage to sustained heights, increasing monthly counts of news stories mentioning global warming by one-third to one-half. In 2007 when the peripatetic Gore personally visited each foreign nation in this study to promote his film, article counts on "global warming" rose between 15-100% compared to the month before or after his appearance.⁴

American and foreign reviewers contrasted the warm and wise Gore-as-lecturer with the wooden candidate of the 2000 presidential campaign. Rising unpopularity of the Bush administration, domestically and internationally, fueled attention to the man who now introduced himself saying "I used to be the next president of the United States." Whenever Gore visited a nation to promote *An Inconvenient Truth*, newspapers bumped up coverage of global warming. This raised the questions, How would U.S. policies be different if Gore had won the presidency? Would he run again?

Without denying Gore's success as a risk entrepreneur, his effect may be overstated. There were other contributors to public concern, not least the objectively rising temperature of earth's atmosphere. Eleven of the years from 1995 through 2006 are among the 12 warmest of the past 150 years.⁵ The IPCC's fourth assessment report, released in 2007, affirmed the human contribution to the warming. U.S. gasoline prices were higher in 2006-07 (in constant dollars) than they had been since 1980 in the aftermath of the revolution in Iran. Commentators such as Thomas Friedman of *The New York Times* emphasized the self-destructiveness of sending petrodollars to the Middle East, financing nations whose citizens had attacked the U.S. These issues appear abundantly in English-language news coverage of global warming during 2006 and 2007.

However, none of these factors provide a general explanation for peaks of media interest. Gore was not an important element in earlier periods of intense coverage. Media peaks did not begin in the earth's hottest years: 2005, 1998 and 2007. The IPCC's four assessment reports, each increasingly grave about the prospect of warming, were released in 1990, 1995, 2001 and 2007, so none can be the initiator of any media peak. The cost of gasoline was not especially high at the inception of earlier peaks of coverage.⁶

The 2006-07 reporting about greenhouse warming was

framed by the industrialized West's enrichment with petrodollars of undemocratic, terrorist-breeding nations of the Persian Gulf. Also present in the coverage were corollaries of warming, such as drought (ongoing in the U.S. south and southwest, and Australia), melting Arctic ice (with stranded polar bears), and more hurricanes like Katrina. (In fact, the 2006 and 2007 hurricane seasons were unexpectedly mild, with only one named storm reaching the U.S. mainland and causing little damage.) This differed from the frame of 1988-92 when greenhouse effect was one element of a suite of problems endangering the earth, along with ozone depletion, rain forest destruction, and loss of biodiversity. These were little mentioned in 2006-07.

A Broader Context

The prominence given to American-generated warnings by other nations must be placed in context. The U.S. is the dominant world power, receiving the lion's share of foreign coverage by other nations over a wide range of cultural, political and economic topics.

To measure this dominance, in May 2008 I counted in each target newspaper the number of articles (during the month past) mentioning each of the five nations. The *Guardian*, for example, had 1,143 articles mentioning "United States," 264 mentioning "Ireland" (including Northern Ireland), 212 mentioning "Australia," 92 mentioning "Canada," and 4,736 mentioning its own nation, the U.K. The *Guardian's* degree of interest in the U.S. can be quantified (and standardized) as its number of articles mentioning the U.S., divided by its number of articles mentioning the U.K. This quotient = $1143/4736 = .24$.⁷ The *Guardian's* quotients for other nations are considerably lower, indicating less attention paid to those nations than to the U.S.⁸

Calculation shows that all newspapers paid more attention to the U.S. than to other foreign nations. One exception is the *Irish Times*, which gave more of its foreign coverage to the U.K. (quotient = .35) than to the U.S. (quotient = .24).

To avoid a blizzard of numbers, the pattern of quotients is shown in Figure 3.⁹ Arrows point from the reporting nation to the nation being reported (more exactly, to the nation mentioned). This diagram shows that other nations pay far more attention to the U.S. than U.S. media pay to them.

We must add to this asymmetrical picture the large number of U.S.-produced articles, television programs and movies, carrying entertainment and news, which are consumed in other nations far more than their products are consumed in the U.S. (Hachten and Scotton 2007). The high priority accorded American-generated warnings about health and the environment is simply one aspect of this broader pattern of American-dominated dissemination.

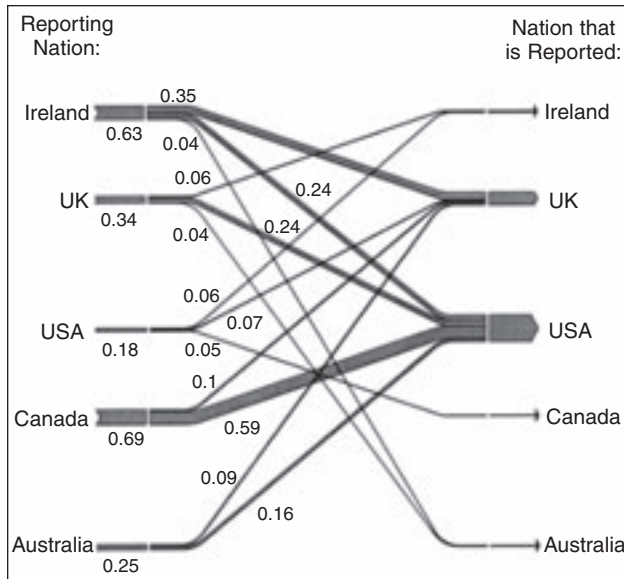


Figure 3. Pattern of Foreign News Coverage by Target Newspapers in the Five Nations

Conclusions

Rises and falls of news coverage, about both avian influenza and global warming, were remarkably synchronous in all five English-speaking nations. Avian flu received especially high worldwide attention between fall 2005 and spring 2006, but subsequently news coverage dissipated, without any corresponding diminution in the scientifically evaluated hazard (Normile 2008). Greenhouse warming received worldwide attention during the period 1988-92 as part of a suite of global threats including stratospheric ozone depletion, rainforest destruction, and mass extinction of species. After 1992, coverage of these problems fell away, despite the continuing destruction of rainforests and loss of species, and the still-rising temperature of earth's atmosphere. There was, beginning in 2006, a huge revival of news about global warming. This up-and-down pattern of news coverage is unrelated to changes in the evaluation of the threat by experts.

It is impossible to definitively establish with correlational data the cause of simultaneously fluctuating media coverage, or to prove an American origin for sharp peaks. The best one can do is evaluate the plausibility of alternative explanations, most particularly that journalists in each nation independently report especially newsworthy events (Hypothesis 2). This sometimes occurred, as in the small peaks of 1997 and 2000 about international conferences in Kyoto and The Hague, but peaks are not generally initiated by a clearly rec-

ognizable real-world manifestation of the threat.

The most plausible explanation for the largest peaks of coverage is that they were generated by U.S. media or American risk entrepreneurs (Hypothesis 1). The October 2005 peak of bird flu coverage resists explanation by any major development in the disease itself. H5N1 was approaching Europe that fall, killing birds in Turkey and Romania, but none of the *Times's* several front-page stories and editorials during October 2005 mentions this spread of the disease. Unsurprisingly, the approach to Europe was covered more in British and Irish newspapers than in North America, and it was barely mentioned in Australia. Yet coverage in all five nations peaked nearly simultaneously, making it unlikely that the flu's approach to Europe was a common cause. Also, we may dispense with the possibility that coverage rises annually with the winter flu season (Normile and Enserink 2007). The peaks are not regularly seasonal; furthermore they occur simultaneously for nations in the Northern and Southern Hemispheres, which have different flu seasons.

Political activity in Washington is strongly implicated as the origin of the October 2005 surge of avian influenza coverage. Stung by its dismal performance after Hurricane Katrina, the Bush administration shifted its preparations for a pandemic into high gear in early October. This generated intense flu coverage in the American news, which migrated outward. The connection between preparedness for avian flu and *lack* of preparedness for Katrina was vivid in U.S. news media. By contrast, a sharp peak of bird flu reporting that originated in England in February 2007 caused few ripples beyond Ireland, suggesting that an alarm raised in Britain lacks the carrying power of one from America.

Worldwide fluctuations in coverage of global warming are especially hard to reconcile with the continuous heating of the atmosphere. The greenhouse story's sudden rise to prominence in August 1988 was due to a constructed media event, the testimony of NASA scientist James Hansen before Congress, when he (unjustifiably) linked the summer drought to climate change. Journalists were alerted and present, primed by the summer heat wave. Perhaps journalists were simply catching up on a serious problem long overdue for coverage, but then it is difficult to explain why they turned elsewhere after 1992. If past patterns continue, the post-2006 peak of news coverage will abate even as climate change worsens.

Endnotes

1. E-mail: amazur@maxwell.syr.edu
2. Available at <http://www.google.com/trends>.
3. Available at www.who.int/csr/disease/avian_influenza/en/.
4. During 2007 Gore spoke in Canada in February and April, London in

- March, Australia in September, and Ireland in December.
5. Available at <http://data.giss.nasa.gov/gistemp/2007/>.
 6. Available at www.eia.doe.gov/emeu/steo/pub/fsheets/real_prices.html.
 7. Using quotients controls for the different size of each nation's newspaper. To obtain comparable denominators, the following month-long counts were obtained. *The New York Times* had 5,059 articles that mention the U.S.; the *Toronto Star* had 3,187 articles mentioning Canada; the *Guardian* had 4,736 articles mentioning the U.K.; the *Irish Times* had 3,356 articles mentioning Ireland; and the *Sydney Morning Herald* had 4,789 articles mentioning Australia.
 8. The four *Guardian* quotients are .24 for the U.S., .06 for Ireland, .04 for Australia, and .02 for Canada.
 9. Quotients lower than .04 are omitted.

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