Title
Policy folklists and evolutionary theory

Permalink
https://escholarship.org/uc/item/5j26g7f5

Journal
Proceedings of the National Academy of Sciences of the United States of America, 111(supplement_3)

ISSN
0027-8424

Author
O'Neill, Barry

Publication Date
2014-07-22

DOI
10.1073/pnas.1402959111

Peer reviewed

Policy folklists and evolutionary theory

Barry O'Neill[1]

Department of Political Science, University of California, Los Angeles, CA 90095

Policy folklists present a set of alleged historical facts seen as relevant to some social issue. Although the validity of these folklists is dubious, leaders and writers circulate them in the media, variants arise, and the lists continue on, sometimes for decades. Folklists are repeated because their messages are appealing and their users are credible. Because folklists are on the record, we can examine their origins and changes. This report draws an analogy with evolutionary theory and suggests that biological mechanisms of self-repair, boundary maintenance, plasticity, speciation, and predation have significant interpretations for folklists, and clarify how the lists win the credence of otherwise skeptical people.

folklore | rumors | evolution | jeremaids

Since *On the Origin of the Species*, social theorists have borrowed Darwin's idea for the study of culture (1–4). Usually, theorists draw the analogy in broad terms, but here I want to exploit it in more detail to discuss a certain genre, the "policy folklist." This is a list of alleged historical facts, passed around by writers, political leaders, educators, journalists, and others, who see it as relevant to a social issue. Over the years the list mutates into new versions to fit current public concerns. The list is widely believed, even though a skeptical mindset would notice clues that it is not factual.

In this report I first give five examples and state the defining characteristics of the folklist. Then I construct some parallels and differences with biological evolution. In the conclusion, I summarize why folklists are important and how the biological evolution analogy compares with others that have been used.

Examples of Policy Folklists

The Statistics of War List. In 1996 Donald Kagan, a classicist at Yale, testified before the House Committee on National Security (5). Those hoping for permanent peace have forgotten that war is ingrained in civilization, he argued. "In 1968 Will and Ariel Durant calculated that there had been only 268 years free of war in the previous 3,421." Kagan had given the 268-y-of-peace count in his 1995 book, *On the Origins of War* (6). Other prominent people took this "fact" from him and repeated it, including Secretary of Defense William Cohen (7), Secretary of the Navy Donald Winter (8), and Richard Cheney (9), and among the critics of American policy, Noam Chomsky (10) and *New York Times* reporter Chris Hedges (11). Kagan's number appears in several recent college texts on international relations.

There are reasons to suspect Kagan's claim. His source was a sentence in the Durants' *Lessons of History* (12), which was part of an 11-volume history of the world. Is it plausible that the Durants spent an immense amount of time to find the dates of each war just to add a single sentence? The Durants do in fact state the 268-y figure but do not say it is their own. They give no source. Two facts make it less likely still that the Durants did the research: their book appeared in 1965 but Fulton Sheen had used the same count on his television show in the early 1950s (13), and back in 1935 Douglas MacArthur had included it in a speech to World War I veterans (14). Who came up with the number if not the Durants? The *Guinness Book of World Records* (15) reported the number was from a Swiss scholar, Jean-Jacques Babel. A wide search of library catalogs, including the Swiss National Library, turned up only one person by that name and he

was a physiologist. Archbishop Sheen ascribed it to "a learned professor of Brussels" (13).

Other counts of war-free years have appeared. In 1990 William Hawkins, Director of the Hamilton Center for National Strategy, wrote, "A 1984 study by the Norwegian Academy of Sciences determined that since 3600 BC there have been 14,531 wars with only 292 years of peace over the entire span of the 5,584 years studied" (16). This quotation is promising—more detail, including a source and date—except that at a 1982 banquet in Moscow, Premier Leonid Brezhnev stated that mankind has survived 15,000 wars but must never allow a nuclear war to happen (17). Brezhnev was announcing the study's results 2 y before it was done.

Many writers conjoin the war-free years with other numbers, producing a policy folklist. These include the ideas that there were 14,531 wars in which 3.6 billion people died, 1,696 arms races, and 8,397 peace treaties. The treaties lasted on average 2 y before the signers broke them, and only 10 generations among the last 185 have seen no war. The exact values change from one appearance to another but usually stay the same magnitude.

Dutch conflict researchers Berto Jongman and Hans van der Dennen (18) traced the peace treaty and war-free years numbers back to a tract published in Paris in 1864 (19). The author was developing a somewhat eccentric theory of society using Benjamin Franklin's work on electricity, with wars as the negative pole and peace treaties as the positive. It is clear that no data lay behind the war-free years number and the author had made it up.

The question of the number's accuracy is moot. Neither the author nor later users specified what was meant by a "war," and one cannot assign a precise count to a fuzzy category. Did the Viking raids on Ireland constitute a war? How about pogroms or riots? If rivals stop fighting then start again, how many wars is that? If a bona fide war is only between states, what counted as a "state" before the era of diplomatic recognition? The claim turns on a prototypical scenario where recognized international states declare a recognized war on each other to give it a clear beginning, fight, then sign a treaty, and stop to give it a clear ending.

The problem is deeper than failing to report one's definition; it is that the concept cannot be made into a precise category at all. If someone tells me that 32.8% of Norwegian adults are "tall," I do not understand his meaning but I recognize that he could clarify it for me by giving his cut-offs for age and height. However, if he adds that 11.2% of Norwegians are "important," I see this as hopelessly empty. "Important" has so many facets, almost all of them unmeasurable, that there is no way to operationalize it and determine a statistic.

Even if we had an operational definition of a war we have no records covering that time span. Did combatants in some corner of the world settle their dispute by December of 2068 B.C. or did it spill over into January 2067 B.C. and ruin another war-free year?

Searching books.google, one finds over 800 works reporting numbers from this constellation. Their authors failed to notice the problems in defining the concept or conducting the historical research.

Traits of a Policy Folklist. The Statistics of War List circulates among the elite largely through the written media but it shares two properties with oral folklore: it appears in different versions and its users are unaware of its source. Like folkloric material, the list has survived by adapting to its environment. Sometimes it has justified pacifism, sometimes preparing for war, or even—in the late 19th century—going to war. The list's environment is the skeptical minds of intellectuals, a harsh one given its dubious foundation, but it survives nonetheless.

There are various historical folklists, some giving rules that a certain group was to follow, such as Lenin's Ten Commandments for communist revolutionaries, the quaint blue laws for New England Puritans, or a strict set of rules for school teachers during the 1870s. Others are lists of quotations, such as Lincoln's 10 injunctions on the limits of government. I will focus on items that share these features: (*i*) they take a list form; (*ii*) they relate to a current policy issue; (*iii*) they allege specific historical facts, in contrast to generalities like "If you want peace, prepare for war"; (*iv*) they have continued over several decades or more; (*v*) they appear in different versions; (*vi*) they are transmitted significantly through written media: books, articles, newspapers, posters, fliers in mass mailings, websites, and so forth; (*vii*) they are believed and circulated by leaders and intellectuals; and (*viii*) the lists' users accept them despite having strong reasons to question their validity.

There is a synergy among three requirements: that the folklist must be written, relevant to policy, and believed by the elite. Folktales or folksongs with storylines rely on our memory but each of their components leads causally to the next one and helps us recall it. Memorizing an unordered list is harder. If the list arises regularly in our lives we can add structure artificially with a mnemonic, such as a sentence or word matching its initials letters ("HOMES" for the five Great Lakes), or the rhymes that help us remember the alphabet or the number of days in each month. For most lists, however, the items must be written down or they will start dropping out. Lists are to writing as stories are to speech. Goody (20) notes that the first applications of written alphabets were lists: of inventories, payments, tributes, and so forth.

A folklist's written form allows us to collect many examples. Often a specimen gives a citation to its source, as if a fossil were telling us where its ancestor is buried. Different versions show how it changes through different political environments.

According to requirement *viii* (that list users accept them, despite their questionable aspects), I exclude items that are false but were reasonable to believe given what the user knew at the time: for example, that the planets in the solar system include Pluto. To require users' credulity makes the cases more informative on how we can avoid being tricked. It also means that the repeaters were probably not consulting reality but were taking their claims from others, so the list's spread becomes a social event.

The requirement that the lists have historical content gives them a common theme, that the past holds lessons for the present. Sometimes the lists are jeremiads lamenting society's decline, and sometimes "paeans to progress" celebrating how far we have come. Sometimes the lists simply add historical context, as with the Statistics of War.

The School Discipline Lists. This example touches our worries for our children's safety. In 1990 Harvard's president Derek Bok told the Harvard Club, "I have been fascinated by the surveys I have read lately. In 1945, when they first started taking surveys, teachers said that some of the top reasons they were having problems teaching in the classrooms were whispering, gum-chewing, running in the halls, and dressing sloppily. Now they say the problems are physical assault, teen pregnancy, drug abuse and teens carrying deadly weapons" (21).

This widespread folklist comprises two sets of discipline problems (22). Typically, seven milquetoast problems from the old days are contrasted with seven appalling ones from modern times. The most common old offenses are talking out of turn, chewing gum, making noise, running in the halls, cutting in line, dress code infractions, and littering, whereas the new ones are drug abuse, alcohol abuse, pregnancy, suicide, rape, robbery, and assault. The year of the newer survey often moves forward to stay in the recent past. The user may cite some well-known institution, such as CBS News, the *Wall Street Journal*, or *CQ Researcher* as having performed the surveys, but none of these in fact did the research; they were just passing the folklists on from some previous "source." A brief reaction is often added: for example, "What are our children being taught?" or "How times have changed!"

An originating document for the School Discipline Lists was a 1981 book on school administration, among whose authors was Max Rafferty, politician and educator, opponent of sex education, busing, and progressive education, known for his forceful rhetoric (23). The book attributed the 1940s list to an unnamed "great American educator" and the new problems to a 1978 article in the teachers' magazine *Phi Delta Kappan* (24). In fact the *Kappan* article had indicated that the new items were from a crime survey sent to school principals. The items were the questions asked rather than the answers given; they were serious crimes only because those were what the researchers chose to study. A survey of simple discipline problems made that same year found the top three to be skipping class, absence from school, and tardiness, quite like the depiction of 1940s schools (25). When teachers were given an explicit opportunity to complain about crimes they still came up with innocent items (26).

Their issues of validity are clear from the lists themselves, aside from any outside contrary evidence. Do pregnancy and rape really belong on the doorstep of school teachers, rather than parents, police, churches, social service agencies, or legislators? What could be the common question to which the two lists are the answers? Is "suicide" a discipline problem?

A crucial event in the list's spread was putting the old and new items in parallel. This was the work of Cullen Davis, an heir to a Texas oil fortune who, after being acquitted of a double murder, converted to fundamentalist Christianity (27). Davis circulated the lists privately within his community, especially among those campaigning for school reform. In its early versions, the 1940s list had 7 items and the modern one had 18 to 20, but in 1987 after a series of republishings, columnist George Will (28) trimmed the items to seven versus seven and brought them into the mainstream debate on education.

Users of the list have been on the left, center, and right: Secretary of Education William Bennett, writer Anna Quindlen, First Lady Barbara Bush, Stanford psychologist Albert Bandura, Senator John McCain, Surgeon General Joycelyn Elders, actor Tom Selleck, the Reverend Billy Graham, and many other prominent people. In 1993 the lists were quoted 10 times on the floor of the House and Senate and they continue to appear in works criticizing public education (22).

The Cabbage Memo List. The Cabbage Memo List targets government regulation. In 1943 a California businessman gained a monopoly on cabbage seed and the US Office of Price

Administration responded by limiting its price. Normal procedure called for all important terms to be defined; the regulation said that cabbage seed was "seed used to grow cabbage." The *Reader's Digest* ridiculed this as bureaucratic pedantry (22). Versions soon focused not on the definition but on the regulation's length, usually said to be 26,911 words, a 10-fold exaggeration. The word count was incorporated into a jeremiad contrasting then and now. For example, in 2005 Representative Todd Tiahrt (R-Kansas) told the US House of Representatives, "Not long ago, FDIC Vice Chairman John M. Reich said that there are 65 words in the Lord's Prayer, 286 words in the Gettysburg Address, 1,322 words in the Declaration of Independence, and 26,911 words in the federal regulation governing the sale of cabbages" (29).

When World War II ended the Cabbage Memo List waned, but opposition to Korean War price regulation revived it (30). The list spread to Europe with worries about the power of Brussels. In April 1977 on the *CBS Evening News*, Walter Cronkite reported that a speaker at a London food conference had stated that the Lord's Prayer had 56 words, the Ten Commandments 297, the Declaration of Independence 300, "but a European Common Market directive on the export of duck eggs runs 26,911 words" (31). Other versions refer to foghorns, soybeans, caramel, or cigarettes, but whatever its subject, the regulation's length is usually 26,911 words. The list is widespread; a recent text for business schools cites it as factual (32).

The Civilian Casualties List. In 1955 physicist Max Born joined Linus Pauling, Albert Einstein, Marie Curie, Bertrand Russell, and other Nobel laureates in a manifesto against nuclear weapons and war. In 1963, Born expressed his worries again in a German arts and sciences review, "In World War I, the total number of killed was approximately 10 million, 95 per cent of whom were soldiers and five per cent civilians. In World War II, over 50 million were killed, comprising almost equal numbers of soldiers and civilians . . . During the war in Korea, of the nine million dead, 84 per cent were civilians and only 16 per cent soldiers" (33, translation in ref. 34). It has become a fairy tale, Born concluded, to think that one dies heroically in war for the sake of one's wife and child. He gave no source for his figures.

Later users deleted the absolute numbers of deaths but left the percentages of civilians, making it a single series of rising values. Certain of the figures were adjusted, a percentage for the Vietnam War was added, and many recent versions include the claim that over 90% of war causalities are now civilians. The figures have appeared in many United Nations publications, especially from UNICEF and the UN Development Project.

The list's credibility suffers from its lack of sources and the undefinability of "deaths in war." If the 1918–1919 influenza epidemic or the 1921 Russian famine were attributed even in part to World War I, the 5% figure would jump. The idea that 5% of the deaths were civilians has no basis in the first place. Civilian casualty numbers are political weapons and even conscientious sources differ greatly in their counts; there is vast disagreement about the number of Chinese civilians killed during World War II and even the death toll in Hiroshima. In guerrilla wars, the civilian/military distinction becomes more ambiguous. Like the Statistics of War, the Civilian Casualty List gives precise values for quantities that are undefinable or unknowable.

The One-Vote-Counts List. A longstanding claim is that the Continental Congress barely chose English over German as America's official language. The resolution passed by a single vote, sometimes said to have been cast by Benjamin Franklin, sometimes by Frederick Muhlenberg, a German–American legislator portrayed either as a wise patriot or a "proud fool" (35), depending on the writer's ethnic loyalties. Sometimes the rejected language was

Greek (36). The respective claims are widely believed in Germany and Greece.

Historian Norman Davies asserted an unusual variant: that the vote was held during the US Civil War (37). In the middle of a devastating conflict would Congress consider switching to a different language? The nearest truth seems to have involved two separate proposals during the early republic, one in Pennsylvania and the other in the federal Congress, to print copies of certain statutes in German, but this is far short of making German "the" official language. In a coincidence that worsened the confusion, Muhlenberg presided over both debates (38).

The German-as-the-official-language claim is incorporated into a policy folklist by conjoining it with several other alleged one-vote victories. A recent college text on American government (39) states,

> In 1776, one vote in the Continental Congress made English the official language of the United States, with German coming in a close second.
>
> In 1801, one vote in the House of Representatives made Thomas Jefferson president of the United States.
>
> In 1825, one vote in the House of Representatives made John Quincy Adams president of the United States . . . .

Other supposed single-vote margins gave Oliver Cromwell control of England, beheaded Charles I, admitted Texas to the Union, and chose Hitler as leader of the Nazi Party. The moral is that citizens should get out and vote.

Biological Analogies

An analogy maps one situation onto another. The first situation is better understood but the second is the subject of our interest, and the mapping helps us draw inferences about the latter (40). The individual elements of the two domains may be very different; the solar system provides an analogy for electrons revolving around an atomic nucleus, and it is no objection that electrons are far smaller than planets. A solid analogy needs only similarity in the structure of the relationships. According to experimental studies of analogies' effectiveness, it is especially important to preserve causal relationships; if process A causes B in the source domain, then the corresponding elements should do the same in the target. Racing cars going around a circular track would be a poor analogy for the solar system because they are not kept on the track by any central force.

Here the source is biological evolution and the target is the dynamics of folklists. Our approach is to take the analogy fully seriously and try to follow it as closely as possible. This approach will force us to see the points where the domains are structurally different. The analogy will use the following mapping:

An individual organism corresponds to a single token of the folklist: that is, its appearance in a particular copy of a book or newspaper or on someone's television screen. Just as an organism has a boundary, there must be some way to distinguish the folklist from the rest of the presentation. It will be argued that its list format helps define its boundaries.

The many cultural applications of evolutionary theory had to decide what corresponds to a gene. Here an organism's "genotype" will map to a list's semantic content; for example, the proposition that there have been so many wars and so many years of peace, and so forth. The semantic content includes the claimed source: that it was the Durants who found this number. An organism's phenotype maps to the phrasing of the content (as "292 years of peace. . ." or "292 war-free years . . .," whether the school offenses are numbered, and so forth) The interpretation of mutation is then a change in the list's alleged facts.

"Reproduction" maps to a reader repeating the list. "Sex" corresponds to a reader combining two or more versions, but this happens only rarely in our domain. Awareness that others are

citing the list may give someone more confidence to repeat it, but most users copy their list from a single source. Accordingly, different "species" cannot be defined as uncombinable categories, but are matters of degree measured by dissimilarity.

"Lifespan" corresponds to the time interval in which a token of the list can reproduce itself. How long does it survive either in print or in the user's memory? "Biological development," the change between birth and reproduction, seems to have no analog.

A "predator organism" maps to a coherent refutation that contradicts the list and tends to stop its retransmission. It too is seen as a reproducing organism in that it passes from one debunker to another. Predation threatens the list token's reproduction in the sense that if the refutation succeeds, the reader will not believe the list or repeat it. A disanalogy is that the user may later revert to believing the list and it may reproduce again.

An organism's "reproductive fitness" maps to a list token's rate of begetting descendants, perhaps adjusted by their productivity of generating further fit descendants, where this measure is assessed for the environment in which the token and its descendants appear. Reproductive fitness depends on credibility, emotional impact, relevance, and the user's ease of repetition.

The least obvious matching above is the linking of genotype with semantic meaning and phenotype with the particular wording. The reason for this choice is not what one might think, that genes transmit information, that they "code for" various traits, constitute "blueprints" that biochemcial processes "translate" or "read" to set the organism's physiology and behavior. It is hard to take this idea beyond a metaphor and explain how genetic causation is different in principle from environmental causation (41, 42). Does a locale that is sparse in food "code for" an organism's small size?

The reason for matching genes with a list's semantic meaning is that genotype stabilizes the species over time. Offspring can differ from the form of their parents but the process is not a random walk. The gene mechanism maintains a correlation with long past generations so that successful adaptations are not forgotten. The semantic meaning of a folklist functions the same way. Users are free to put it in their own words, but accuracy requires them to maintain its semantic meaning, which links the current use to past credible uses and to the past events that supposedly make it veridical.

An important mechanism in people's willingness to reproduce a folklist is that they have seen it before. Others have used the list and this gives them confidence to repeat it themselves. This is like the survival benefits of herding but the details are different. Here other members of the herd contribute to survival by playing an auxiliary role in reproduction, like midwives.

Phenotypic Plasticity. Having matched the two domains, we can compare some biological and social mechanisms. Some lists have a structure that lets them change their form to fit a new environment. For example, the significance of the ordering of the school offenses is often unclear: perhaps they run from most to least important, or for all that is said their order may be arbitrary. In the latter case the user will not change the meaning by bringing some items to the top to make the list more effective in its context. When the School Discipline Lists first entered the mainstream in the mid-1980s, drug and alcohol abuse moved into first and second places, consistent with contemporary worries. In the early 1990s public concern shifted to youth violence, so *US News and World Report* put rape, robbery, and assault at the top (22, 43) and this version became prevalent. An irony is that as drugs were becoming less serious as a social problem, they were moving up the list. The list was telling people about each other's worries rather than reality.

The ambiguity around the meaning of the ordering allows users to omit items so as to streamline the list. In the early 1980s, the School Discipline Lists circulated among fundamentalists who saw current society as chaotic and thoroughly immoral, and had a modern-day set with 20 items, including "extortion," "venereal disease," "bombings," "absenteeism," and "arson." Their message was that modern offenses were not just worse but more numerous. However, the lengthy version took up too much space and was hard to retransmit. If the items had no meaningful order some could be dropped without dishonesty; a subset was a valid example of modern problems. The new offenses fell to 10 and then to 7, the length that now dominates.

The fact that a list is unordered involves its semantic meaning and so corresponds to its genotype, and the shortening tactic changes the meaning. It is as if the genes responded to the environment by mutating and producing a new species rather than a new phenotype. This is a point where the analogy does not quite fit. In general, there is an important difference between the two domains. Folklist mutations benefit from human intelligence about which changes will be helpful.

Some lists have another advantage: they permit readers to draw different and even opposite morals, depending on the niche. The lists are clearly relevant to a policy issue but do not commit themselves to a particular position on it. Does our history of frequent warfare mean we should build more weapons or work for disarmament? Cheney and Chomsky both used the Statistics of War to make their cases, as have military journals and peace movement newsletters. The School Discipline Lists are quoted by the left and right, because their only intrinsic message is that education is worth our concern. Beyond that, both sides can weave them into their arguments.

Boundaries and Self-Repair. The notion of an organism assumes the concept of identity. Each individual has a boundary and shows some stability over time. A theory with discrete individuals could not be used to study cumulus clouds or eddies in a fluid. The boundaries of biological organisms are skin, bark, leaf surface, cell walls, and so on. Similarly, the start and finish of a song or story are marked following certain conventions. Jokes often start, "this guy walks into a bar," and end with their punch lines; a fairy tale is signaled by "Once upon a time." It is also clear where a list starts and stops because it comprises parallel items. The list/background distinction can be emphasized by numbering the items or setting them out in a column. Naming a source, such as a historian or an institution, identifies the boundaries further; the list is what the expert is endorsing and the rest the elaboration by the current user.

To survive over time, organisms must repair themselves. When a DNA molecule is damaged, typically through chemical processes, UV light, or ionizing radiation, various mechanisms are triggered to restore it, preventing the cell's deterioration and possibly blocking malignant growth. For folklists the corresponding danger is shrinkage because of mistakes or deliberate omissions. Perhaps one user forgets items, or repeats only the most striking ones or those that support the current rhetorical point, so that without a countervailing mechanism the list would lose fitness. One such mechanism arises from its structure. The standard form of the School Discipline Lists is seven old versus seven new: two balanced sets. A user who forgets an item would be dissatisfied to quote seven against six and so might go back to the source. Self-repair sometimes keeps the DNA functioning but not in its original state. Folklist analogs are users who replace missing parts with their own different items. Amitai Etzioni had some unique school problems not found in other versions—"talking while standing in line" and "not putting chairs back under the desk" (44)—whereas Rush Limbaugh had "tardiness" (45).

Another factor sustaining the length of the School Lists is the popularity of the number seven in the culture. There are Seven Deadly Sins, Seven Wonders of the World, and proverbially Seven Seas. Letting the count drop to six versus six would be less appealing. The structure of the Civilian Casualties List also

dissuades repeaters from omitting items. To make its point the list must include major wars of the 20th century and enough of them to show a trend. Like the School Discipline Lists, the Cabbage Memo is a jeremiad lamenting past days, but with only one item in the modern category it lacks the numerical balance that would maintain the number of old items. Indeed, their number varies but if they become too few they can be restored by any user who grasps their concept. If the Gettysburg Address or Declaration of Independence has disappeared, one can tally the words in some other venerable, well-known text. Comparing the two examples quoted above, the Gettysburg Address was replaced by the Ten Commandments. Other versions included the Magna Carta and Pythagoras' Theorem.

Some users have added items to the Cabbage Memo List but apparently without counting the words. The two examples above disagree on the length of the Declaration of Independence, which has 300 words according to Walter Cronkite but 1,322 words according to Representative Tiahrt.

The Statistics of War List probes the rule. Over the decades the list has often broken up into single statistics, which persisted on their own. The reason is that each is worth retelling on its own. No one cares that the Lord's Prayer has exactly 56 words, but the numbers of years of peace, of treaties, of wars, and so forth, have innate interest. This situation gives users an incentive to keep them all in, and even if the list shrinks to a single member, that item still gets repeated.

Speciation. Evolution of a folklist requires a mechanism for differential selection and this presumes some variation in the items reproduced. Sources of variation have been users' simplifying or misunderstanding what they read, often because of translation between languages, or their reconstructing forgotten parts, or else deliberately modifying the content.

Many of the recent Civilian Casualty Lists trace back to one particular misunderstanding. A 1999 Swedish study (46) concluded that 90% of the casualties in current wars are civilians, but it defined "civilian casualties" broadly, including civilians "displaced" by the war. This unusual definition made their casualty number incomparable with a military one, because soldiers are generally "displaced" when they are ordered off to fight. The study's back cover repeated the 90% figure but dropped the special definition, so that readers interpreted "casualties" as simply deaths. The 90% number started to appear on the lists. Similarly, the claim that German was almost America's official language may have come from a misunderstanding. An 1813 German-language newspaper from Philadelphia reported a past proposal in Congress to publish all of the laws of the Union ("alle Gesetze der Union") in German (35). Does "all" mean no laws would be in English or just that all of the English versions would be duplicated? Some readers might have taken the phrase to mean that German would have been the sole official language.

Another misunderstanding triggered new versions of the School Discipline Lists. A lengthy and very dire version appeared in the 1984 *Presidential Biblical Scoreboard* (47), a magazine rating legislators' voting records for their alignment with Biblical teaching. *Harper's* reproduced the *Scoreboard's* lists (48), but expressed skepticism about their validity. Evidently *Harper's* did not express their skepticism sufficiently plainly. Assistant editor Eric Etheridge commented afterward, "Many readers seemed to take that list literally . . . Perhaps we need to be more careful and think about that" (49). *Harper's* apparent endorsement was a crucial step in the list's move from the fundamentalist Christian community into the mainstream.

Another verbal misunderstanding produced a common version of the Statistics of War List. In 1954 Norman Cousins, editor of the *Saturday Review*, wrote a piece obviously inspired by a past version (50). Cousins altered some numbers, invented more facts himself, and incorporated the whole set into a dramatic story:

The "facts" came from a new and advanced computer, Deciding Dan, programmed by a team of international scientists. After months of input and calculation, Dan announced that there had been 292 war-free years, 14,531 wars, 3.6 billion deaths, and so forth. The massive project was sponsored, *mirabile dictu*, by the Norwegian Academy of Sciences. In a technical breakthrough, Dan not only performed the arithmetic but advised the scientists how to prevent future wars: we must strengthen the United Nations. Cousins was not trying to trick his readers and labeled his story "fanciful." However, in 1960 a Rio di Janeiro newspaper translated the story into Portuguese. The US army mission in Brazil noticed the piece and translated it back into English for the Army's journal, *Military Review*. At some point the idea of "fanciful" disappeared. Perhaps someone was not clear on what the word meant in the other language. The *Military Review* published Cousins' numbers as factual (51) and they were repeated many times afterward (22). The trip to Rio and back altered the list's "genotype," removing the claim that it was imaginary, which would have harmed its ability to reproduce.

One evolutionary dynamic is Ernst Mayr's "peripatric speciation," wherein a small group becomes physically separated from the larger population. Its small size increases the likely discrepancy of its genetic distribution from that of the larger group. The new environment and the separation allow a continuing selection for the difference, which otherwise would be drowned out by interbreeding, and the group diverges further. Should the group rejoin the main population the difference may persist. Peripatric speciation is an important mechanism as it spins off new species very quickly relative to evolutionary time (52).

The mating element is absent in our domain but peripatric selection has a partial analogy. The School Discipline Lists made an early appearance in the environment of television. In 1987 correspondent Bernard Goldberg used them on the *CBS Evening News*, but to fit them on the screen he worded them more tersely (53). Judging by Goldberg's version's prevalence later on, he had made a fitness improvement even for the environment of print media. The problem for a list on television, however, was its short lifespan. With only a brief appearance on the screen, how could it reproduce? Fortunately for the list, Goldberg had announced his report beforehand, and one viewer had a friend writing a book on the subject and a video recorder nearby. He sent the tape to the writer, who published the television version (22, 54). The lists had gone from print to television and returned in a better form.

A further mechanism for change is a user's deliberate choice, possibly involving deception. This element was likely behind the claim that the cabbage regulation had an extraordinary 26,911 words. Another example was a 1995 advertisement by the Philip Morris tobacco company in the *International Herald Tribune* (55) announcing that "Pythagoras' Theorem contains 24 words/ Archimedes' Principle 67/ The Ten Commandments 179/ The American Declaration of independence 300/ And recent European legislation concerning when and where you can smoke 24,942." When European Union officials objected that they had no regulations on smoking, the advertisement's creators admitted that they had summed the individual laws of each country (56). The word counts were totaled even when several laws were addressing the same behavior. The Philip Morris version has apparently had no offspring, nor have most others that were deliberate modifications. Natural selection seems to generate more successful folklists than intelligent design.

Predation. Political opponents of a list's message may come up with a coherent debunking. The debunking typically raises issues like those in the examples section, portraying the claim as meaningless, implausible or false, and possibly revealing its true origin. If policy lists are animals, debunkings are their predators.

Debunkings depend on their prey in that they get repeated only to the extent that the targeted folklist is common. If debunkings are too effective they cut down its population and then decline themselves. In the natural world wolves reduce the number of moose, then their own numbers shrink; the moose recover and the cycle continues, with the predators' population peaks lagging slightly behind those of the prey. My criticism of the School Discipline Lists (28) appeared on national television and newspapers, including paid advertisements from the main teachers' unions. The criticism reduced the frequency of the folklist, but with less interest in my counter case the School Discipline Lists rose again. One phenomenon allowing folklists to reappear is that they often survive in niches that the debunking does not reach. Religious authors critical of public schooling were in networks that did not include the refutation. These authors continued to use the list when it was scarce elsewhere, and their versions percolated back into the mainstream.

Conclusions

Folklists may be important influences on public debate and leaders' decisions. No national policy turns on whether there have been 192, 292, or 392 y of peace, but a list's power is not in its details: it provides a frame for the issues. According to the cabbage memo, the question is the amount of government regulation rather than its content. This aspect reinforces a certain position in the current debate, the one that takes regulation as bad in itself. The school lists tell us that to solve young people's problems we should focus on the public education system.

Other analogies have been used for socially mediated beliefs. Writers talk about the "war of ideas" or the "marketplace for ideas"; sociologists study rumors using a disease analogy with formal models of contagion. The most significant difference with these alternatives is that the evolutionary analogy assigns agency to the items rather than to the users. Implicitly, the evolutionary analogy sees the lists as struggling to survive, changing their forms for a purpose. Of course, agency is not meant literally, any more than phrases like the "selfish gene" or the "struggle for life" are literal. The advantage of the agentive framework is that it induces us to ask new questions about our subject, and some seem to have interesting answers.

1. Bennett G (1994) Geologists and folklorists: Cultural evolution and "the science of folklore." *Folklore* 105(1-2):25–37.
2. Blackmore S (1999) *The Meme Machine* (Oxford Univ Press, Oxford).
3. Dawkins R (1989) *The Selfish Gene* (Oxford Univ Press, New York), 2nd Ed.
4. Nelson N (2007) Universal Darwinism and evolutionary social science. *Biol Philos* 22(1):73–94.
5. US House of Congress; Committee on National Security (1996) United States Security Interests in the Post-cold-war World. 104th Congress, 2nd session. June 6, 1996.
6. Kagan D (1995) *On the Origins of War and the Preservation of Peace* (Doubleday, New York).
7. Cohen W (1998) Palace of the Golden Horses Kuala Lumpur, Malaysia. Office of the Assistant Secretary of Defense. Available at www.defenselink.mil/transcripts/transcript.aspx?transcriptid=604. Accessed May 15, 2014.
8. Winter D (2007) Remarks at Cupertino Veterans Memorial Dedication Ceremony. Available at www.navy.mil/navydata/people/secnav/winter/Cupertino_Veterans_Memorial.pdf. Accessed May 15, 2014.
9. Cheney R (1997) *Professional Military Education: An Asset for Peace and Progress* (Center for Strategic and International Studies, Washington, DC).
10. Chomsky N, Peregrin Otero C (1981) *Radical Priorities* (Black Rose, Montreal).
11. Hedges C (2003) *What Every Person Should Know About War* (Free Press, New York).
12. Durant W, Durant A (1968) *The Lessons of History* (Simon and Schuster, New York).
13. Sheen FJ (1953) *Life is Worth Living* (McGraw-Hill, New York).
14. Imparato R (2001) *General MacArthur, Wisdom, and Visions* (Turner, Nashville).
15. McWhirter N, McFarlan D (1988) *1989 Guinness Book of World Records* (Bantam, New York).
16. Hawkins W (1990) New enemies for old. *Natl Rev* 42(18):28–31.
17. Moscow World Service (1982) Soviet-Polish Talks Beneficial for the Cause of Peace, March 4, 1982.
18. Jongman B, van der Dennen H (1988) The Great 'War Figures' Hoax: An investigation in polemomythology. *Secur Dialogue* 19(2):197–202.
19. Odysse-Barot F (1864) *Lettres sur la Philosophie de l'Histoire* (Baillière, Paris).
20. Goody J (1987) *The Interface Between the Written and the Oral* (Cambridge Univ Press, New York).
21. Heard J (October 24, 1990) Harvard Club hails outgoing university chief. *Chicago Tribune*, p N20.
22. Fine G, O'Neill B (2010) Policy legends and folklists: Traditional beliefs in the public sphere. *J Am Folkl* 123(488):150–178.
23. Stoops E, Rafferty M, Russell Johnson R (1981) *Handbook of School Administration* (Allyn and Bacon, Boston), 2nd Ed.
24. Neill SB (1978) Violence and vandalism: Dimensions and correctives. *Phi Delta Kappan* 59(5):302–307.
25. Duke DL (1978) How administrators view the crisis in school discipline. *Phi Delta Kappan* 59(5):325–330.
26. Salkind N, et al. (2000) Guns and chewing gum: The perceptions and reality of problem behaviours in public schools. *Sch Psychol Int* 21(1):106–112.
27. O'Neill B (March 6, 1994) History of a hoax. *New York Times Magazine*, pp. 46–49.
28. Will G (January 5, 1987) Three balls, two strikes. *Newsweek*, 64.
29. Congressional Record (2005) July 14–19, 2005, Vol 151, Pt 12, p 99.
30. Hall M (1965) The great cabbage hoax: A case study. *J Pers Soc Psychol* 2(4):563–569.
31. CBS Evening News (April 21, 1977) Report on European Common Market directive (Vanderbilt Television News Archive, Nashville).
32. Jennings M (2010) *Business, Its Legal, Ethical and Global Environment* (Southwestern, Independence, KY).
33. Born M (1963) Was bliebt nach zu hoffen? Universitas, Zeitschrift für Wissenschaft. *Kunst und Literatur* 18(4):337–346.
34. Born M (1964) What is left to hope for? *Bull At Sci* 20(4):2–5.
35. Anonymous (1813) Dritter zuruf Deutschen in Amerika. *Evangelisches Magazin* 2:174–178.
36. Pappas PC (1985) *The United States and the Greek War for Independence* (Columbia Univ Press, New York).
37. Davies N (1996) *Europe: A History* (Oxford Univ Press, New York).
38. Feer R (1952) Official use of the German language in Pennsylvania. *Pa Mag Hist Biogr* 76(4):394–405.
39. Dautrich D, Yalof D, Newell C (2009) *American Government: Historical, Popular and Global Perspectives* (Wadsworth, Belmont, MA).
40. Holyoak KJ (2012) Analogy and relational reasoning. *Oxford Handbook of Thinking and Reasoning*, eds Holyoak KJ, Morrison RG (Oxford Univ Press, New York).
41. Griffiths P (2001) Genetic information: A metaphor in search of a theory. *Philos Sci* 68(3):394–412.
42. Godfrey-Smith P (2007) Information in biology. *Cambridge Companion to the Philosophy of Biology*, eds Hulland D, Ruse M (Cambridge Univ Press, New York).
43. Zuckerman M (August 2, 1993) The victims of TV violence. *US News and World Report*, p 64.
44. Etzioni A (1993) Speech to the National Press Club. Available at http://town.hall.org/radio/Club/062893_club_HALL.html. Accessed May 15, 2014.
45. Limbaugh R (1993) *See, I Told You So* (Pocket Books, New York).
46. Ahlstrom C, Nordquist K-A (1991) *Casualties of Conflict: Report for the World Campaign for the Protection of Victims of War* (Department of Peace and Conflict Research, Uppsala Univ, Uppsala).
47. Anonymous (1984) Top offences in public schools. *Presidential Biblical Scoreboard* 1, p 19.
48. Anonymous (March 25, 1985) Blackboard jungle, 1940–1982. *Harper's* 270(3):25.
49. United Press International (April 26, 1985) BC Cycle.
50. Cousins N (June 5, 1954) The electronic case for peace. *Saturday Rev* 37:22–23.
51. [anonymous] (1960) The art of war. *Mil Rev* 40(3):72.
52. Gould SJ (2002) *The Structure of Evolutionary Theory* (Belknap Press, Cambridge, MA).
53. CBS Evening News (February 2, 1987) Report on school violence (Vanderbilt Television News Archive, Vanderbilt University, Nashville, TN).
54. Magid K, McKelvey C (1987) *High Risk: Children Without a Conscience* (Bantam, New York).
55. Philip Morris Europe (June 19, 1995) [Untitled advertisement]. *International Herald Tribune*, p 7.
56. European Advertising Standards Alliance (1995) *Cross-border Complaint Report 7*, Available at https://web.archive.org/web/20070701212412/http://easa-alliance.org/complaints/en/cbc_reports/cbc_07.html. Accessed May 15, 2014.