RESEARCH PAPER

''I always thought they were all pure tobacco'': American smokers' perceptions of ''natural'' cigarettes and tobacco industry advertising strategies

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Objective: To examine how the US tobacco industry markets cigarettes as ''natural'' and American smokers' views of the ''naturalness'' (or unnaturalness) of cigarettes.
Methods: Internal tobacco industry documents, the Pollay 20th Century Tobacco Ad Collection, and newspaper sources were reviewed, themes and strategies were categorised, and the findings were summarised.
Results: Cigarette advertisements have used the term ''natural'' since at least 1910, but it was not until the 1950s that ''natural'' referred to a core element of brand identity, used to describe specific product attributes (filter, menthol, tobacco leaf). The term ''additive-free'', introduced in the 1980s, is now commonly used to define natural cigarettes. Tobacco company market research, available from 1970 to 1998, consistently revealed that within focus group sessions, smokers initially had difficulty interpreting the term ''natural'' in relation to cigarettes; however, after discussion of cigarette ingredients, smokers viewed ''natural'' cigarettes as healthier. Tobacco companies regarded the implied health benefits of natural cigarettes as their key selling point, but hesitated to market them because doing so might raise doubts about the composition of their highly profitable ''regular'' brands.
Conclusion: Although our findings support the idea advanced by some tobacco control advocates that informing smokers of conventional cigarettes' chemical ingredients could promote cessation, they also suggest that such a measure could increase the ubiquity and popularity of ''natural'' cigarettes. A more effective approach may be to ''denaturalise'' smoking.

Modern cigarettes are highly unnatural—thoroughly engineered to be efficient nicotine delivery devices, and processed with chemical additives to make them easier to smoke and to prolong their shelf life.[1 2] But they have a heritage that may suggest to some that they are, in fact, *natural*. They are associated with the natural world through their most well-known ingredient, tobacco, which has been cultivated in the Americas for thousands of years. Moreover, in the US, Native Americans, stereotypically viewed as having an intrinsic connection with nature,[3] are intimately linked to tobacco through the image of the peace pipe. The perception that cigarettes are natural may suggest to some that smoking as a social practice is, therefore, inevitable: if people *have* always smoked, they *will* always smoke, so there is little point in contemplating or working toward a smoke-free society. The idea that cigarettes are natural may also help smokers downplay the risks of smoking, as ''natural'' risks inspire less concern than unnatural ones.[4]

Research exploring ''naturalness'' in relation to cigarettes has focused largely on American smokers' misperception that certain types of ''more natural'' cigarettes—additive-free, roll-your-own, bidis (hand-rolled cigarettes imported from India) and kreteks (clove-flavoured cigarettes)—are less harmful than other cigarettes.[5–7] It was precisely this misperception that a recent US federal court ruling (now under appeal) attempted to address, by banning the term ''natural'' as a cigarette descriptor.[8] But researchers have not conducted broader investigations into smokers' views of the naturalness (or unnaturalness) of cigarettes, or the many ways in which the tobacco industry markets cigarettes as natural.

Some tobacco control advocates have speculated that educating smokers about highly unnatural cigarette ingredients, such as pesticides and chemicals used in stripping wood and in removing nail polish, might stimulate smoking cessation.[9 10] Understanding why particular smokers regard cigarettes as natural, and how knowledge of unnatural cigarette ingredients changes their perspective could inform this approach to cessation. Understanding how the tobacco industry markets cigarettes as natural could also inform tobacco control efforts to denormalise or ''denaturalise'' smoking, that is, to reinforce the social unacceptability of smoking all types of cigarettes.

In this paper, we explore the changes that have occurred over time in American cigarette companies' use in print advertising of terms related to ''natural''. Drawing on internal tobacco industry documents, we also examine the themes that have emerged from three decades of industry-sponsored market research on American smokers' perceptions of natural in relation to cigarettes, and strategic decisions of tobacco companies regarding the development and marketing of natural cigarettes.

METHODS

Litigation against the tobacco industry has resulted in the release of nearly 7 million previously undisclosed industry documents.[11 12] Scanned PDF versions of these documents have

Abbreviations: ATC, American Tobacco Company; BW, Brown and Williamson; PM, Philip Morris; RJR, RJ Reynolds; SFNTC, Santa Fe Natural Tobacco Company

been archived at the University of California, San Francisco (USA) library in an electronic repository (http://www.legacy.library.ucsf.edu/); the full text of the PDF files can be searched using any combination of words or phrases. We searched the archives using a snowball sampling method that began with broad search terms (natural, additive-free) and used the retrieved documents to identify more specific search terms, including names of research projects (Project Natural), cigarette brands (Winston Additive-free, Natural American Spirit), file locations and reference (Bates) numbers.

We initially identified 2100 documents, narrowing them to approximately 500 of the most relevant, spanning 1970–98. Many documents summarised market research data on smokers' reactions to various natural cigarette concepts. We analysed these to identify main themes, and to distinguish any differences according to time period, gender, race, age or cigarette preference. We also analysed other internal company documents and media sources (through the Newsbank newspaper database) to identify and describe natural cigarette advertising strategies. Data analysis involved iteratively reviewing relevant documents, categorising themes and strategies, and summarising findings.[13]

We searched the Legacy Library and the 20th Century Tobacco Ad Collection (http://tobaccodocuments.org/pollay_ads; collected by Richard Pollay and catalogued by Roswell Park Cancer Institute) for instances of tobacco advertisements using the term ''natural'', ''nature'' or ''additive-free''. Although neither collection represents the entire universe of cigarette advertisements, to our knowledge, the 20th Century Tobacco Ad Collection represents the largest extant collection available for research purposes; it seemed reasonable to use it and the Legacy Library to provide insights into natural cigarette advertising during different periods. Both PAM and REM reviewed the advertisement messages and inductively developed a typology of themes to differentiate them (eg, purity, taste).[14] Repeated reviews and discussions resolved any initial disagreements about how to categorise each advertisement.

Our study has limitations. The sheer size of the document databases means that we may not have retrieved every relevant document. Some could have been destroyed or concealed by tobacco companies;[15] others could have never been obtained during the legal discovery process. Despite the fact that the archives contain numerous documents from 1930–1960, we found none that offered details on tobacco companies' ''natural'' advertising efforts before 1970, although such campaigns did exist. In addition, some of the tobacco company market research that we reviewed was collected through focus groups, a type of exploratory research that does not involve representative samples of particular populations. This limits our ability to generalise; however, the fact that multiple focus groups reported similar ideas suggests that the focus group findings are not entirely anomalous.

RESULTS

The term ''natural'' in cigarette print advertisements

American tobacco companies have used the term ''nature'' or ''natural'' to describe aspects of cigarettes since at least 1910 (table 1).[16–21] With the exception of several Lucky Strike advertisements in the 1930s (''Toasting expels sheep-dip base…naturally present in every tobacco leaf'', ''Nature in the raw is seldom mild''),[22 23] these terms have typically been used in a positive or neutral manner. Before the 1950s, the terms ''nature'' and ''natural'' were most often used to normalise brand choice or smoking, or to describe the tobacco growing process. Starting in the 1950s, and continuing into the present, tobacco companies have increasingly invoked natural as a key aspect of brand identity. According to Aaker,[24] brand identity is ''a unique set of brand associations that the brand strategist aspires to create and maintain. These associations represent what the brand stands for'' and help establish a relationship between the brand and the customer.

Brand identity has many dimensions, including product attributes.[24] From the 1950s onwards, tobacco companies increasingly used the term ''natural'' in relation to particular product attributes—the filter, the menthol and the tobacco—to communicate the functional and emotional value of the product.[24] In 1985, Santa Fe Natural Tobacco Company (SFNTC) first advertised its ''natural'' tobacco as ''additive-free'' followed by numerous other companies in the 1990s and early 2000s, such that ''additive-free'' now seems to be an essential component of a ''natural'' brand identity. Nonetheless, claims of ''additive free'' or ''all natural tobacco'' are not always accurate. Philip Morris's (PM) chemical analyses in 1994 of SFNTC's products found some of them to contain both additives and burn accelerators; similarly, it determined that ''Gunsmoke'', a brand advertised as free of fillers and reconstituted tobacco, contained both.[25]

The move towards the term ''natural'' signifying a specific physical aspect of a cigarette could have been accelerated by the growing popularity of ''natural'' foods. The late 1960s and early 1970s saw the birth of the ecology movement in the US, which advocated a return to a simpler, more natural style of living.[26] ''Natural'' (compared to human made or overly processed) materials and ingredients became fashionable, and food manufacturers responded by mass marketing natural foods, highlighting ingredients that conveyed nutrient-rich wholesomeness, such as sesame and stone ground wheat.[26] Tobacco companies noticed this trend, and its popularity with young adults, an important target market.[27] As table 1 shows, natural cigarette advertisements of the 1970s were more likely to emphasise natural ingredients, including menthol, than natural cigarette advertisements of the 1960s.

The more recent trend in natural cigarette advertising, of emphasizing an absence of particular ingredients, could have been spurred by the 1981 US Surgeon General's Report on ''The Changing Cigarette''.[28] It raised the possibility that cigarette additives increased the health risks of smoking and called for their disclosure. In 1984, the US Department of Health and Human Services began requiring tobacco companies to submit annually, a joint, confidential, aggregated list of ingredients added to cigarettes manufactured in or imported into the US. After 10 years, the tobacco industry made this list of 599 additives public, when questions were raised about potential hazards.[29 30] The US tobacco industry has resisted listing of brand-specific ingredient information on cigarette packs (except Liggett, which began listing cigarette ingredients on its cartons in 1997), but consumers now have access to more specific ingredient information for PM brands through its corporate website.[31] Information about the effects of these ingredients on health is not provided.

Smokers' understanding and evaluation of natural cigarettes

Despite the long history of cigarette advertisements relying in some fashion on the word ''natural'', market research assessments of smokers' understandings of and reactions to natural cigarette concepts were available in the document archives only from 1970 to 1998 (a table summarising the market research we reviewed is available at http://tc.bmj.com/supplemental). This research typically concerned cigarettes with ''natural'' as a core brand identity. Two main themes were evident: (1) smokers initially expressed confusion about how to interpret the term ''natural'' in relation to cigarettes and (2) after

Table 1 *Natural* themes used in cigarette print advertising, 1910–2006[16–21]

Theme	Examples	1910–9	1920–9	1930–9	1940–9	1950–9	1960–9	1970–9	1980–9	1990–2006	Total, 1910–2006
Growing process	''…the choicest tobaccos *nature* grows.'' ''Quality leaf is *naturally* ripened by the sun.''	1	2	4	0	0	0	0	1	2	10
Normalisation of brand choice	''Her *natural* choice, Marlboro.'' ''You *naturally* smoke Omar.''	2	0	3	4	1	0	1	0	0	11
Normalisation of cigarettes or smoking	''…it's only *natural* that everybody's smoking more.'' ''Camels and eating go together *naturally*.''	1	0	4	2	2	1	1	0	0	11
Physiological effect	''Smoking Camels speeds the *natural* flow of digestive juices.'' ''You can always get a pleasant, *natural* 'lift' by enjoying a Camel.''	0	0	4	0	0	0	0	0	0	4
Purity	''100% pure and *natural* cigarettes.'' ''The … filter is made from a pure, *natural* material found in … fruit.''	0	0	2	2	5	2	1	2	20	34
Women	''The *natural* choice for a lady with taste.'' ''The slimmer cigarette with *natural* menthol women like.''	0	0	1	1	0	0	2	0	0	4
Product quality											
Taste	''You have the *natural* taste of tobacco.'' ''*Natural* tobacco flavour unlocked at last!''	0	1	1	2	5	8	8	1	1	27
Smell	''Only fine old tobacco can give that *natural* aroma and fragrance.'' ''With a *natural* tobacco fragrance.''	0	0	2	0	0	0	0	0	0	2
Strength	''You're smoking tobacco that's…*naturally* mild.'' ''Pall Mall's famous length…gentles the smoke *naturally*.''	0	0	2	1	6	6	1	0	0	16
Duration	''The tobacco is *naturally* slow burning.'' ''Being slower-burning, Camels *naturally* last longer.''	0	0	2	0	0	0	0	0	1	3
Filter	''Filter made from pure cellulose—soft, snow white, *natural*.'' ''The extra length of tobacco acts as an effective *natural* filter.''	0	0	0	1	4	0	0	0	1	6
Menthol	''…full *natural* menthol flavour.'' ''Taste the freshness of *natural* menthol.''	0	0	0	0	1	3	5	1	2	12
Other Ingredients	''*Naturally* reduced in tar and nicotine.'' ''Additive free, all *natural* premium tobacco.''	0	0	0	0	3	0	2	2	18	25
Number of advertisements identified*		4	3	22	12	24	14	16	4	27	126

*Advertisements were coded for multiple themes; thus, the total number of themes identified in each decade might exceed the total number of advertisements.

discussion of cigarette ingredients, smokers viewed ''natural'' cigarettes as healthier. These themes were remarkably consistent over time, despite occasional declines in the general popularity of ''natural'' products,[26] and periodic media attention devoted to potentially hazardous cigarette ingredients.[29 32 33] There was also little variation in themes by gender, race, age or cigarette preference (menthol vs non-menthol, low vs high tar), although it should be kept in mind that these categories were not consistently specified or reported in the market research summaries we reviewed.

Smokers unable to interpret the term ''natural'' in relation to cigarettes

In 1970, RJ Reynolds (RJR) began advertising Salem as a ''natural menthol'' cigarette.[34] Of the 359 African-American and white women and men smokers questioned nationwide about the campaign, nearly 50% reported that they did not know the meaning of the slogan.[35 36] Similarly, male residents of New York city, when questioned by RJR about natural cigarette advertisement copy reported that they did not know what it meant to describe a cigarette as natural.[37 38] In the 1990s, smokers continued to express confusion about what to expect from an ''all natural'' cigarette.[39–44] Focus group research revealed two primary reasons for smokers' confusion: a belief that nature was healthy, in stark contrast with cigarettes, or, alternatively, a belief that cigarettes were *inherently* natural.

Nature is healthy; cigarettes are unhealthy

In the late 1970s, one of the market research firms conducting natural cigarette research for RJR concluded that 'male smokers could not define what tobacco companies meant by natural cigarettes because they associated natural with foods, and in the food area, ''natural'' stands as a self-contained benefit, conjuring up an image of wholesomeness and health…. By contrast, no smoker challenges the premise that cigarettes may be unhealthy. … Use of ''natural'' as a self-contained cigarette benefit, therefore, is incongruous and confusing' (underlining in original).[37]

This explanation was borne out in focus groups conducted in the 1980s and 1990s, with some smokers asserting that cigarettes were not natural precisely because they were unhealthy. A 1987 summary of two focus groups conducted for PM reported that ''smokers have an extremely difficult time equating naturalness with cigarettes. The word ''natural'' conjures up images of health. Cigarette smoking is not healthy and the concept of a natural cigarette is therefore counterintuitive''(underlining in original).[45] Many smokers in focus groups conducted for Brown and Williamson (BW) in the late 1990s responded similarly. According to BW's market research firm, smokers found the idea of ''natural'' cigarettes contradictory because ''cigarettes are bad for you, natural things are good for you, therefore there can't be a natural cigarette''.[46] Describing a cigarette as ''additive-free'' inspired a similar response, with smokers expressing skepticism due to ''the perceived contradiction between a 'health' oriented benefit and smoking''.[47]

Cigarettes are inherently natural

Alternatively, many smokers assumed that most cigarettes, if not all (particularly their own brand) were *already* natural. A common reaction was ''what else would [they] be?''.[43 44 48–51] One reason for this assumption of naturalness was the perception that, in smoking a cigarette, one was ''smoking a plant''.[52 53] As elaborated by one 1975 focus group member, ''I think of the Indians and their tobacco, and it's all pretty natural. … [I]t's … something that grows and they wrap it and you smoke it and that's about it''.[54] Advertising a cigarette as ''all natural'' or ''100% tobacco'' seemed redundant to these smokers; according to one 1997 focus group member, ''it's like buying fish and saying 100% fish''.[44]

Available market research from the 1980s tended to ask only whether respondents were aware of any additives in cigarettes. However, during both the 1970s and 1990s, when informed that cigarettes contained additives, smokers were often described as being ''surprised'', ''disturbed'', ''stunned'', ''shocked'', and occasionally ''angry''.[40 54–59] As a 1993 RJR memo observed, these smokers ''had obviously never given it a thought''.[40] Instead, they assumed that their cigarettes were ''just tobacco'' without additives, and advertisements touting certain cigarettes as ''all natural'' or ''100% tobacco'' raised a question—that is, ''what exactly am I smoking?''—that might otherwise have gone unasked.[41 42 48–50 53 55 56 60–64] One smoker in a 1975 focus group was ''shook-up'' by the news, stating that ''I don't really go along with the cigarettes giving you cancer and heart disease…But then you stop and wonder … if it's the junk

they're putting in them''.[54] The tobacco industry's public release in 1994 of the cigarette additives list had no discernible effect on smokers, as many continued to express the belief that ''I always thought they were all pure tobacco''.[58]

Research conducted by RJR in 1976 to determine smokers' awareness of cigarette additives showed that only 7% named them as cigarette ingredients. When asked whether tobacco contained artificial flavours or additives, 61% answered ''no'' or ''I don't know''.[65] Research conducted by American Tobacco Company (ATC) in 1984 found that 76% (n = 609) of smokers did not know what additives the cigarettes contained.[66] Part of the reason for smokers' ignorance could have been the lack of information on cigarette packages. Smokers in a 1975 focus group rejected the idea that cigarettes contained additives because they were not listed on the package.[56]

A natural cigarette is healthier than a cigarette with chemical additives

Once informed that one cigarette contained fewer additives or had natural rather than artificial flavours, many smokers assumed that the natural cigarette was healthier or less harmful.[39 47 51 54 56 59 67–72] For example, one focus group member regarded the point of an advertisement for a 100% natural tobacco cigarette with no artificial additives as an assurance that ''they're lowering the health hazard…you're gonna live ten years longer''.[55] Another said she could ''still smoke but without so much health worry''.[55] This finding was consistent across time periods and in most cases, across demographic groups. One exception was telephone research conducted for PM in the 1980s which found that, once alerted to the presence of potentially harmful additives in cigarettes, women smokers were more likely than men to regard an ''all natural'' cigarette as healthier (26% women vs 17% men).[68]

One reason for the view that natural cigarettes posed fewer risks was smokers' perception that ''chemicals'' were unhealthy; a ''chemical-free'' cigarette was thus superior to a regular cigarette. A member of a 1975 focus group conducted for Lorillard explained that a natural cigarette would be ''healthier'' because ''I'd rather have natural spring water than water with chemicals in it''.[56] Members of a follow-up group agreed; one stated that ''artificial chemicals means dangerous to your health,'' while another said that ''if it were true that there are chemicals in current cigarettes, one would like to smoke the brand containing 'the least' chemicals''.[54] Within this group, those who smoked the cigarettes advertised as the lowest in tar showed more inclination to assume that chemicals were ''bad in some way'', a finding consistent with the fact that they reported choosing their brands largely for health reasons.[54] Focus groups conducted for RJR in 1979 found a similar pattern, with ultra low tar smokers reporting the most concern about chemicals in cigarettes.[73]

Similarly, of the 50% (n = 602) of women and men smokers surveyed in Chicago, Dallas, Atlanta, St. Louis and Boston in 1983 who stated that an all natural cigarette was important for health reasons, approximately 20% described chemicals as undesirable or ''not good for you''.[74] The same attitude towards chemicals was evident in the 1990s. A 1996 focus group regarded an ''all natural'' cigarette as appealing due to ''the absence of chemicals'', which implied a ''purer…smoking experience''.[50 59] In 1998, a group of smokers who initially rejected the idea that cigarettes could be natural due to their unhealthiness ultimately concluded that a natural menthol cigarette ''would be less harmful than a regular cigarette'' because cigarettes were ''better without chemicals than with them''.[46]

Smokers' concern about chemicals in cigarettes was also evident in discussions designed to determine smokers' reactions to the idea of additives. Focus group members in the 1970s reported that the use of the term ''chemicals'' to describe cigarette additives elicited more concern than ''artificial flavours'', ''synthetics'' or ''additives''. According to the company conducting the research for Lorillard, ''These smokers say 'chemicals are an unknown' and, therefore, more threatening as a term''.[54] Discussions in the 1990s revealed that additives that sounded like familiar foods—cocoa, sugar and licorice—''sounded fine'' to smokers, but ''chemical sounding ingredients'' such as glycerin, propylene-glycol and pesticides raised alarm.[47 59 75–77]

Although some smokers were dubious that natural cigarettes were healthier, they did not necessarily reject the idea outright. Some expressed a willingness to smoke natural cigarettes ''just in case'' they were less harmful or ''one notch less bad''.[54 64] Others claimed to ''feel better'' about smoking an additive-free cigarette despite not seeking one for health reasons.[78] A BW report on two focus groups of smokers of competitor SFNTC's Natural American Spirit, an additive-free cigarette that remains popular in the US, indicated that participants thought the brand ''might not be as bad for you'' because it could be bought in health food stores.[70]

Smokers' evaluations of natural cigarette manufacturers

In 1975, Lorillard's market research firm pointed out that although the makers of natural foods were sometimes regarded as ''concerned for consumer welfare'', it was unlikely that consumers would ''ever … see a move to 'natural' as evidence of concern for consumer welfare by the manufacturer of cigarettes'' (underlining in original).[56] Smokers were rarely asked this question, but when they were, the views they expressed contradicted the market research firm's pessimistic prediction. A 1996 focus group thought that the creation of additive-free Winston ''showed that [RJR] … cares about its customers''.[59] Similarly, when interviewed in 1997, a group of Natural American Spirit cigarette smokers stated that they were drawn to the brand, partly because the small company that then manufactured them ''cares more about its customers''.[70] (SFNTC, the maker of Natural American Spirits, has now been merged under the corporate umbrella of Reynolds American.)

Deliberating about, developing, and advertising natural cigarettes

The promise of natural cigarettes

From tobacco companies' point of view, implied health benefits were a key selling point of natural cigarettes. For example, an RJR document explained that Real, a ''100% natural cigarette'' introduced in 1977, was regarded as having a ''high chance of immediate success'' due to its ''healthful implications''.[79] It also met the corporate policy goal of providing ''ad copy with health implications''.[80] In the 1980s, BW's new product ideas included an additive-free cigarette that would address smokers' ''health concerns''.[81–83] In 1983, RJR planners proposed an additive-free cigarette to ''reduce the perceived primary health concern''.[84] Similarly, ATC's marketing director recommended creating a natural version of Tareyton cigarettes, because the ''implications [sic] of 'sinless' ingredients might be a refreshing change''.[85] A 1989 PM document indicated that the company planned to ''aggressively introduce'' products, including an all natural cigarette, that met ''perceived health/social concerns''.[86] In the 1990s, RJR regarded a natural version of Winston as appealing to ''concerned smokers'' worried about ''ingredients, yield, risk factors''.[87]

The peril of natural cigarettes

Given most smokers' ignorance about cigarette ingredients, tobacco companies and their marketing firms recognised that a natural cigarette marketing campaign would involve educating consumers about the ''un-naturalness of other brands'', possibly in a dramatic fashion.[39 40] Lorillard's market research

Figure 1 Introducing Real (1977).

firm found in 1975 that the only effective advertisement campaign for a natural cigarette used ''scare tactics''—that is, highlighting specific chemicals in cigarettes.[54] But as most tobacco companies manufactured many brands containing chemicals, such an advertising campaign could adversely affect their profits.[88–93]

A related problem with natural cigarettes was that their introduction might stimulate demand for brand-by-brand disclosure of cigarette ingredients.[40 54 94] In 1975, smokers exposed to a test advertisement for an additive-free cigarette ''demanded to know what chemical additives are in current brands and what effects [they] have''.[54] This issue also arose in 1995, when a smoker, evaluating an advertisement for an additive-free cigarette, commented that it ''makes me wonder what goes into tobacco. I think they ought to list the ingredients''.[58]

Advertising natural cigarettes

RJR introduced Real, a naturally flavoured cigarette, in 1977.[95] The company had high hopes for the cigarette, partly as smokers consistently rated highly the idea of a ''natural'' cigarette.[96] RJR planned to spend $40 million on advertising and promotions in the first 6 months and give away 25 million sample packs.[97] A press release announcing the launch boasted that Real represented ''the most heavily advertised and promoted consumer-packaged-goods introduction in history''.[97] Advertisements for Real avoided explicit health claims. Instead, early advertisements invoked the natural world through an image of cigarette packs lying on a bed of tobacco leaves, while the headline announced ''The natural cigarette is here!'' (fig 1). Further textual references to ''natural'' contrasted Real's natural taste with the artificial taste of other cigarettes. However, poor sales forced RJR to withdraw Real from the market in 1980. The company found that a major problem facing the brand was that, while Real was perceived to be natural, most smokers thought their usual brand was also natural[98]; thus, Real's ''naturalness'' offered it no distinct market advantage.

Competitors PM and ATC attributed Real's failure partly to the fact that cigarette additives were not meaningful to most smokers.[85 99] As ATC marketing director WJ Moore pointed out in a 1983 memo, ''no problem had been created in the consumer's mind which a 'natural' cigarette could solve. No crusade had damned additives or artificial ingredients in cigarettes''[85]. He argued that a more effective advertising approach would have emphasized the unnaturalness of other cigarettes, with the headline ''You're smoking glycerin''.[85]

In the 1980s, RJR and PM preferred to let external forces create controversy over cigarette additives. RJR intended to develop the technology quickly to manufacture additive-free cigarettes in the event of ''an emotional overreaction on the part of the public regarding 'additives'''.[91] Similarly, in 1988, PM decided not to market an additive-free cigarette openly without the government first raising consumers' awareness about additives.[89 99] PM planned to replace the tobacco blend of an existing brand with an all natural blend, but not advertise the change until ''the controversy over additives intensifies''.[99] Advertising could then note that the product was already additive-free in order to ''motivate those who are uncomfortable about their smoking'', who, presumably, might otherwise try to quit.[100]

Although the major American tobacco companies chose not to introduce additive-free cigarettes in the 1980s, SFNTC, a small company, began advertising Natural American Spirit additive-free cigarettes in 1985. Initially, advertising was limited; early advertisements appeared in ''alternative'' or non-mainstream publications such as *Mother Earth News*, *Utne Reader*, and the *Whole Earth Review*.[101] Their readers were likely to be college educated, affluent, and interested in environmentalism.[102] The advertisements were in black and white, featuring a drawing of the pack (which featured an image of an American Indian holding a peace pipe) and text urging those who ''smoke[d] out of choice rather than habit'' to try this alternative.[103]

Consumers could request a free sample; it was accompanied by literature from ''America's leading natural foods teacher'' extolling the ''medicinal'' virtues of chemical-free tobaccos, which, the teacher suggested, had allowed Native Americans to smoke ''for centuries… without developing cancer''.[104] When SFNTC expanded beyond mail order, it made its cigarettes available in health food stores. Sales were few but grew steadily, particularly in urban markets.[105 106]

The success of American Spirits spurred the introduction of numerous additive-free ''micro brands'' by small cigarette manufacturers in the 1990s. Some followed SFNTC's lead and openly suggested that they were less harmful—for example, a 1995 flyer for Pure cigarettes stated that ''Native Americans smoked all natural tobacco without the ills that are associated with tobacco today. Could it be that the chemicals and additives cause more health problems than natural tobacco smoke itself?''[107]

In 1995, RJR decided to create a no-additive Winston to reinvigorate the ''dying'' brand.[108] Its promotion strategy was to make smokers ''aware they have a choice between 100% tobacco and other cigarettes…This issue (choice) needs to be raised in a loud, pre-emptive way in order to create doubt in the

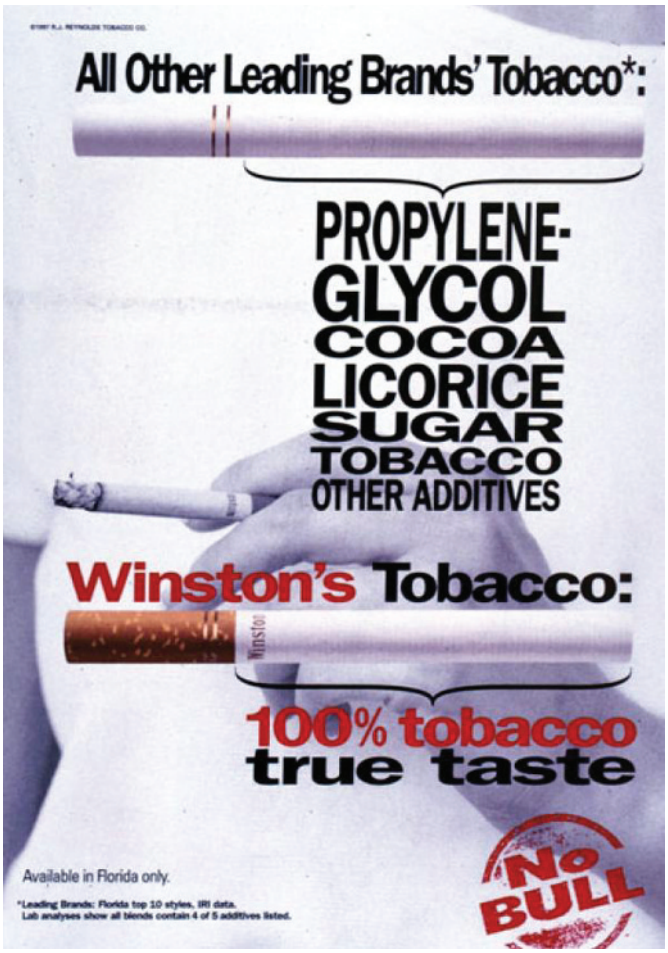

Figure 2 Naming cigarette additives (1997).

consumer's mind about what they [sic] are smoking'' (underlining in original).[109] In one Winston advertisement, RJR attempted to create doubt by naming some of the specific additives in other leading brands (fig 2). Only one named additive, propylene glycol, was unrelated to food, was unfamiliar and was likely to cause some concern; RJR apparently chose not to create additional doubts by naming two other potentially unfamiliar chemical additives that it had determined were also present in the top ten brands, glycerin and urea.[110] Other advertisements took a different approach, making no effort to raise concern about cigarette ingredients, emphasizing instead in a humorous (and frequently sexist) manner the authentic, ''straight up'', ''no bull'' Winston brand identity RJR had created (fig 3).

Avoiding regulatory action

RJR anticipated that its Winston advertising could lead to action by the Federal Trade Commission, the consumer protection agency charged with prohibiting deceptive advertising, due to the implied health benefit of additive-free cigarettes.[111] So it conducted research designed to ''show that … consumers do not ascribe validity to the [health] claim''.[112] But the results showed precisely the opposite: consumers assumed that no-additive Winstons were, in fact, healthier than other brands.[112] According to an internal memo, ''questions designed to show non-believability [of health message] did not produce expected results''.[112] The author recommended modifying Winston's advertising to ensure that it did not communicate a ''health take-away''.[112]

In questioning consumers about their interpretations of Winston marketing materials, RJR occasionally explicitly requested that interviewers not accept any references to the ''health hazard of smoking'' in answer to an open-ended question regarding the main point of the advertisement or video. The instructions read ''You must continue to probe, in this case only, until a different answer is given''.[113 114] This instruction was absent from other marketing surveys,[115] but any consumers attributing a health message to a Winston advertisement seem to have had their responses lumped into broader, more neutral categories, such as ''natural ingredients/no additives/chemicals in tobacco'' or ''all other mentions of ingredients''.[116]

In 1997, the Federal Trade Commission initiated an investigation of Winston advertising.[117] Without admitting any wrongdoing, in 1999, RJR agreed to include a disclaimer on its Winston advertisements stating ''No additives in our tobacco does NOT mean a safer cigarette.'' The disclaimer would be at least 40% as large as the Surgeon General's

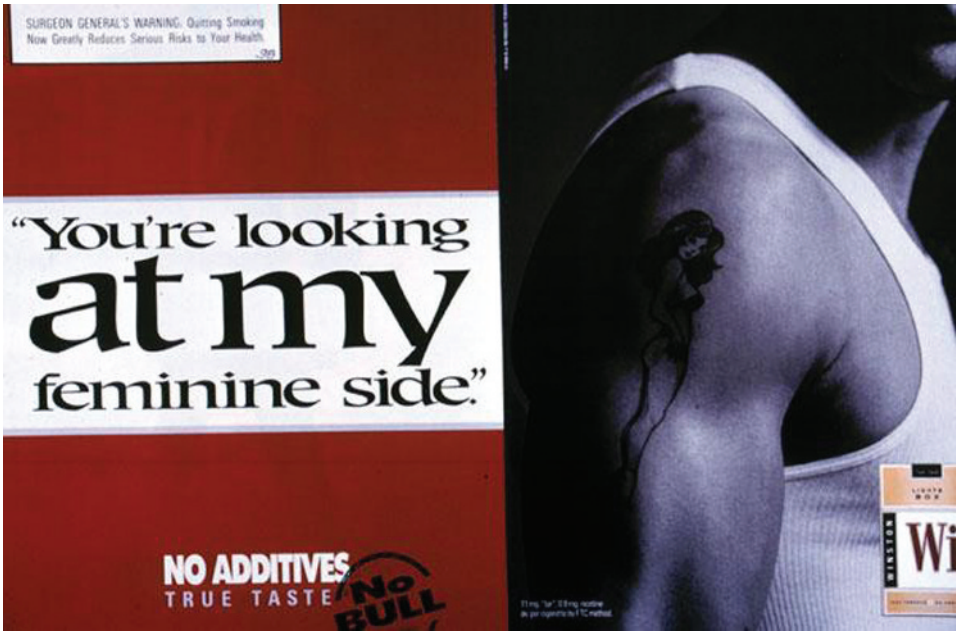

Figure 3 Additives message secondary to brand personality (1998).

warning.[118] In 2000, the makers of Natural American Spirit, Glory and Pure cigarettes also agreed to include the disclaimer on their advertising.[119 120]

DISCUSSION

For nearly 100 years, American cigarette companies have used the terms ''natural'' or ''nature'' to communicate various, mostly positive messages about cigarettes and smoking. Before the 1950s, these messages included normalising smoking or brand choice and describing the physiological effects of particular cigarettes. In the 1950s, use of the word natural by tobacco companies in print advertising began to shift focus, perhaps in reaction to questions about cigarette safety being raised by the media for the first time. Increasingly, advertisements using the term ''natural'' used it to emphasise aspects of product quality, such as ''natural'' taste or ''natural'' mildness, which could have reassured worried smokers. In much the same way that the mild taste of ''light'' cigarettes convinces some smokers that they are safer than regular cigarettes,[121] a cigarette advertised as tasting both ''natural'' and ''mild'' could have been interpreted by smokers as less risky.

Given that alarms continued to sound about cigarettes' health risks, it is perhaps unsurprising that cigarette advertisements continued to use ''natural'' primarily to describe aspects of taste and mildness in the 1960s. With the rise of consumer interest in natural foods in the 1970s, the use of ''natural'' in cigarette advertisements took on a narrower, ingredient-specific meaning. The term ''natural'' in relation to cigarettes is now largely indicative of an absence of particular ingredients, or the presence of natural flavourings. But, for many smokers, this manner of using the term ''natural'' to describe cigarettes is not particularly meaningful. The tobacco industry-sponsored market research that we reviewed indicates that American smokers place cigarettes in one of two categories: inherently natural or inherently unnatural. Despite the fact that these categories are mutually exclusive, they each lead smokers to the conclusion that explicitly labelling cigarettes as ''natural'' is somewhat unnatural, being either superfluous or inaccurate. Given the limitations of the documents we reviewed, we do not know whether particular characteristics (ie, education, gender) lead smokers to choose one category over another. One might speculate that smokers who are most health concerned would be more likely to regard cigarettes as inherently unnatural, but this potential relationship was not explored by tobacco companies.

Despite this initial reaction, however, when smokers were informed of tobacco companies' definition of ''natural'' cigarettes, they frequently concluded that ''natural'' cigarettes must be healthier or safer than cigarettes containing chemicals, regardless of how they initially categorised cigarettes. This conclusion runs counter to research demonstrating that additive-free cigarettes are no less toxic than conventional cigarettes.[122–125] This ''naturalness bias'' has been noted in relation to food, with Western consumers regarding natural foods (ie, those unaltered by added chemicals or genetic modification) as healthier.[126–129] But, due to smokers' lack of knowledge about cigarette ingredients, their naturalness bias did not arise spontaneously, as it typically does in relation to food.

The failure of ''natural'' to elicit an immediate positive reaction from smokers posed a problem for tobacco companies. It suggested that successfully marketing a natural cigarette depended upon educating smokers about cigarette ingredients, a step the tobacco industry had traditionally avoided. Any education process might ultimately backfire, by creating doubt about the act of smoking itself and undermining the implicit message of all cigarette advertising, that cigarettes and smoking are a normal, natural part of life. It might also generate ill will towards the tobacco industry for failing to educate earlier generations of smokers.

This background threat may help to explain why major American tobacco manufacturers have not embraced the marketing recommendation offered by smokers in focus groups: using the ''scare tactic'' of highlighting the chemicals added to most cigarettes. RJR was the only major tobacco company to venture into this territory with one Winston advertisement. However, most of the chemicals named in the advertisement sounded like familiar foods, rather than the unfamiliar chemicals that are more likely to inspire concern and possibly lead smokers to question whether it was still worth it to smoke. The Winston advertisement aimed to create a manageable problem (cigarettes containing a few, mostly familiar additives), one that the reformulated Winston could easily solve, restoring ''faith and confidence in the smoking habit''.[130] RJR also hedged its bets through a series of advertisements in which ''the problem'' Winston solved had nothing to do with ingredients and everything to do with finding a cigarette to match one's no-nonsense personality; in these advertisements, viewers might miss the ''no additives'' message entirely.

Tobacco control advocates could take the step that tobacco companies are unwilling to take, and, in an attempt to inspire quitting or deter initiation, educate smokers about the chemicals routinely added to or contained in cigarettes.[9] Indeed, a recent Legacy truth advertisement (http://www.thetruth.com) takes precisely this approach. It uses a group of shirtless men to demonstrate visually the ease and speed with which a caustic chemical added to cigarettes, sodium hydroxide, removes the hair on their backs, and concludes by noting ''That can't be good for you''.

Although the market research we reviewed lends ample support to the idea that informing smokers of the chemical contents of most cigarettes results in shock and alarm, it also suggests that, for many smokers, this alarm can be allayed by a ''natural'' cigarette. Given that PM and RJR tied their introduction of additive-free brands in the 1980s to an additives controversy generated by a third party, it is probable that successfully raising smokers' awareness of chemicals in cigarettes will lead tobacco companies to introduce numerous additive-free alternatives. Even if the major US tobacco companies are ultimately barred from describing these cigarettes as ''natural'', the recent court ruling does not explicitly address the term ''additive-free''. ''Denaturalising'' *cigarettes* may, then, be of limited value as a cessation tool unless it is combined with a broader focus on denaturalising *smoking*.

Even without an additives controversy, as ''natural'' cigarettes are associated in some smokers' minds with responsible corporate behaviour, tobacco companies may be inclined to introduce natural brands as part of their burgeoning corporate social responsibility efforts.[131] Such efforts may involve expanding the current concept of natural cigarettes, with their emphasis on no additives, into ''green'' cigarettes—organic (pesticide-free), completely biodegradable, or manufactured using renewable energy. Indeed, SFNTC is already heading in this direction: several years ago, it introduced organic versions of its Natural American Spirit cigarettes, and a recent advertisement refers to the company's earth friendly growing practices and commitment to wind power and reforestation.[132] As a corporate social responsibility project, a natural or green cigarette would not necessarily have to be popular among smokers to benefit its manufacturer: it could simply provide tangible evidence of ''reasonableness'' and ''responsibility'' that would allow the company to resist regulation or establish good will with lawmakers and the public.[133]

What this paper adds

Research exploring ''naturalness'' in relation to cigarettes has focused largely on the fact that many smokers regard cigarettes marketed or self-defined as ''natural'' as safer than conventional cigarettes. Research has not explored how the tobacco industry markets cigarettes as natural and how ''natural'' marketing themes could have changed over time; smokers' views of the naturalness (or not) of cigarettes are also unknown.

This study describes how the term ''natural'' first came to describe a core aspect of cigarette brand identity in the 1950s. Smokers interviewed from 1970 to 1998 typically (falsely) assumed that ''natural'' cigarettes were a healthier alternative only when a contrast was drawn with regular cigarettes containing chemical additives. This created a marketing challenge for tobacco companies, which hesitated to highlight the unnaturalness of most cigarettes. Although this suggests an opportunity for public health advocates, educating smokers about unnatural cigarette ingredients may simply increase the popularity of ''natural,'' chemical-free cigarettes. ''Denaturalising'' smoking may prove to be a more effective tobacco control strategy.

Although the available sources of data have limited our focus to Americans' perceptions of natural cigarettes, the findings are relevant to other countries. Americans are not unique in ascribing positive, health-oriented attributes to the term ''natural''.[126 127 129 134] Indeed, American tobacco companies, such as Reynolds American, which sells Natural American Spirit cigarettes in Japan, Australia and Europe, may be counting on the cross-cultural appeal of the term to attract health-concerned smokers in those countries.[135] The fact that the tobacco company defendants in the US federal case asked the judge to be allowed to continue using the ''natural'' descriptor on cigarettes sold outside the US suggests that they consider the term to have international appeal.[136] Countries that have already banned cigarette descriptors (under the auspices of the Framework Convention on Tobacco Control or through other means) will obviously be unaffected by any US court decision, but those seeking to ban descriptors, or who have only prohibited ''light'' and ''low tar'' terminology should ensure that the term ''natural'' is explicitly added to the list.

CONCLUSION

The tobacco industry is adept at easing smokers' health concerns through such product modifications as filters and (seemingly) reduced tar.[95] American tobacco companies have understood, for decades, that ''natural'' is similarly misleading and implies unwarranted health claims. They have also understood that the most effective advertising campaign for a natural cigarette will be a cigarette ingredient controversy generated by external forces. This poses a dilemma for tobacco control, and suggests a need to direct attention to the unnaturalness of smoking itself rather than to unnatural cigarette ingredients.

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