

## CHAPTER 2

# The Art of Deluding Ourselves and Others

A man with a conviction is a hard man to change. Tell him you disagree and he turns away. Show him facts or figures and he questions your sources. Appeal to logic and he fails to see your point.

*Leon Festinger*

**I**N JULY 1992, THE MARLBORO MAN DIED OF LUNG CANCER. IN October 1995, he died of lung cancer again. And in October of 1999, he did it yet again. I remember being confused by the news of these deaths. Having grown up in the sixties, I had naïvely assumed that the Marlboro Man was a real person, some cowboy who begrudgingly tolerated a rare photo-shoot at the ranch. But now there were several of them, and they were dying. Why?

The history of Marlboro cigarettes is a marketing case study in business schools. In the 1920s, Marlboros captured only a niche market as one of the first filtered cigarettes. Targeting women with the slogan “mild as May,” their advertisements promised that the filters protected teeth from smoke-stains. But in the 1950s, researchers started claiming that cigarettes caused lung cancer, as well as heart disease, bronchitis, emphysema, and diabetes.

In response, tobacco companies downplayed and discredited the research, while each angled for a competitive edge by promoting its brand as less risky thanks to special tobacco, special filters, special production processes, and reassuring new slogans like “more doctors smoke Camels.”<sup>1</sup> Philip Morris and Company, the maker of Marlboros, hired Leo Burnett’s advertising agency to concoct a new ad campaign.

(If you've watched the *Madmen* TV series, you can picture the era and its characters.) Although their research showed that men were interested in switching to filters because of health concerns, it also showed they wouldn't switch to Marlboros because of the feminine image. Burnett's rebranding brainwave was to sidestep the health issue when targeting men by creating a masculine image of the male Marlboro smoker as a rugged, uncompromising cowboy. The risk of lung cancer wouldn't concern this hombre.

Right from the start of its 1955 advertising launch, the company noticed a strong response. In two years, Marlboro sales jumped from \$5 billion to \$20 billion. They sold well with every male profession except cowboys, who were presumably not so keen to emulate some modeler dude. In 1962, Marlboro incorporated its famous theme song (from the movie *The Magnificent Seven*) to complete the image of a mythical land of self-reliant cowboys enjoying a good-tasting cigarette, that just happened to be filtered, with the slogan "Come to where the flavor is, come to Marlboro Country." In my generation of city-slickers, this music and slogan still evokes visions of cowboys on dusty cattle drives. Allan Brandt, in *The Cigarette Century*, accurately described me and my friends in writing "children of the 1960s can sing the Marlboro jingle on cue."<sup>2</sup> By the time the US banned tobacco advertising on television and radio in 1971, Marlboro had climbed from number six in the US to number one in the world. Marlboro country had become Marlboro planet.

Some people don't know that mass consumption of cigarettes is a 20th-century phenomenon. In 1900, less than 5% of adult males smoked them (pipe and cigar use was higher). Male cigarette smoking started rising in World War I and continued to climb for 50 years, peaking at 60% in 1958. Female use rates were much lower, but then rose during and after World War II to peak at 35% in the late 1960s. With smoking rates of both genders finally declining, they converged in the 1980s and have continued down to below 15% today. While at one time almost all celebrities and politicians openly smoked, today most are discrete about their addiction.

Prior to the cigarette fad, lung cancer was a rare disease. But by the 1950s, health researchers detected a dramatic increase, especially in men. In fact, with disturbing precision, the growth of the disease tracked

the cigarette adoption rate with a two-and-a-half decade lag: rising first for males, and then for females, after a delay that perfectly matched the delay in female uptake of smoking.

As for the identity of the Marlboro Man in the ads, there had been several, some of them actual cowboys. Darrell Winfield had the longest run. A rancher before being discovered by advertisers in 1968, he appeared in Marlboro ads for the next two decades. Besieged by news of dying Marlboro men in the 1990s, Philip Morris maintained that Winfield was the only true Marlboro Man.

But this was not true. Wayne McLaren modeled briefly for Philip Morris in 1976. A lifelong smoker, he was diagnosed in 1989, at age 50, with lung cancer. He devoted the last two years of his life to a high-profile anti-smoking campaign that directly targeted the Marlboro Man. This included a TV ad showing him wasting away in a hospital bed with a commentator saying, "Lying there with all those tubes in you, how independent can you really be?" Removal of a lung couldn't stop the cancer from spreading to his brain. His death was followed by the lung cancer-related deaths of former Marlboro men David McLean in 1995 and Richard Hammer in 1999, prompting an anti-smoking campaign that branded Marlboros as "cowboy killers."

Thus, the Marlboro Man is famous and infamous: a symbol of the triumph of creative advertising, but also of the ability of clever corporations, using enormous financial resources, to convince people to ignore risk. The experience with cigarettes, and especially Marlboros, has important lessons that go beyond the risks from smoking.

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In the 1950s, the tobacco industry created the Tobacco Institute and the Tobacco Industry Research Committee. These entities played a prominent role in the 'smoking war' of the 1950s and 60s, as industry tried to sustain sales by thwarting challenges from scientists first, then activists, then the media, and then government regulators. The standard technique was to publicly downplay the scientific findings while privately funding research to create doubt about its validity. A key strategy, as Richard Kluger noted in *Ashes to Ashes*, was to present scientific findings as "just a theory."<sup>3</sup>

By 1959, with its 'alternative' research churning out diversionary studies, the Tobacco Institute was able to release press statements claiming that scientific evidence conflicted with the tobacco-smoking theories of lung cancer. It wasn't necessary to completely refute the scientific evidence. Creating doubt was sufficient. Surveys showed widespread public uncertainty on the issue, even though independent scientific research was by then consistently verifying the strong link of smoking to lung cancer. Scientists had reached a consensus on the causal relationship, although there remained lots of uncertainties on specific aspects of the risk.

The surveys also showed how some people's propensity to believe independent scientific research depends on their financial self-interest or their personal convenience. Those professionally involved in the tobacco industry were less likely to accept that cigarettes cause cancer, even if they accepted scientific evidence in most other aspects of their lives. Smokers were also biased. If you were addicted to smoking, if your self-image involved smoking, you were less likely to believe the science. It was too inconvenient.

A 1954 survey found that while 49% of non-smokers believed smoking caused lung cancer, only 31% of smokers did. Remarkably, this pattern was found even among doctors, a profession that relies directly on scientific health research. While 65% of non-smoking doctors accepted that smoking caused lung cancer, only 31% of smoking doctors did – the same percentage as smokers among the general public.

But while the tobacco industry continued its doubt-sustaining campaign, health advocacy groups made steady progress in pushing the policy agenda. In 1964, the US Surgeon General officially accepted the scientific evidence that smoking can cause lung cancer. New US regulations prohibited sales to minors and banned advertising on TV and radio. Cigarette taxes were increased to deter consumption. Governments introduced educational programs in schools, public service ads on TV and radio, and danger labels on cigarette packages, some in horrifically graphic detail. Over time, views about the science gradually shifted.

Figure 2.1 summarizes several decades of Gallup polls asking people if they believe smoking causes cancer. It suggests that the government regulatory and educational policies of the 1960s had a significant effect.

Year	Believe smoking causes cancer (%)		
	Smokers	Non-smokers	All
1954	31	49	41
1958	33	54	45
1969	59	78	71
1981	69	91	83
1998	88	93	92

**Figure 2.1** Smoking and cancer beliefs

In the 11 years from 1958 to 1969, Americans making the connection vaulted from 45% to 71%. Since 1998, more than 90% of Americans accept that smoking causes lung cancer, which is probably as good as can be hoped given the percentage of die-hard contrarians in any population.

Notice the longevity of the gap between the left and center columns. Smokers and non-smokers heard the same evidence from scientists, government, and anti-smoking advocates since the 1950s. But they also heard from the science-denial campaign of the tobacco industry. As psychologists explain, the health risk information was disquieting for smokers, so more of them were willing to disbelieve the legitimate science. A gap of 20 points between the beliefs of smokers and non-smokers continued for four decades as the US government and anti-smoking advocates tried to counter the campaign of the tobacco industry. The gap only closed to 5 points in the 1990s, by which time almost everyone had accepted the science.

That it took four decades to overcome the science-denying campaign is alarming news for those who hope to see our society accept and act upon scientific information about climate change. But there is some good news in this story. We didn't have to wait for everyone to accept the science before government acted in the 1960s and 70s. Although there were still a lot of skeptics, a growing coalition of scientists, anti-smoking advocates, and smoking-concerned politicians stood up to the tobacco industry and finally implemented effective policies. Gradually, these efforts helped bring public views into alignment with scientific views.

Today, the inconvenience of quitting is counter-balanced by the inconvenience of finding a comfortable place to smoke, often huddling outside in a cold alcove trying to avoid rain and snow. This reversal of inconvenience occurred because governments finally acted on a second volley of scientific research showing that non-smokers face a health risk from second-hand smoke. Governments were helped in this effort by the growing militancy of non-smokers in their demands to work, play, travel, and reside in smoke-free environments. Once again, these efforts were resisted by the tobacco industry.

This second smoking war emerged in 1986 when a report by the US Surgeon General concluded that second-hand smoke also caused lung cancer. The tobacco industry replicated its earlier tactics, this time with even greater financial resources and sophistication. As explained by Naomi Oreskes and Erik Conway in *Merchants of Doubt*, the Reynolds Tobacco Company hired Fred Seitz, a physicist who had helped build the first atomic bomb, to distribute \$45 million in the 1980s to biomedical research that might reveal the many other factors besides second-hand smoke that could cause lung cancer and other lung-related illnesses for non-smokers. The public relations departments of tobacco companies used this research to cast doubt on statements by scientists, doctors, and the US Surgeon General. It provided ammunition for what Oreskes and Conway describe as “successful strategies for undermining science, and a list of experts with scientific credentials available to comment on any issue about which a think tank or corporation needed a negative sound bite.”<sup>4</sup> These tactics helped to delay action on the legitimate scientific findings until 1992, when the US Environmental Protection Agency finally ruled that second-hand smoke causes lung cancer.

The smoking wars reveal a lot about the connection between self-interest, delusion, and risk. Thanks to the tobacco industry's determined, well-funded efforts, public acceptance of the scientific consensus on the health risks of first- and second-hand smoke took decades longer than it should have, delaying policies that would have saved millions of lives. The ‘undermine-the-science-to-delay-policy’ strategy of the tobacco companies ensured massive profits for decades.

As David Michaels notes in *Doubt Is Their Product*, the lessons for other industries facing similar threats would not go unnoticed.<sup>5</sup> People's

willingness to be deluded for reasons of self-interest and convenience is an exploitable trait for those seeking to protect the profits of an industry engaged in harmful activities.

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Researchers try to determine when and why humans delude themselves, and when and why they don't. In *Brain and Culture*, Yale psychologist, Bruce Wexler, detailed how the brain's neurological development is partly determined by genetics and partly by our social-environmental experiences, especially those occurring early in our lives.<sup>6</sup> Once our neural structures are developed, mature individuals increasingly pursue and create experiences that reinforce the way their brain sees the world, while rejecting, downplaying, or ignoring information that is at odds with this vision. In short, we get stuck in our ways.

This doesn't mean, however, that humans are incapable of adapting their vision of the world, especially when experience shows us that this may be necessary for survival. While the initial responses to the plagues sweeping Europe in the Middle Ages emphasized prayer in hopes of being spared God's wrath, some townspeople augmented their prayers with campaigns to eradicate rats and quarantine the sick. When this seemed to help, people adapted their views and their practices. They did not stop praying to God and giving thanks when spared from the plague. They simply integrated an effective harm prevention practice with their existing spiritual beliefs because these latter served additional purposes. History is replete with such examples.

Thus, we shouldn't assume that our views about the world, and especially our behaviors, can never change in response to counter-evidence. Rather, we should think about our brains as balancing what they experience with what they want to see. As D. Gilbert said in *Stumbling on Happiness*, "To ensure our views are credible, our brain accepts what our eyes see. To ensure that our views are positive, our eyes look for what our brain wants. The conspiracy between these two servants allows us to live at the fulcrum of stark reality and comforting illusion."<sup>7</sup>

This is how self-help authors and motivational speakers earn a living. They try to help people modify their views to better accord with reality. The consumer lifestyle of many people far exceeds their income, leading

to unsustainable levels of personal debt. With help, some overcome their unrealistic views about what they can afford to buy, and develop restrained consumer habits. Many people want to accomplish more, but lack motivation. With help, some become more realistic in linking daily activities to personal and career goals.

While psychologists work on individual misperceptions, social psychologists, sociologists, and anthropologists study collective delusions. In the 1950s, Leon Festinger and colleagues studied the Seekers, a cult that believed it was communicating with aliens, one of whom was the reincarnation of Jesus Christ.<sup>8</sup> Channeling through one of the Seekers, the aliens set a precise date for the end of the Earth – December 21, 1954. The Seekers believed that they alone would be rescued by a space ship. When the date passed uneventfully, Festinger observed that instead of abandoning their beliefs in the face of this refuting evidence, the group soon constructed an explanation to sustain their delusion: the planet had been spared because of their devotion. They became more convinced than ever in the validity of their beliefs, and the reinforcing effect of like-minded thinkers made denial and delusion that much easier. It was from observations like these that Festinger developed the theory of cognitive dissonance, which explains ways that people deal with evidence that contradicts what they believe.

Indeed, how we perceive reality as a group can be scarier than our perceptions as individuals. Having the people we trust reinforcing our distorted view of reality makes it even more difficult for us to recognize and accept contradictory evidence. But wasn't the advance of science supposed to change all of this? Are we not now living in an evidence-based society in which we modify our collective worldviews according to the latest understanding generated by scientific inquiry? Isn't collective delusion diminishing thanks to science?

There is no doubt that critical thinking and scientific processes have unleashed an amazing dynamic of human comprehension and mastery of the physical world. Think of the risks to human health from first- and second-hand smoke. Independent scientists began to detect a causal relationship. Soon other scientists were trying to verify or refute this interpretation of the world. Their work reinforced the emerging understanding that smoking is indeed a cause of lung cancer. Critical thinking,



research, and scientific processes lead to an advance in human knowledge that could improve health, if acted upon.

But then what happened? Those whose financial self-interest would be harmed by this new understanding – the tobacco industry – raised doubts about the science, or at least its perception by the public and government. And those whose lives would be inconvenienced by this new understanding – smokers – became less likely to accept the findings from independent scientists and more likely to embrace information that undermined it. And like the Seekers, these interest groups reinforced each other's skepticism, inoculating themselves against the external threat from science.

This is how the collective human propensity to delude plays out repeatedly in a world that otherwise appears to accept the validity of independent scientific inquiry. People are generally open to the findings of science, but less so when those findings conflict with their financial interests or lifestyle. Those whose financial self-interest depends on fostering delusions that disagree with the findings of science are well aware of this all-too-human propensity, and increasingly adept at exploiting it. And as investigations of the smoking wars showed, this new field of creating and sustaining delusion became as sophisticated as the disinterested scientific processes it sought to subvert.

A key tactic is to find scientists who for some reason reject the emerging consensus on a given issue. Some of these individuals may be contrarians by disposition or may hold their convictions deeply based on their unique interpretation of evidence. Some may be enticed by research funding or personal income from the corporations that finance them. Some may be high-profile scientists with expertise in a different field, who nonetheless enjoy presenting themselves as experts in other fields. Oreskes and Conway chronicled in *The Merchants of Doubt* how the same few scientists brazenly presented themselves to the US media and policy-makers as experts on smoking and cancer, then the ozone layer, then acid rain, and then climate change.

A second tactic is to focus on areas of scientific disagreement and present these as critical to the whole enterprise. Even in areas of broad agreement, the nature of science is to focus on uncertainties, no matter how trivial. The resulting scientific debates and uncertainties can appear

to the public and media, if presented in the right light, as fundamental problems. Scientists agree that tobacco smoke contains chemicals that can damage DNA to trigger cancerous cell growth, and that smoking spreads these toxins into your lungs and then through your body. But they continue to research and debate the details of this process. The trick is to present this ongoing research and debate as proof that scientists are still uncertain about the underlying causal link between smoking and cancer.

A third tactic is a well-known technique in debate called 'poisoning the well.' This involves finding some reason to question the credentials of the scientists whose research confirms the harmful causal relationship. This happened during the tobacco wars. As we shall see in the next chapter, the practitioners of science confusion also applied this technique with climate change.

I conclude this brief chapter by reiterating that while I have only an amateur reader's understanding of research on human bias, I believe that we natural scientists, engineers, and economists who work on the climate-energy challenge need to better understand research by the disciplines that probe this subject and we must integrate its lessons into our work. We cannot afford to stay in our silos. We know why society must act. We know the few actions which are absolutely essential. But we don't think enough about how we make those actions happen. A critical task is to help our fellow citizens see through the delusionary techniques of those who don't want action.