Framing Science

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In 1998, a national $206 billion lawsuit settled against four tobacco companies, the Master Settlement Agreement, provided the funding to launch a series of anti-smoking television commercials. This series, called the "truth," launched in 2000 and became one of the largest and most effective anti-smoking campaigns in American history. Out of nearly 100 ads in the series, which still continues today, a 30-second spot called "Body Bags" stands out.

Here's the scene: Vans pull up outside the corporate offices of an unnamed tobacco company. Teenagers pile out, dragging body bags and dumping them on the sidewalk in front of the offices; 1,200 body bags, the ad tells us. A teen shouts into a loudspeaker: "Do you know how many people tobacco kills every day?" The camera catches a curious corporate suit peering out the window to the kids below. "You know what?" the teen says looking up, "We're going to leave these here for you, so you can see what 1,200 people actually look like." Cut to an overhead shot of the body bags covering two city blocks. Sound of wind blowing. Fade to black.

Around the same time that this commercial aired, Philip Morris decided to launch its own series of anti-smoking ads geared to youth. Their ads, which featured clean-cut, dutiful looking teens, gave a simple and clear message: "Think. Don't Smoke."

The "truth" ads have been enormously successful and the Philip Morris ads were a total flop (at least in terms of public health; whether in that failure they succeeded in advancing the company's corporate health is for another time). Research by Matthew Farrelly, director of the Public Health Research Program at Research Triangle Park, published in the *American Journal of Public Health* in 2002, showed that teens who saw the "truth" commercials were 66 percent less inclined smoke and those who saw the "Think. Don't Smoke." campaign, were 36 percent more inclined to smoke (see above comment).

While no formal study parsed the magic ingredients that made one ad work and the other "fail," many communication experts, and lay people for that matter, saw some obvious characteristics. The "truth" simply tapped into what motivates teenagers. An ad that has a slight anarchistic vibe, with a message that goes up against big corporations, all packaged in a fast-paced, gritty and edgy film clip, will catch the eye of rebellious teens. The Philip Morris ad, on the other hand, tells the teens, in a lecturing manner, to do something no free-spirited emotional teen wants to do: "think." You can almost see teenagers rolling their eyes.

But is it the match of the teen personality with the imagery in the "Body Bags" ad that makes it so effective? Or is it the fast editing cuts, the tee shirts they wore, the words "body bag," or even the negative frame of death? No one can say for sure.

"The field doesn't have a consensus on messaging," says Noel Brewer, University of North Carolina.

"We know some of the rules, but most are disconnected."

"If the principles of psychology were a series of main effects – meaning that x works better than y – rather than more qualified statements that reflect interactions between variables, then we wouldn't need a science of human behavior to deduce them," explains Peter Salovey, Yale University. "They'd be obvious."

So scientists study the seemingly infinite number of interdependent variables that affect persuasive messaging. Of course, there are some well-known characteristics. First, a message needs to grab attention. It must also be easy to understand so the audience actually "gets" it. Beyond that, the content must be personally relevant and give the viewers reason to think or talk about it. Ultimately though, none of this signals success until the audience is motivated and has the means to act. And all the while, these requirements must be interwoven with a person's cultural, social, and even genetic background.

"I think the challenge inherent in campaigns is that there are lots of characteristics going on simultaneously," says Jeff Niederdeppe, University of Wisconsin, who has published work with Farrelly on the success of anti-smoking campaigns. "In the real world, it's hard to isolate exactly what it is that makes an ad effective."

Nevertheless, over the last three decades research has provided data that help map the path to a successful message. Add to this traditional research the newfound potential for personalization via the Web, cell phones, and virtual worlds – and the science of persuasion is poised for a leap in innovation.

Routes to Success
One theory forms the backbone of most persuasion studies. The elaboration likelihood model outlined by Richard Petty and APS President-Elect John Cacioppo in 1986 proposes two routes a message can take in terms of changing a person's attitude and behavior. One is the central route, which requires careful scrutiny of an argument presented in a message and appeals to people who enjoy thinking through the logic of statements. If the message is presented by a credible source and forms a strong logical argument, then persuasion will be likely according to the model. The other option is the peripheral route, which relies less on critical thinking and more on the overall feeling one gets from the message. Is the character in the message likeable? Is there a catchy slogan? Is the presentation of the message just plain cool?

Consider the "Body Bags" ad against the backdrop of the elaboration likelihood model. The ad's intense graphic images and quick sound bites, with no puzzle to think through, most likely take a peripheral route in grabbing the attention of teens.

The Philip Morris tagline, "Think. Don't smoke," cries out for rational thought, and so appeals to the central route of persuasion. But this central route might not be enjoyable for a 13-year-old who hasn't yet mastered self-analysis. How many parents have asked a child what were he or she was thinking when the child did something wrong (like say, take the car without permission) and in response got a shrug of the shoulders and: "Uh, I don't know …it just happened."

If Philip Morris had focused on what teens could gain from not smoking maybe the ad campaign would have made headway. One of the most definitive theories in framing health messages comes from the

work of Salovey and Alex Rothman, University of Minnesota. They completed numerous studies in the late 1990s confirming the effectiveness of what they call gain- or loss-framed messages. According to their research, if you want to persuade someone to take on a preventative behavior, like condom use, then the most effective message will be one that highlights the benefits of using condoms. But if you want to convince someone to engage in the detection of a disease or other illness, like an HIV test, then the best message is one that focuses on the negatives or loss involved in not getting tested.

"It's all about an interaction between the framing of a message and the perceived risk involved in a behavior," says Salovey. "The frame is conditional on the situation, and rarely is only one single variable involved."

A bit of background sheds light on how this works. Salovey and Rothman's work grew out of a Nobel Prize-winning model of decision making called "prospect theory," developed by Daniel Kahneman and Amos Tversky in 1979. The model shows that people are more likely to take risks when they are given options in terms of losses, but less likely to take risks when they are shown options in terms of gains. For instance, if people are forced to choose between the following: a 50 percent chance they will lose $100 but a 100 percent chance they will lose $50, they tend to go with the first, more risky, option. Conversely, if people are faced with a "gain frame" choice: a 50 percent chance they will win $100 or a 100 percent chance they will win $50, they tend to go with the latter, less risky option. Basically, people tend to take risks when there is something to lose, but tend not to take risks when there is something to gain.

Nearly all health communication can be framed either as a gain or a loss, say Salovey and Rothman. They, along with fellow researchers in a variety of studies, have shown success with this model in changing health behaviors, from wearing sunscreen to getting a mammogram. Wearing sunscreen is a preventative measure and so is generally considered low risk, because there is a certain outcome: sunscreen will protect you from the sun's harmful rays. So the message should be pitched around the benefit (i.e., the gain). Going for a mammogram, or any detection test for that matter, is considered high risk because it is inherently uncertain: a mammogram might reveal a deadly tumor. A message to persuade people to take a mammogram (i.e., expose themselves to psychological risk) should emphasize the risk of very serious loss from failing to take one. This pattern, along with the prospect theory of how people deal with risk, provides a guideline for message framing.

"The interesting thing is that everyone has a knee jerk reaction to what they think will work for a persuasive message," says Salovey. "But their intuitions are usually not right."

Whether one sees the behavior as low risk (sunscreen) or high risk (mammogram) will dictate what kind of message, either loss-framed or gain-framed, should be used. A recent study by A.M. Apanovitch,who now works in the commercial industry, published in *Health Psychology,* illustrates the point. They gave nearly 500 women two kinds of messages to persuade them to get tested for HIV. One message framed HIV testing as a positive thing, something that would bring peace of mind. The other message framed HIV testing in more negative terms, stating if they did not get tested, bad things would result, (i.e., they might be spreading the virus or not getting the care they need). For those women who viewed HIV as a low risk, with a fairly certain outcome, the more positively framed message was more effective. For those women who saw HIV testing as uncertain and high risk, the negatively framed message was more effective.

The challenge for the real world of course, is to accurately know how people view a behavior. A person who regularly flosses could see a dental visit as something routine and preventative, nothing to really worry about. But someone delinquent in flossing could see the same visit as terrifying, because of the risk of finding plaque and cavities.

"We need to know what's motivating their behavior," says Beth Meyerowitz, professor of psychology and preventative medicine, University of Southern California, who published numerous papers on loss/gain framing in the late 1980s. "It's complex. There are a lot of variability and individual differences in terms of the recipients of the message."

It is precisely this kind of variability that has led experts in communication and social psychology to start thinking more about the difference between "targeting" large groups versus "tailoring" to specific individuals. Targeting messages involves segmenting people into homogenous groups and then developing a message that speaks to that group. Tailoring, on the other hand, requires an assessment of an individual's characteristics, and then creating a specific message solely suited to that person.

"Traditionally in health education and health psychology everyone used targeting," says Seth Noar, University of Kentucky. "Then tailoring emerged in the 1980s, and the literature exploded during the 1990s when James Prochaska came out with the big concept of 'state of change.' He changed the paradigm."

Prochaska developed a state model to describe behavior change, and showed that if we want to influence someone's behavior we have to look at what state of change a person is in, and how motivated they are to change in the first place. Constructing unique messages that relate to an individual's behavior pattern would seem the best way to solve the problem of variability along the continuum of change. Just like tailored suits far surpass the mass-market designs from department stores, a message that's made just for you ought to be of such impressive quality the results are successful and lasting.

But so far in the academic world, there is debate on whether targeting or tailoring is best for persuasive messaging. "There is evidence that tailoring works, at least a little bit better than targeting, but the evaluations have mostly been between tailored messaging and nothing, not tailored messages and targeted messages," says Noar who recently completed a review of over 60 studies on mass media campaigns, published in the *Journal of Health Communication*. "The question remains: Is that little bit of improvement worth all the trouble and cost of getting the assessment of the individual, and then tailoring individual messages to match that assessment?"

It's possible that the exponential growth of computer power may soon help make this debate obsolete. Increasingly extensive databases and complicated algorithms could take care of the cost and time worries involved in the current tailored campaigns. Already in the commercial world, the personalized recommendations one finds on Amazon.com or Netflix are classic examples of successful tailoring.

In the academic realm, recent persuasion studies are starting to harness the power of the Web. Deborah Tate, University of North Carolina, published work this year in the *Archives of Internal Medicine,* that pitched Web-based, computer-tailored messaging against general messaging. The goal was to get an obese population to lose weight, and the results were striking. Messages tailored to individuals led to significantly more weight loss than those targeted to a group (in Tate's study messaging was delivered

through the SlimFast Web site).

The computer-tailored messages, which were created via a database, were based on the person's stage of weight loss, motivation, exercise schedule, etc. Tate further showed that in the first three months, these tailored messages, sent via email, were as effective as human counselors, who needless to say, provide the highest form of tailored messaging one could receive. Slowly though, over a six-month period, the human counselors won out over the computer-based messages.

"With the same behavior pattern there was a chance of receiving a repeated message from the computer," says Tate. "We need to understand more about the variables and then broaden the library [database]."

To receive repeated messages might lessen the impact of "tailoring," since the message is no longer perceived by an individual as specific to them.

Digital You
And there are also those on the absolute edge of technology's limits who are producing some mind-boggling results in persuasion. Imagine a future where a digital you is persuading the real you; where a communicating clone could become a new advertising medium. The words of the late media sage Marshall McLuhan, could not ring more prophetic: it seems the medium has, literally, become the message.

Consider the work coming out of Stanford's Virtual Human Interaction Lab. Jeremy Bailenson is working there on how framing a message using an "avatar" or digital representation of ourselves, can have a profound influence on our decisions and behavior. This work is premised on the long-held view that we tend to be influenced by those who are similar to us in looks, values, education, even tone of voice. "It's the old idea that people love themselves," says Bailenson.

Before the last presidential election in 2004, Bailenson and his colleagues sent out digital photographs of George Bush and John Kerry to 200 voters. But a third of the subjects received photographs that had features of their own face digitally morphed onto Bush's face so subtly it could not consciously be detected. Another third of the subjects received photographs that had their face morphed onto Kerry, again below the level of conscious awareness. The last third simply received unaltered photographs of both Bush and Kerry. Then a week before the election, they asked the subjects to vote. The subjects who were previously undecided were significantly more likely to vote for the candidate whose face had been morphed to resemble theirs.

"Capitalizing on human beings' disposition to prefer faces similar to their own, we manipulated the outcome of the presidential election by a double digit margin," writes Bailenson in the July/August 2006 issue of *Science & Spirit.* "In a world where people are digital – photos, videos, streaming audio – the ability to capture or manipulate a person's identity has arrived."

Jesse Fox, currently one of Bailenson's graduate students, is studying the persuasive effects of digital clones. For instance, Fox creates a digital clone of a person, and then has the person watch a video clip of the clone doing things s/he's never done before, like bungee jumping or public speaking. The thinking is that watching ourselves do things we've never done might just influence us to start doing

them in real life.

"This is based on the notion that when we imagine doing something, it becomes more feasible in our minds that we have already done it, or that we will do it in the future," says Bailenson.

Two books translate the science of persuasion to offer guiding principles we can use when we want to harness the power of influence for ourselves. (Or catch the moment when we are being persuaded by someone else.)

INFLUENCE – ROBERT CIALDINI
Robert Cialdini, professor of psychology, Arizona State University, published *Influence: The Power of Persuasion* in 1984, and it has since become one of the definitive books on persuasion. Cialdini, by his own admission, has been a "patsy" all his life. "I've been an easy mark for the pitches of peddlers, fundraisers, and operators," he writes. He wanted to become immune to these professional persuaders. So Cialdini posed as a sales trainee and went inside advertising, public relations, and fundraising agencies to study the sales tactics of the commercial industry.

Influence is organized in six categories, each considered a vital ingredient to get people to act in a certain way: 1) consistency: we tend to follow through with things that we have publicly committed to; 2) reciprocation: we tend to do things for another person when we think that person will repay us with an equally valuable favor; 3) social proof: we comply if others around us are doing the same thing; 4) authority: we tend to trust people we think are experts; 5) liking: we prefer to say "yes" to those we like; 6) scarcity: following the economic rule of "supply and demand," we desire those things that are less available.

MADE TO STICK – CHIP AND DAN HEATH
Made to Stick, which hit the shelves this month, also breaks down findings from research and life experience into six characteristics of effective communication. But the authors Chip Heath, professor of organizational behavior, Stanford University and his brother, Dan Heath, a consultant for Duke Corporate Education, focus on why certain messages succeed and others fail. "What makes urban myths so compelling? Why do some chemistry lessons work better than others? Why does virtually every society circulate a set of proverbs?" they write in the first chapter. Citing academic and commercial research, each chapter describes a quality that is common to all highly effective stories, narratives, and communication ideas, ones that, to use their term, "stick." They are: 1) simplicity: the message should be as brief as possible but still be profound; 2) unexpectedness: the message should surprise the audience so that they pay attention; 3) concreteness: the message should not contain meaningless jargon, but rather use concrete details and examples that are based in real experience; 4) credibility: like Cialdini's reference to "authority" the message should be delivered by a trustworthy source; 5) emotions: the message should make the audience feel something; 6) stories: the message should be in a narrative form, something that can be retold and imagined. The Heath brothers acknowledge that some of the principles are commonsensical, but in the book they also reveal the more elusive and subtle reasons for why so many ideas fail – and so give readers insight into the skill of those who create home-run messages.