commoditisation." Perhaps this is also true for the field of genetic testing?

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The Dilemma in Regulating Drug Advertising: Propositional Versus Nonpropositional Content

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Biegler and Vargas (2013) offer strong empirical evidence for an effect that was probably well understood by the Madison Avenue advertising culture in the mid-20th century, namely, that images are sometimes more powerful shapers of human behavior than words. The power of images has reached such a high point in advertisements that for some there is no dialogue, only visual content. Often the images do not even relate to a product, only a brand name.

The authors distinguish between the propositional and nonpropositional content of advertisements. After reviewing the sociopsychological research on the role of nonpropositional content of social media in shaping human behavior, the authors apply this knowledge to pharmaceutical advertising. Their argument goes as follows:

- The Food and Drug Administration (FDA) has legislative authority and mandate to regulate pharmaceutical advertising to insure that it does not make false or misleading claims about drugs and that it presents risks and benefits in a balanced manner.
- Historically, the FDA has focused exclusively on the propositional content (statements) in drug advertising.

- The nonpropositional content of drug advertising plays a more significant role in shaping human behavior than the propositional content and therefore can, through imagery, mislead consumers or distort their true interests
- Society must quantify the evaluative conditioning effects of imagery in drug advertisements, and if they induce unjustified beliefs about drug properties, these effects should be neutralized.

Their argument is cogent and persuasive. Moreover, anyone who has watched drug advertising on prime-time television cannot help but appreciate the cognitive dissonance that I and others experience with the pleasant soft-spoken voice listing the drug's possible side effects (as required by the FDA) against a visual backdrop of healthy, happy, youthful, optimistic people enjoying their lives and carousing amid natural beauty. The message is that the advertised drug is responsible for their health and optimism. The drug has solved whatever medical problem they have, whether it is high cholesterol, allergies, erectile dysfunction, or arthritis. The spoken word and the visual images are in direct conflict.

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Typically, social science informs us, the cognitive dissonance is won over by the imagery.

Only the spoken word is addressed for balance and veracity by FDA. Given what is known about the conditioning of human behavior from visual cues, what value can the statements of side effects have to consumers? Here I feel the authors are right on target: "There is, unfortunately, scant research on the capacity of humans to resist the persuasive effects of evaluative conditioning" (meaning nonpropositional content). When TV viewers see the drug ads, what goes into their minds when they hear the dreaded side effects of some drugs against the positive imagery of health and well-being and the uplifting music that reinforces those images?

The authors describe the nonpropositional elements in the advertising as "evaluative conditioning." But how can a regulatory agency, like the FDA, responsible for overseeing and judging the veracity of propositional content, judge the extent to which images and music affect the ability of consumers to make reasoned and autonomous choices? The issue arose in the United States when the U.S. Congress approved in 1995 direct-to-consumer advertising (DTCA) of prescription drugs, a practice that has not been accepted in the vast majority of industrialized nations.

"Ban the Sunset?" presents a credible case that "evaluative conditioning in DTCA has significant potential to compromise the autonomy of medicine choices." Since 1980 the regulatory oversight by the federal government has been downsized in favor of a consumer information and preference model of managing risks in food (labeling) and drugs (patient package inserts). By expanding information and increasing consumer choice, Congress sought to reduce the long arm of government in the regulation of consumer products. As the authors note, the FDA is well aware that images can trump the proposition content of a message. In its most recent revisions of the DTCA rules, FDA writes that drug advertising cannot use "headline, subheadline, or pictorial or other graphic matter in a way that is misleading" (21 CFR 202.1). There is no mention of the use of music as a distortive behavioral conditioner. FDA gives no indication of how it evaluates whether images are misleading. While it is acknowledged and proven that images and music can distort rational consumer choice—that pictures can trump propositional content—what can be done about it? There are several possibilities.

First, the government can put an end to DTCA and that will make the problem moot for prescription drug advertising. It has been argued that drug ads by pharmaceutical companies cannot be properly regulated and therefore should not occur. The trend in the United States is moving

in the opposite direction. Drug companies are now lobbying for the right to advertise drugs for off-label uses on First Amendment grounds.

Second, Congress can require the FDA to regulate non-propositional content. The agency would have to decide whether certain images and music distort and override the propositional messages regarding drug side effects. But this is problematic. Any criteria chosen for making such judgments would be highly contestable. An FDA administrator would have to rule on whether an image fosters unjustified beliefs about drug safety or efficacy, in other words, whether it crossed the acceptable threshold of "evaluative conditioning." Images and music cannot be reduced to the criteria we apply to propositions: true, false, exaggerated, not backed by evidence, unproven.

Images and music are pleasing, comforting, discordant, stressful, threatening. How will regulators be able to decide which images or music to reject in an advertisement in order to ensure that the consumers retain their full autonomy? Will the government have to produce its own dictionary of positive and negative valence images and musical sounds? This may be an insurmountable barrier.

Third, a middle-of-the-road option is to prohibit any music or images during the time in an advertisement when side effects are presented. In this option, there would be no competition between the propositional and nonpropositional content of that part of a drug ad that refers to risks or side effects.

Fourth, consumers can be taught not to watch drug ads and if they do, to dismiss them as propaganda. Teaching consumers to combat false messages of advertising has been a failure. It did not work for cigarettes and for fast food. There is no reason to believe it would work for drug advertisements.

The authors have shown that social science can be extremely valuable to policymakers who need to understand whether their communications and the communications of drug companies to the public are protecting or enhancing the autonomy and rational behavior of consumers rather than subverting or channeling it away from the factors of relevance. While I am in full agreement with Biegler and Vargas's diagnosis of the problem, their suggested options for solving the problem don't take us toward a convincing policy alternative.

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