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Going Viral: Vaccines, Free Speech, and the Harm Principle

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University of Oxford

ABSTRACT

This paper analyzes the case of public anti-vaccine campaigns and examines whether there may be a normative case for placing limitations on public speech of this type on harm principle grounds. It suggests that there is such a case; outlines a framework for when this case applies; and considers seven objections to the case for limitation. While not definitive, the case that some limitation should be placed on empirically false and harmful speech is stronger than it at first appears.

In December 2014, an outbreak of measles erupted at Disneyland theme park in Anaheim, California, United States of America. By mid-January, the virus had spread north to San Francisco, infecting (thus far) at least 70 people across the state. (Chang 2015).

Measles is a highly contagious airborne disease that typically manifests itself in a red splotchy rash that covers the entire body and is often accompanied by a fever and cough. In certain cases, however, measles is much more dangerous. Persons with weakened immune systems—such as those afflicted with HIV or AIDS—are much more susceptible to the disease, and the measles mortality rate is significantly higher in developing nations. According to the World Health Organization, approximately 145,700 persons died from measles worldwide in 2013. (WHO 2014)

According to public health officials, the best way to stop the spread of measles is to receive a vaccine shot—an inert sample of the virus that effectively trains the body’s immune system to resist the real thing. Prior to the start of the United States’ national measles vaccination program in 1963, that country reported between 3 and 4 million cases of measles annually. Of persons infected each year, between 400 and 500 died and approximately 48,000 were hospitalized. Thanks to intensive national vaccination efforts, however, the measles virus has been considered eradicated in the United States since the year 2000. (Centre for Disease Control and Prevention 2015)

So why is measles back?

The answer can largely be traced not to a new or mutant form of the virus, but to the spread of something much more difficult to combat: false information.

Antivaccination campaigns now pose a threat to public health efforts around the globe. Such campaigns are sometimes grounded in objections based on religious, philosophical or ethical grounds. Frequently, however, they are based upon the distribution of incorrect empirical information about vaccines themselves.

In 1998, research in *The Lancet*, a British medical journal, appeared to demonstrate a link between the MMR vaccine—the vaccine most frequently given to children to prevent measles—and increased autism rates in children. The editor-in-chief of the British Medical Journal (BMJ) announced in 2011 that this research had been found to be fraudulent, (Godlee et al 2011) and the paper’s lead author was found guilty of professional misconduct and barred from practicing medicine in the United Kingdom.

By then, however, it was too late. MMR vaccination rates dropped significantly in the United Kingdom after the fraudulent *Lancet* article was published, from 91 percent in 1998 to 80 percent in 2003. The number of new measles cases rose accordingly, from 56 in 1998 to 1,370 in 2008. (Flaherty 2011) By 2008, the disease was endemic to the UK, a country in which it had once been eradicated. (Batty 2009) Professor Dennis K. Flaherty of the University of West Virginia has called the vaccine-autism scare perhaps “the most damaging medical hoax of the last 100 years.” (Flaherty 2011)

“Despite the overwhelming evidence of the safety and effectiveness of the MMR vaccine,” continues Professor Flaherty, *“the vaccine-autism connection gained traction on the Internet and was perpetuated by print and television media eager for increased circulation or higher ratings. Entertainment shows contributed to the controversy by offering vaccine-autism connection proponents a platform to make*

their case, largely unchallenged. By 2009, 1 of 5 parents in the US believed that vaccines cause autism in otherwise healthy children. Moreover, 10% of parents in a study published in 2010 were refusing 1 or more newer vaccines for their children.”
(Ibid)

What may the state do about all this, if anything? Certainly, few people doubt that the state may permissibly spread correct information as widely as possible, or fund public health vaccination programs to encourage wider uptake of vaccines.

But what if these strategies prove to be insufficient in convincing the public of the safety of vaccination, and hence ensuring that a sufficient number of persons are in fact vaccinated? May the state justifiably limit the free speech of anti-vaccination campaigners, and if so, on what grounds might it do so?

Anti-vaccination advocates have already begun to stake out a principled free-speech argument in favor of their cause. When every venue in Australia at which she had hoped to speak canceled her invitations in January 2015, anti-vaccine campaigner Sherri Tenpenny’s organization replied that this tactic amounted to “bullying by vested interests who do not believe in informed consent, free speech and respect for other’s rights, and who appear to support censorship of thought and science.” (Medew 2015)

Persons conditioned to believe in the inherent value of free speech—myself included—are often inclined to agree with Tenpenny that limiting speech in this way is not permissible. I believe the public has in mind here some form of Mill’s harm principle—that actions which do not harm others should not be limited by the state—combined with some sort of belief that speech acts do not “cause harm” in a morally relevant way.

In this paper, I will argue in favor of the following proposal: even under a conventional and philosophically libertarian version of the harm principle—a version that restricts state action to limit the liberty of individuals to cases in which the exercise of that liberty causes suitably *direct physical* (not emotional or psychological) harm—the state has sufficient normative grounds to limit the free speech of anti-vaccine campaigners who spread empirically false information. I use the vaccine case only as a currently relevant and clear real-world example; I do not claim that there is anything normatively unique about anti-vaccine campaigns specifically, and I of course extend the argument to any persons who engage in normatively equivalent acts of speech. Importantly, I do not consider whether the state might limit speech on the

grounds that it causes psychological offense or constitutes “hate speech,” although there is a significant literature regarding this question and employing it would make my argument easier.

In the course of stating this normative case for state action to limit speech under certain circumstances, I will consider and reject several arguments to the contrary, as follows.

Objection A: Speech acts cannot cause harm.

Objection B: Speech acts can cause harm, but the harm is too indirect to warrant state interference.

Objection C: The presence of human intermediaries in the causal chain that leads from information distribution to the harm caused requires us to place responsibility for the harm caused with the human intermediaries located proximately closest to the harm, not with the original information distributors.

Objection D: The argument ignores important normative discrepancies between the real-world parallels given to help justify the argument and the case of empirical information distribution to the general public. Specifically, the argument ignores 1) the sincerity of anti-vaccine campaigners and 2) the alternative and equally accessible information, also open to the public, in favor of vaccination, and 3) the lack of a certain type of special relationship between persons that would lead to a reasonable expectation of empirical accuracy in information.

Objection E: The argument is too broad. Such a claim would justify limiting all types of speech acts that might potentially lead to physical harm in any way, and this is an unacceptable proposition.

Objection F: The proposal is not practical.

Objection G: We cannot know the scientific truth to a sufficiently rigorous degree to justify limiting speech that appears to contradict such truth.

WHAT IS DIFFERENT ABOUT SPEECH?

Most libertarians agree that it is the state's job to prevent individuals from harming other individuals, even if it is not the state's job to do much of anything else. If I steal your car, hit you with a baseball bat, or roll a large boulder down a hill onto your property and destroy your home, most libertarian philosophers will agree that the state should prevent me from doing this, or punish me after I have done it. This is because I have done you or your property harm, and the harm principle allows the state to act to protect some individuals from harm caused by others.

Are speech acts qualitatively different from the above types of act, and if so, how? The answer to this question is important. If we answer in the negative, then our task is over: speech may be regulated like any other sufficiently harmful action. It is only if speech is different in some important and relevant way that there remains more work to do.

One could argue that speech acts are different in one important way: they cannot cause harm because the only morally relevant way to cause harm under the harm principle is by an act of physical force or movement. Mill himself did not appear to accept this idea: in the third chapter of *On Liberty*, he argued that "even opinions lose their immunity [protection from state interference], when the circumstances in which they are expressed are such as to constitute their expression a positive instigation to some mischievous act. An opinion that corn-dealers are starvers of the poor, or that private property is robbery... may justly incur punishment when delivered orally to an excited mob assembled before the house of a corn-dealer, or when handed about among the same mob in the form of a placard." (Mill 1869) In other words, Mill thought that spoken or written opinions which (sufficiently directly) instigated *other persons* to cause harm could be limited under the harm principle as well.

But even more basically than that, it is not entirely clear that speech acts are really qualitatively different from other types of action. Consider the case of John, who thinks that vaccines don't work and has decided to host a public reading of a popular anti-vaccine pamphlet. In order to reach the maximum number of people, John purchases a loudspeaker and advertises the reading widely online. But imagine that John, his loudspeaker, and the assembled crowd all gather in a remote mountain village where the sound waves generated by loud noises are known to trigger deadly avalanches. John boldly asserts that his right to free speech outweighs the harm to others that is likely to follow, and begins to read the anti-vaccine pamphlet aloud into

his megaphone. The avalanche that follows kills five people and injures 500. I think it is clear that John has harmed these people, and harmed them in the same sense that he would have harmed them had he stood on top of the mountain and drilled away at the snow with a sledgehammer. (One could imagine plenty of other examples of this type: a person in a room full of otherwise silent people who knows that a spoken word will trigger a noise-sensitive bomb; less similarly but also less absurdly, a person who transmits vital security information to a terrorist group and leads to the death of thousands of civilians in a terrorist attack.)

I think we can therefore reject *Objection A: Speech acts cannot cause harm*. Speech acts can cause harm, and sometimes in precisely the same sense that other, more conventionally recognized types of action do.

I think we can also reject *Objection B: Speech acts can cause harm, but the harm is too indirect to warrant state interference*. This objection does not hold much theoretical weight if by “indirect” we mean “having many causal steps in between the original action and the harm eventually caused.” If a line of causation is sufficiently clear and certain, the presence and number of intermediary steps is irrelevant to assigning responsibility for the harm done. If I push a large rock off a cliff, the rock lands on a fuel tank and causes it to explode, and the resulting fire from the fuel tank burns down the town at the bottom of the cliff, I am still responsible for causing the town to burn down.

INTERMEDIATING PERSONS

More difficult and much more realistic, however—and primarily at issue here—are cases in which speech might be said (in some sense) to lead to harm, but the thoughts and beliefs of other persons intermediate between speech and the harm it could be said to cause. What happens, in other words, when other people become part of a causal chain leading from a speech act X to some harm Y? This lies at the heart of *Objection C* and it is the general phenomenon of which anti-vaccine speech is one specific example. Let us consider two test cases.

Smoking: Barbara is the CEO of a major cigarette company, circa 1952. Although the company’s scientists inform her that smoking cigarettes over a long period of time causes cancer, she directs her advertising division to market the cigarettes as safe and fun to consumers. Successfully duped by the advertising, millions of people buy cigarettes and later suffer significant negative health effects.

Theatre: Clyde goes to a popular movie, and every seat of every row is full. Just for fun, halfway through the film, Clyde yells “FIRE!,” although there is in fact no fire at all. In the stampede that follows as panicked theatregoers flee the room in droves, seven people are trampled and suffer significant injuries.

In both *Smoking* and *Theatre*, false information was distributed (the advertisements or Clyde’s false warning); persons responded to the false information with physical action (buying cigarettes or attempting to flee the theatre); and their response to the information caused either themselves or others (or both) harm (cancer or injuries due to the stampede). This leaves us with the following questions: (a) Can Barbara and/or Clyde be said to have caused the harm by distributing false information; (b) should the state hold them liable for the harm thus caused; and (c) can this type of state action logically extend to the type of speech promoted by anti-vaccine campaigners? I propose that we accept the answer to both (a) and (b) to be a clear “yes” (as they were in fact answered in the real world) and to use these answers to help us explore the solution to question (c).

To help answer (c), it may be helpful to begin by asking what we mean when we say that one action “causes” another in more generally accepted cases of wrongful harm causation. Let us consider a clear example containing two sub-examples:

Car: John is walking along the street, doing nothing wrong, when I drive off the road and hit him with my automobile.

The case is clearest if I have done this

Intentionally: It is reasonable to say that I am morally liable for his injury because of the following components of my action: 1) My action (driving a car toward John at high velocity) is one that can be reasonably expected by a reasonable person, possessed of full information, to result in his injury. 2) I intended this to occur. 3) It is not reasonable to expect that he could have avoided my car by acting differently, as he could not have possessed the information necessary to do so (i.e. that he should walk on a different street or be prepared to jump out of the way of my car).

The case is less clear but I think still indicative if I have done this:

Unintentionally: If, say, I were texting while driving or were drunk. 1) still holds, although less directly; my action (texting or drinking) can be reasonably expected to seriously increase the chances of injury to other persons, although it does not make such injury certain. 3) still holds just as in the intentional case. It is for this reason (among others) that the law also restricts those who cause physical harm to other persons unintentionally.

Let us consider a less clear example, but one more pertinent to the issue we are attempting to solve.

Minefield: Say that a dangerous explosive has been left outside John's home during the night, a fact of which he is unaware. I know that if I tell him it is raining, he will most likely go outside to the tool shed to retrieve his umbrella, placing him very near the explosive. Although it is not certain that John will step on the mine in the process, he does so and is injured.

Does this example cohere with the straightforward cases of wrongful causation given previously? I think that it does. 1) Walking into the minefield could be reasonably expected by a reasonable person possessed of complete information to cause likely injury. 2) I intended John to walk outside after hearing the information I gave him (*Intentionally* only applies here). 3) John could not have known that he should act otherwise, and it was perfectly reasonable of him (given the level of information he could be expected to possess) to go to the tool shed in order to retrieve his umbrella. I think it is therefore fair to say that I have caused him to be injured just as I would have caused him to be injured by my car in the straightforward case of moral liability given earlier. It does not matter morally that one step of the causal chain—John deciding to go outside and retrieve his umbrella—involved the action of an independent human moral agent.

POSSIBLE FACTORS CONTRIBUTING TO MORAL RESPONSIBILITY FOR HARM CAUSED BY SPEECH

I now want to emphasize a few important elements of *Minefield* and to connect them with the real-world *Theatre* and *Smoking* cases given previously. In the course of doing so, I hope to delineate the senses in which information distributors can be morally responsible for the indirect effects of their speech when interpreted and acted upon by information-receiving agents. The ideas are as follows:

Two key elements in assigning moral liability for harm caused by speech seem to be the *level of information* (LI) possessed by each agent and the *reasonableness of the*

response (RR) by each agent. In *Minefield*, I knew something about the level of danger that John didn't (LI), and he could not have been expected to act otherwise given the information he possessed (RR), which led to his injury. In *Theatre*, it would have been theoretically possible for the theatregoers to ignore Clyde's warning and not to have suffered injuries in the resulting stampede, but it would not be reasonable to expect them to have done so; fleeing a fire is the response that would be reasonably expected given the circumstances (RR), and they could not have known (given the short time frame and level of danger involved in waiting around to find out) that there was in fact no fire (LI).

In *Smoking*, Barbara should be held liable for the injuries sustained by the smokers her company deceived (and her company should not have been allowed to say that smoking is safe in the first place) because consumers at the time could not have been reasonably expected to have possessed the information necessary to convince them that smoking is not safe (LI), and engaging in an activity one believes to be perfectly safe (walking, drinking water, eating dinner) is a perfectly reasonable thing to do (RR). It is for these reasons that I believe it is right to extend liability for harm to, as many jurisdictions do, companies who market unsafe products as safe, doctors who give patients empirically bad treatment information, or car salesmen who sell defective cars. The causal agent distributing the false information, unlike the agent receiving the information, knew or should have known that the information was false and harmful (LI), and the consumer or patient could not have been reasonably expected not to have bought the product, followed the doctor's advice, or bought the apparently safe car (RR).

When taken together, we can see LI and RR to be normatively important, collectively and jointly, because they both strongly influence *the certainty that information will be acted upon in a certain way* (C). C is important because if it is unlikely or uncertain, due to LI or RR or some other factor(s), that false and/or harmful information will be acted upon in a certain way by a reasonable moral agent, it is difficult to assign moral blame to the agent distributing the information. For example, if I advise you to jump off a tall cliff with rocks at the bottom—informing you that contrary to popular belief, doing so would be quite safe—and you do so, it would be wrong to say that I am to blame for your action; the LI of a normal person, combined with the low RR of jumping off the cliff in response to a mere suggestion by a stranger, ought to lead us to lay the blame at your feet rather than mine.

A third contributory factor to C and an important factor in assigning moral li-

ability for harm caused by speech is *status* (S): the level of responsibility, command, or authority assumed by the information distributor. In *Cliff* above, it is difficult to assign blame to me, a random stranger, for your decision to jump off the cliff. But if I were your commanding officer in a military unit, and if I ordered you to jump off the cliff and told you to trust me rather than merely suggesting that you do so as a disinterested bystander, it becomes more plausible to shift the blame to me for the harm done to you as a result of my speech act (the order). I mention S in more detail under the discussion of Objection D₂ below.

A fourth and final factor in assigning responsibility for harm caused by speech may be the mental state (M) of the person listening to the speech act.¹ This is particularly relevant in cases where the party receiving the information is in a mental state M which is abnormal and renders them particularly vulnerable to speech that is false and/or causative of harmful results. This is of especial importance in cases like *Theatre*, where the party receiving the information is likely to act in a certain way due to reasonably acquired fear of danger or harm. It is also of importance because it takes into account the reduced decision-making capability of those persons with non-standard mental processing capacities, such as children or the cognitively disabled. It is reasonable to expect adults with standard levels of decision-making ability to sort through and balance the alternative avenues of possible action when given information to process; it would not be reasonable to expect a child to know right from wrong, or a clever choice of action from a foolish one, in quite the same way.

Again, M is normatively important because it is a contributory factor to C—the certainty of an agent responding to information in a certain way—and C is normatively important because with a sufficiently low C, it becomes very difficult to assign causal responsibility for any action, including speech.

According to one set of powerful objections, however, the examples and reasoning given above are not adequate to prove the case I am attempting to show. I now want to explain why this so and how these objections might be addressed.

ANOTHER SET OF OBJECTIONS

I want to now move on to:

Objection D: The examples given and reasoning applied in the argument do not apply

1. (I say “may be” because it seems plausible to merely subsume M as a subset of RR rather than maintaining it as its own separate factor.)

to the vaccine case (or other normatively equivalent cases) because of important disanalogies in reasoning.

There are indeed several discrepancies or gaps between the examples and argumentation given thus far and the real-world anti-vaccine case (and cases like it). I read these to be the following:

Objection D1: Unlike in Minefield, Smoking, and Theatre, the alleged wrongdoers in the vaccine case almost certainly believe the information they are distributing to be empirically correct and, furthermore, that by distributing it they are in fact helping the people with whom they speak. It would therefore be wrong to hold them morally responsible for the harm caused by their speech in the same way we ought to hold the alleged wrongdoers in the other cases given responsible. This is also true of the other examples mentioned: doctors prescribing bad treatments, companies selling impure food, and car salesmen selling defective cars all do so deliberately.

Objection D2: At least some of the cases mentioned thus far derive their force from a special relationship that exists between the party distributing information and the party receiving it. In the case of companies selling products or salesmen selling cars, the consumer enters a de facto contract with the seller that the seller breaks by falsely advertising the content of his, her, or its products. In the case of doctors prescribing improper treatment, the patient has entered into a special contract that requires a higher level of moral responsibility from the doctor than would be expected of the general public. There is no such special relationship between anti-vaccine campaigners and the public; they are private persons acting in a private capacity and the analogy is therefore flawed.

Objection D3: Unlike in the cases mentioned thus far, in which there could have been no reasonable expectation that the parties receiving information would act differently in response to the informational stimuli given to them, there is a reasonable expectation that members of the general public, as mature moral agents, possess a meaningful choice as to whether or not to follow the advice of, and listen to information provided by, anti-vaccine campaigners. Instead of laying the blame at the feet of anti-vaccine campaigners, we should therefore place the blame for any harmful consequences of non-vaccination with the persons located closest causally to the harm done: those people who listen to, and act upon, the information provided.

I consider each of these objections now.

D1: INTENT

Should a lack of malicious intent matter in assigning moral liability for harm caused by speech? I think that it should, but that as with other cases of liability due to negligence, it renders the person in question merely less responsible, rather than entirely blameless, for the negative consequences of his or her actions. If one intends to mislead, falsify, or gain monetarily from a harm done to others, then moral liability is much easier to establish.

But even in cases wherein malicious intent is absent—where the actor distributing information does not actually believe the information to be false or harmful—I think moral liability is easier to assign than might be otherwise thought. This is so in the case when an agent with status S_1 conveys information to an agent S_2 , where 1 is significantly higher than 2 , and agents with status S_1 are reasonably believed or expected to possess a significantly higher LI with regard to the information conveyed than agents with status S_2 .

In simpler terms, it is also fair to assign moral blame for harm unintentionally caused by incorrect or misleading speech when the person speaking ought to know what they're talking about, but they don't. I turn to that now in more detail.

D2: THE CAPACITY IN WHICH ONE ACTS

Special relationships are an important factor in assigning moral blame for harm caused by acts of communication primarily because of contributory factor S (status). S is normatively important, to recapitulate, because (like LI and RR) it influences the certainty of action based upon the information given (C).

High relative S factors—which lead to trust and hence to a higher degree of certainty of action C—can be conveyed informationally in a variety of ways. S can be conveyed explicitly: by licensure (of doctors, lawyers, engineers); by the adoption of a contract—such as that between a buyer and a seller in a marketplace; by a special relationship between parents or guardians and their children; or by order hierarchies (in an organization with structured top-down power relationships). When one is in possession of a high status S with regard to another person, information conveyed from the high-status individual to the other person attains a special quality which

renders the high-status person specially liable for that speech's consequences. These status-differential relationships are often important and necessary because they allow persons without expertise in a field to engage productively with those who have it; in other words, such relationships enable persons to trust complex or difficult information which they would otherwise be incapable of processing themselves. Without the existence of such relationships, asymmetrical information problems would prevent contracts and discussion between persons of drastically different talents and skill sets. Often, when the importance of acting upon correct information is sufficiently important for the physical safety of some or many persons, such relationships are legally codified to the extent that information about certain subjects cannot be conveyed in certain ways *except* by the proper individuals; it is not legal to offer certain types of medical or engineering advice without a license, for instance.

In these types of relationship, the information-receiving party has been reasonably led to believe that the advice they are given from the information-distributing party is reliable, even though the complexity of such information renders a definitive independent judgment on this question difficult or impossible for the information-receiving party. As such, it is reasonable for the information-receiving party to act upon the information as suggested, leading to a high certainty of action factor C, to an increased directness of causation from a speech act to the relevant physical harm, and to an increased moral liability for that harm on the part of the information-distributing agent.

The extent to which anti-vaccine campaigners (and persons like them) fall under this special category of relationship, which ought to place an additional burden of liability upon these persons acting jointly to distribute information, depends to the extent to which and ways in which the campaign is professionalized, institutionalized, and branded. If the organization attains a quality sufficiently similar to the others mentioned—companies in a marketplace, medical or legal professionals offering advice, and so on—anti-vaccine campaigners place themselves in a moral position that ought to render them increasingly liable to censure if matters go wrong.

D₃: ALTERNATIVE INFORMATION SOURCES

One final possible problem with the analogies and examples given is that they do not adequately take into account the possibility of an information-receiving agent weighing alternative sources of information when considering how to act in the real

world. The more and better sources of information on a subject that are available, the reasoning might go, the less any individual agent promoting false or dangerous information ought to be held liable for that information's consequences. In the particular case under consideration, there appear to be many doctors, scientists, and other professionals offering advice that would contradict the dangerous information distributed by anti-vaccine campaigners; ought not we then hold the person who listens to the anti-vaccine campaigners responsible, as independent moral agents, for making that choice, rather than the campaigners themselves?

Perhaps it ought to be noted that this reasoning does not seem to apply to the other types of speech mentioned thus far; the possibility of individuals encountering some other information sources indicating that smoking is not safe does not appear to relieve cigarette companies of the responsibility to market their products only in a certain way clearly noting that smoking is not in fact safe. The possibility that some sort of private consumer organization might distribute information that some doctors are better or safer than others does not relieve doctors of the responsibility to offer correct treatment advice. Again, the presence of alternative information sources counts against, but does not seem to completely eliminate, moral liability for harm caused by speech when the combination of the relevant *level of information* (including the complexity of the information), *reasonableness of response*, *status*, and/or *mental state* of the two parties are such that an information-receiving agent can be expected to act with reasonable certainty in a certain way C in response to the speech of the information-distributing party.

OBJECTIONS E AND F: OVER GENERALISABILITY OF THE PROPOSAL

Is the proposal—that anti-vaccine campaigns may sometimes be limited by state action—too broad and therefore dangerous or impractical? Would it license state limitation of any and all types of speech that might lead to physical harm, however indirectly, to persons who take such speech seriously?

It does not necessarily do so. The set of entities to which such limitations would apply would be seriously circumscribed by the criteria for judging moral liability given in the discussion above.

Limitation of any kind would not be applicable to purely private entities acting individually under such a model for speech limitation because the *status* relationship between two private persons is not the type of relationship that would lead

to the type of special trust discussed above; because the *level of information* reasonably expected to be possessed by private persons is not high or apparently high; and because the *reasonableness of response* to private individuals is generally the responsibility of the information receiver. The state would not be properly allowed to fine my Aunt Muriel for offering her opinion to friends or acquaintances that vaccines cause autism, for instance; no one reasonably perceives Aunt Muriel to be an authority on the matter, no one ought reasonably to believe that she possesses special expertise that would allow her to make such a judgment; and no one has entered any sort of differential-status relationship with her that would make her in any way liable for the consequences of her speech.

The reasoning given here would, however, be more closely applicable to anti-vaccine organizations (or any organization distributing harmful information) that are sufficiently institutionalized, professionalized, organized, and advertised to the public to meet the criteria outlined above. The more closely such organizations or groups of persons approximate the characteristics that render companies, professionals, and salespeople peculiarly liable for their speech acts, the more closely they ought to be subject to scrutiny on the grounds that they may in fact cause harm through speech.

OBJECTION G: DOUBTFUL CERTAINTY OF SCIENTIFIC TRUTH

Can we ever know with sufficient certainty that vaccines, for instance, do not cause autism—or that smoking causes cancer, or that eating too much fat is bad for you—for the state to justify making a definitive judgment on the matter as reflected in the type of speech advocacy it allows or encourages?

The answer is very rarely yes. The level of certainty about the question under consideration ought to be extraordinarily high, and although a precise percentage seems difficult to suggest, 99 percent (as measured, perhaps, by expert consensus) may be a reasonable number with which to begin. Furthermore, the level of certainty about a subject ought not only be high; the consequences of the correct course of action *not* being taken must be sufficiently harmful to justify some form of state intervention. Although it is not true that drinking water will give one supernatural powers, it is also not harmful to drink water; it would then seem wrong for the state to seek to limit those who encourage drinking water in order to attain supernatural powers.

ONE FINAL NOTE: METHODS OF STATE LIMITATION

Limiting speech on public safety grounds need not (and certainly ought not) take the form of men in black masks kicking down doors in the night to take away those with whom we disagree. It may be, depending on the nature and proximity of the harm caused, something more like mandating a warning label to keep consumers fully informed of risks, or requiring that advertisements or promotional materials contain a fixed text containing a basic set of correct empirical informational notes. It is not practical, possible, or desirable to apply such methods to private individuals—such methods might only be applied to organizations or institutions. The precise form speech restrictions take, however, may vary; it is the basic ethical question of whether the state may impose *some* form of limitation that must first be answered.

I do not pretend to have answered it completely. This question deserves far more normative and empirical analysis than I am capable of giving here. But whether anti-vaccination campaigns (for instance) should qualify for free speech protection is a question that may quite literally determine whether some people live or die, and it is at the very least a question worthy of further consideration.

REFERENCES

Batty, David, “Record Number of Measles Cases Sparks Fear of Epidemic,” *The Guardian*, 9 January 2009.

Centers for Disease Control and Prevention, “Frequently Asked Questions About Measles in the U.S.,” 21 January 2015. [Available at: <http://www.cdc.gov/measles/about/faqs.html> . Accessed 22 January 2015]

Chang, Alicia. “Measles Outbreak Casts Spotlight on Anti-Vaccine Movement,” *The San Francisco Chronicle*, 23 January 2015. [Available at: <http://www.sfgate.com/news/medical/article/Disney-parks-linked-measles-outbreak-grows-to-70-6031882.php> . Accessed 23 January 2015]

Flaherty, Dennis K., “The Vaccine-Autism Connection: A Public Health Crisis Caused by Unethical Medical Practices and Fraudulent Science.” *Annals of Pharmacotherapy* October 2011 Vol. 45 No. 10. [Available at: <http://aop.sagepub.com/content/45/10/1302.full> . Accessed 22 January 2015]

Godlee, Fiona, Jane Smith and Harvey Marcovitch, "Wakefield's article linking MMR vaccine and autism was fraudulent," *BMJ* 2011; 342:c7452. [Available at: <http://www.bmj.com/content/342/bmj.c7452.full> . Accessed 22 January 2015]

Medew, Julia, "Anti-Vaccination Campaigner Sherri Tenpenny's Tour in Jeopardy," *The Sydney Morning Herald*, 20 January 2015.

Mill, John Stuart. *On Liberty*. London: Longman, Roberts, & Co., 1869.

World Health Organization, "Measles: Fact Sheet No. 286," November 2014. [Available at: <http://www.who.int/mediacentre/factsheets/fs286/en/>. Accessed 22 January 2015]