

University of Windsor

Scholarship at UWindor

OSSA Conference Archive

OSSA 11

May 18th, 9:00 AM - May 21st, 5:00 PM

The Normative Significance of Deep Disagreement

Tim Dare

University of Auckland

Follow this and additional works at: <https://scholar.uwindsor.ca/ossaarchive>



Part of the [Bioethics and Medical Ethics Commons](#), and the [Philosophy Commons](#)

Dare, Tim, "The Normative Significance of Deep Disagreement" (2016). *OSSA Conference Archive*. 136.
<https://scholar.uwindsor.ca/ossaarchive/OSSA11/papersandcommentaries/136>

This Paper is brought to you for free and open access by the Conferences and Conference Proceedings at Scholarship at UWindor. It has been accepted for inclusion in OSSA Conference Archive by an authorized conference organizer of Scholarship at UWindor. For more information, please contact scholarship@uwindsor.ca.

The Normative Significance of Deep Disagreement

TIM DARE

Philosophy

University of Auckland

Private Bag 92019, Auckland, 1142

New Zealand

t.dare@auckland.ac.nz

Abstract: Treatments of deep disagreement often hint at sinister implications but I will argue that we need not accept these pessimistic consequences. Settling disagreements by way of rhetoric or incentive, for instance, may fall short of ideals of rational argumentation, but the moral issues raised by such strategies are different from those raised by compulsion, and realizing that a disagreement is deep might have positive implications providing an incentive to seek other defensible strategies for resolution.

Keywords: argument, compulsion, deep disagreement, incentives, story-telling, vaccination

1. Introduction

Some disagreements are intractable because of their complexity; others because they are ‘deep’ in a certain quasi-technical sense, a sense in which disputing parties lack a context of shared standards and beliefs from which rational argument might proceed. Suppose at least some normative disagreements are deep in this sense. What follows? At least, it seems, that we should not expect to settle them by rational argumentation. That conclusion may itself be significant. We might think that giving and responding to arguments is a defining element of moral discourse; it is, perhaps, *the* way in which we recognize and show respect for the moral agency of those with whom we disagree. Classic treatments of deep disagreement often hint at more immediate and sinister implications. Should someone relying upon science attempt to give reasons to an opponent who turns to an oracle, asks Wittgenstein? “Certainly”, he responds, “but how far do they go? At the end of reason comes persuasion” (Wittgenstein, 1969, para. 612). If doubt is cast on our ‘final vocabulary’, writes Richard Rorty (1989), we are left with “no noncircular argumentative recourse [B]eyond them there is only helpless passivity or a resort to force” (p. 73).

I think some moral disagreements are deep in the sense described, but that they need not have these sinister implications: there can be more beyond deep disagreement than passivity or force, and some forms of persuasion are more sinister than others. Furthermore, appreciating that a disagreement is deep may have positive implications. Such an appreciation might change our moral assessment of individuals and their decisions, and seeing that rational resolution is off the table might provide an incentive to seek other strategies—perhaps of persuasion, perhaps of accommodation—rather than remaining on the well-worn, frustrating, and fruitless paths of a stalled debate. I will suggest that deep disagreements also have a broader implication. There are clearly limits to the obligation to settle moral disputes by rational argumentation: the harm principle is a familiar example. Appreciating that some disagreements are deep may help locate a less obvious limit to the obligation to give and respond to arguments in cases of moral disagreement.

2. What are deep disagreements?

Bondy, P., & Benacquista, L. (Eds.). *Argumentation, Objectivity, and Bias: Proceedings of the 11th International Conference of the Ontario Society for the Study of Argumentation (OSSA), 18-21 May 2016*. Windsor, ON: OSSA, pp. 1-10.

There is more than one sense of deep disagreement to be found in the literature. On some accounts, we should regard disagreements as deep if and only if they would persist even under ideal epistemic conditions between disputants free of all cognitive shortcomings.¹ Given ideal epistemic conditions and absent cognitive shortcomings, rational and properly informed agents should always agree. I am using the term in a somewhat different, ‘Fogelian’, sense. I am interested in whether there is something about debates, such as those over vaccination and global warming, which renders them particularly resistant to rational resolution even absent cognitive failure. Some disagreements, the idea goes, are difficult, and perhaps impossible to resolve by rational argumentation not or not merely because they are complex and multi-faceted or because one or other disputant is misinformed, but because the disputing parties lack a background context of shared standards and beliefs from which rational argument might proceed: “We get a deep disagreement when the argument is motivated by a clash of framework propositions” (Fogelin, 1985, 5).²

Fogelin highlighted another feature of deep disagreements. In such disagreements, he wrote, we find not “isolated propositions”, but instead systems of “mutually supporting propositions (and paradigms, models, styles of acting and thinking)” (Fogelin, 1985, 6). What appear to be discrete disputes within such disagreements are often manifestations of a broader set of entwined propositions and beliefs. Often when one calls into question an apparently discrete issue in such debates—such as the preferred reading of a graph—one is also calling into question a preferred world-view, ‘a form of life’ in Fogelin’s Wittgensteinian terms.

3. An example: Vaccination disagreements as deep disagreements?

It is clear that vaccination disagreements have been intractable. Does that intractability flow from their depth? Consider the following from Richard Moskowitz (2008):

The attempt to eradicate entire microbial species from the biosphere must inevitably upset the balance of Nature in fundamental ways that we can barely imagine. ... [W]e have been taught to accept vaccination as a kind of sacrament of our loyal participation in the unrestricted growth of scientific and industrial technology, utterly heedless of the long-term consequences to the health of our own species, let alone to the balance of Nature as a whole. (para. 3)

Contrast this with Gregory Poland and Robert Jacobson’s (2001) blithe move from the observations that “[i]nfectious diseases have plagued mankind since the beginning of time [and] been ... a major factor shaping the history of man” to the conclusion that:

¹ Someone has a cognitive shortcoming “... when [they] are unaware of some relevant considerations, or there is a malfunction in [their] belief-formation process, such as a mistake in formal logic, forgetting something, overlooking evidence, not paying attention, or assessing evidence in a biased way” (Davis, 2010, p. 19). Deep disagreements in this sense are sometimes called *faultless* disagreements (Kölbel, 2003).

² We should not leap too quickly to the conclusion that disagreements are deep, as opposed to merely complex or stalemated by the intransigence or obstinacy of opponents, and therefore as still, at least in principle, amenable to rational resolution. It is also unlikely that the strands of difficult disagreements are all of a kind: some strands may be deep and others not, and we should settle disagreements by reason and argumentation where we can.

It is therefore a considerable scientific and public health triumph to realize that mortality due to vaccine preventable diseases is at an all time low [and that] once deadly or debilitating diseases ... have either been eradicated or significantly reduced ... through the universal use of safe and effective vaccines. (pp. 2440-2441)

It is difficult to imagine a reasoned reconciliation between these views. Moskowitz (2008) treats as ultimately valuable something—an ideal of the balance of Nature—to which Poland and Jacobson (2001) attach no independent value whatsoever. We might try to manufacture engagement between their views by highlighting parallels between vaccine- and naturally-induced immune responses: “Vaccination works”, writes Mark Noble (2005), “because it asks no more than that the immune system should carry out its evolutionary function of protecting against foreign organisms” (p. 346). But if presented as responding to Moskowitz, Noble too would be missing his point, which seems to be less about the ‘naturalness’ of vaccination than it is about a perceived medico-scientific hubris which he thinks pays too little respect to a reified ideal of Nature. Moskowitz and those who celebrate the possible vaccine-eradication of wild-type poliovirus or smallpox, are divided not (or not only) by disagreements over what counts as natural and what does not, but instead by fundamentally opposed views about nature, medicine and science and what is of value.

Or consider the following from New Zealand’s Immunisation Awareness Society (NZIAS) reporting “a very disturbing trend occurring more frequently among pro-vaccination groups”, namely:

.... the belief that it is okay for some children to die from vaccine reactions, so that others may be “saved” by vaccines. This is absolutely absurd! How can we, as human beings, willingly sacrifice a small infant in the name of “modern medicine?” If part of the risk of vaccination is that some might die, then that is simply not good enough. What ever happened to ‘First do no harm?’ (NZIAS, 2013)

Again, one might engage with the detail of this remark, perhaps by pressing the implication that children who die as a result of vaccination are ‘willingly sacrificed’; by exploring the normative implications of the description of such deaths as occurring “in the name of ‘modern medicine’”; by approaching it in terms of familiar debates between consequentialism and deontology; or by asking what the ‘first do no harm’ doctrine requires if omitting vaccination is itself taken to be potential harm. It is unlikely such an exchange would lead to rational resolution, however, and not merely because of the number and complexity of the issues. The quoted passage may best be seen as a *cri du Coeur*, misrepresented even by the act of rendering it into terms with which one might engage ‘point-by-point’, pressing particular definitions of ‘sacrifice’ or ‘harm’, or approaches to the act/omissions distinction.

The depth of disagreement over vaccination is also apparent in contrasting attitudes to the ‘authority of science’. Those in favour of vaccination tend to think that science is in a privileged position to provide reliable evidence upon which to base medical decisions. Many of those opposed to vaccination, by contrast, are skeptical about the legitimacy of science itself and about whether the current medico-scientific community can be trusted to apply or report the outcomes of an independent and objective scientific method even were one prepared to place any faith in it as an ideal. At its extremes the gulf between the two sides to this aspect of the debate is vast. Influential

vaccine critic and alternative medicine advocate Andrew Weil (1983) rejects science-based medicine in part because it fails to recognize the priority of intuition over observation and the power of the mind to influence the physical world: “Science and intellect can show us mechanisms and details of physical reality”, he writes, “but they cannot unveil the deep mysteries” (Weil, 1983, p. 47).

We also see Fogelin’s (1985) network of entwined propositions and beliefs. For many people on both sides of the debate, the dispute over vaccination calls into question the ways in which they understand themselves and the world around rather than the evidence for a particular proposition. “Because one’s concept of health is entwined with one’s fundamental assumptions about reality”, Barry Beyerstein (2001) writes:

... an attack on someone’s belief in unorthodox healing becomes a threat to his or her entire metaphysical outlook. Understandably, this will be resisted fervently (p. 231).

4. Non-coercive, non-reasoned, responses

I consider three non-coercive, non-reasoned, strategies that have been used or recommended to increase vaccination rates in light of the suggestion that vaccination disagreements are deep. All of these proposals may be thought to raise the concern that they do not meet ideal standards of moral engagement or rational argumentation. Rather than reasoning with those they seek to influence, they offer incentives, engage a host of monitoring processes, or tell stories designed to be more effective than simply giving people information. Judged by the standards against the standards of ideal argumentation such strategies may look problematic. If they are more acceptable in the context of the vaccination debate, that is at least in part because that debate is not appropriately held to those standards.

a. Incentives

A number of countries provide vaccination incentives. The Australian Government offers \$2100 to parents who have had their children fully vaccinated by the age of five. The precise effect of that incentive is difficult to quantify, but it is widely accepted that “immunisation incentives ... are likely to have made a significant contribution to increasing childhood immunisation coverage [in Australia] to over 90%” (Ward et al., 2013, 592). Research carried out in India compared the effect on vaccination rates in children aged 1-3 of improving the supply of services to 134 villages, with the effect of the same improvements together with modest non-financial incentives (lentils and a set of plates).³ At the study endpoint, 39% of children in the 30 villages offered incentives were fully vaccinated, (compared with 18% in the 30 villages without incentives), and 6% for the 74 control villages which received unimproved services without incentives (Banerjee et al, 2010).

Incentives raise ethical issues of their own. One is particularly relevant to the question whether non-reasoned approaches need be coercive. An incentive is something of value offered to influence a utility calculation so as to alter a person’s decision. The person or agency offering the incentive means to make a choice more attractive to the person responding to the incentive. Putting

³ “The value of the lentils was about 40 rupees (about \$1), equivalent to three quarters of one day’s wage, and the value of the thalis (plates) was about 75 rupees. ... The amount roughly corresponds to the opportunity cost of time for the mother” (Banerjee et al., 2010, pp. 2-3).

aside cases in which the desired choice is itself problematic (so excluding bribery and blackmail) there is an obvious concern that incentives may, perhaps because of their value or the position of the person to whom they are offered, completely overbear the offeree's will. The incentive may be an offer the offeree can't refuse. I have raised incentives in support of the claim that thinking vaccination disagreements are deep need not commit us to Wittgenstein or Rorty's pessimistic conclusions. Incentives are offered as a non-coercive, albeit non-reasoned, response to vaccination disagreement. But if coercion is objectionable because it overrides autonomy, and incentives may, at some level of inducement, do so as well, then perhaps they do not take us far from the pessimistic conclusion.⁴

However, the legitimate concern that at some level of inducement incentives may overbear the will of offerees is not a reason to regard them as necessarily coercive, since it seems clear that incentives can operate well below the level of inducement at which they pose a threat to autonomy. The distinction between legitimate and illegitimate incentivisation is not easy to locate. On the one hand it seems plausible that incentives can override autonomy: that there are offers that no one in the position of an offeree could resist. On the other, making the set of incentivised conduct which counts as coercive too wide seems itself to threaten autonomy, potentially refusing to count as autonomous choices that seem to those making them rational and preferable to available alternatives.⁵

For present purposes we can avoid this particular concern about incentives. As remarked, it seems clear that incentives can operate below a level of inducement at which they pose a threat to autonomy. It seems especially likely that they will do so where incentives aim to provide a motive to perform an action to which an offeree is not antecedently strongly opposed. If my calculation of the utility of having my children vaccinated is fairly evenly balanced, perhaps because my inaction is largely due to apathy or inconvenience,⁶ it may not take much to tip the balance in favour of vaccination. Furthermore, if the incentive is designed to act as motive for people in that position, it is unlikely to be so large that those who are more strongly opposed to vaccination—whose calculation of the utility of vaccination is more strongly weighed against vaccination—will be unable to resist the motivation. Indeed, if we take our coverage target to be less than 100%, then we might deliberately set out to provide incentives at a level we would not expect to override the strongly held views of principled anti-vaccinators. We will not mind if the strongly opposed are not amenable to vaccination incentives.

Even accepting that incentives need not be coercive, however, they still appear problematic when viewed from ideal standards of argumentation. Even in cases in which the decision to do as the offeror wishes in order to obtain them can be viewed as autonomous, incentives seem not to be the kind of reason which properly respects the rationality of offerees. They do not rely upon

⁴ The Australian system has a much more straightforward remedy for these concerns. Conscientious objectors can collect the allowance that comprises the incentives, provided they obtain a letter from a vaccine-provider who has explained the risks and benefits of vaccination.

⁵ Some commentators have thought this distinction so difficult to locate that the disagreement about its placement is *itself* a deep disagreement in the sense I have described. “[T]he debate ... is unresolvable”, they write, “because the positions arise out of irreconcilable paradigms. The argument that incentives maximize choice and therefore maximize freedom arises from the economic paradigm according to which an incentive is simply one form of trade. The alternative argument that incentives can constitute undue influence evaluates incentives as one form of power” (Grant & Sugarman, 2004, p. 27). My own view is that these matters are better viewed as threats to equality, rather than autonomy. A reluctant choice may still be autonomous, but we might think it improper that some people face many more, and many more serious, reluctant-choices than others.

⁶ As I speculated was the case for most non-vaccinators in New Zealand in the 1990s.

convincing offerees that a request should be complied with on its merits, but instead on the basis of a collateral advantage contingently attached to the request. The ideally rational agent, we might think, should make decisions about health care on health reasons, and agencies seeking to influence such decisions should offer information relating to health. Monetary incentives, for instance, may provide someone with a reason to vaccinate, but they are not health reasons; they are not relevant to the reasoned assessment of the merits of vaccination, even though they may be relevant to the reasoned assessment of what it is ‘best’ for an agent to do all things considered.

Appreciating that the vaccination disagreement is deep provides a useful perspective from which to view this concern. The worry that incentives are not reasons ‘of the right kind’ might be compelling in contexts in which one should be complying with ideal standards of reasoned argumentation. It may seem less so, however, in disagreements whose very structure rules out the effective exchange of reasons: neither side to the disagreement can offer reasons of the right kind. We are forced to look for other ways of going on. Our concern for the agency of those with whom we engage in such contexts still gives us a reason to respect their autonomy, and so, for instance, to avoid coercion. In these circumstances, appropriately pitched incentives may provide non-coercive, autonomy respecting, reasons which avoid deep and so intractable disagreements.

b. The New Zealand strategy

In an earlier paper (Dare, 1998) I offered an argument against compulsory vaccination that placed considerable weight upon the claim that one could obtain all or almost all of the benefits of vaccination without the extra costs of compulsion. A key feature of vaccination programmes, I suggested, was that they were effective provided one could obtain coverage rates in the order of 90%.⁷ I did not in that paper address the deeper question of the nature of the vaccination debate. I did suggest, however, that the most significant factors in New Zealand’s then mediocre coverage rates—in the order of 60%—were apathy and inconvenience. I speculated that the introduction of a requirement for parents to declare their children’s vaccination status at their first school enrolment and a practice of excluding unvaccinated children from school during vaccine preventable disease outbreaks would increase vaccination rates simply by requiring parents to attend to the question of their children’s vaccine status and attaching a mild potential cost to non-vaccination. My thought was that principled vaccination avoidance was relatively rare, and could and should be tolerated—even by pro-vaccinators—provided the coverage rates necessary for disease control or eradication⁸ could be attained without compulsion. I will not rehearse those arguments in this paper. Note however, that those strategies for increasing vaccination coverage did not depend upon compulsion or upon convincing principled anti-vaccinators to abandon their views. They were relatively non-intrusive, non-argumentative responses to New Zealand’s then low vaccination rate. So described, the conclusions of that earlier paper resonate with the issues addressed in this paper; with the question about the significance of the conclusion that the vaccination debate is deep and hence not amenable to rational resolution, and with the possibility of non-coercive even if not ideally autonomy respecting responses. Developments since have increased that resonance. In 1991 less than 60% of NZ children were fully vaccinated by the age of 2, and only 42% and 45% of Māori and Pacific children respectively. By June 2011, overall

⁷ The required coverage for different diseases rates vary depending upon the reproductive rate of the infective agent.

⁸ I argued that these two categories of disease generate different moral obligations. There was, I argued, a stronger obligation to vaccinate where doing so might lead to the eradication of a disease than there was where ongoing vaccination would be required for self-protection because eradication was not possible or likely.

rates were over 90% and the equity gap had closed, with Māori and Pacific rates of 88% and 94%. In 2007, there was a 9.5% coverage difference between the highest and lowest socioeconomic deciles. By June 2011 that gap had closed to 4% (NZMOH).

The dramatic improvement in New Zealand's vaccination rates has been achieved by a suite of measures including: capturing every immunisation event on a national immunisation register by direct download from the electronic practice systems of primary providers, allowing “monitor[ing] and real-time feedback to various service levels ...” (Turner, 2012); by making improved immunisation coverage one of ten key public health priorities and providing regular feedback on progress, including public and comparative coverage of District Health Board performance; by initiatives to enroll children with primary providers early; by allowing stable, knowledgeable, well supported staff with dedicated time for immunisation service delivery to establish and maintain positive, engaged relationships with children and families; by the provision of effective outreach services targeting children missed through general practices;⁹ and by increased efforts to engage with media (Turner, 2012, p. 11).

For my purposes, what is significant about these initiatives is that they do not depend upon resolving disagreement about vaccination at all, let alone by reasoned argumentation, and yet they do not involve compulsion or any other very sinister strategy either. There is monitoring, no doubt persuasion, and a certain amount of rhetoric in the engagement with media and social networks, but, in Turner's (2012) words, “[t]he NZ example demonstrates that focusing on the more mundane issues—data collection, feedback, enrollment and early engagement of infants, and attention to systems and providers—produces good results” (p. 11).

c. Telling stories

The perspectives from which the parties to the vaccination debate proceed is manifest in the different strategies they tend to employ. We have seen, for instance, that those opposed to vaccines are more likely to rely upon anecdotes and stories than vaccine advocates. Indeed, storytelling is occasionally thought to be antithetical to science. It has not always been so. Over the last sixty years, vaccination communication has changed dramatically. In the midst of the polio epidemics of the mid-20th Century, personal narratives and scientific information about polio commonly appeared in the media. As vaccine preventable diseases waned however, so did these personal narratives. At the same time “the scientific community acquired overwhelming amounts of robust data demonstrating the safety, efficacy and necessity of vaccines”, and began to communicate that information, not through stories, but through technical medical journals, medical reports, and health professionals delivering abstract non-narrative based information (Cunningham & Boom, 2013).

Cunningham and Boom (2013) argue for a return to story-telling as a way of increasing vaccine uptake: “[S]tories can be used to personalize medical information and motivate patients into taking the best steps to protect their health” (p. 22). Stories, they argue, have a number of persuasive advantages. They are memorable and ‘relatable’, “allow[ing] listeners to transport themselves into the storyteller's experience” (Cunningham & Boom, 2013, p. 22). “When listeners are transported into a story”, they report that “they become more receptive to the story's theme

⁹ “Numerically, small numbers of children in NZ receive immunizations via the outreach services, and these services are expensive; however, these children are likely to be in the higher-needs group and hence there is an important ethical reason to support services to access them. Second, as immunization coverage gets higher in a community, these children become a significant percentage of those still missing out” (Turner, 2012).

and message” (Cunningham & Boom, 2013, p. 22). Stories allow communication across educational levels and ethnic groups. Furthermore, stories allow vaccine advocates to avoid common ‘cognitive shortcomings’ that impair many people’s ability to accurately interpret statistical and probabilistic information (Cunningham & Boom, 2013, p. 23).

Cunningham and Boom’s argument for a return to story telling as a strategy for promoting vaccine-uptake is interesting and plausible. Many of the reasons they give for thinking story-telling is an effective way of persuading people, however, are also reason to think the strategy might often fall short of ideal standards of argumentation. Stories, we might think, work precisely because they bypass certain kinds of reflective judgment. Cunningham and Boom (2013) often emphasis the capacity of stories to engage at an ‘emotional’ or affective level. If we thought it essential to engage in *rational* argumentation with those with whom we disagree, then, it seems that we should not endorse story-telling.

Again, I think, an appreciation that vaccination disagreement is deep in the Fogelian sense, casts the question about the legitimacy of using story-telling to improve vaccine-uptake in a new and useful light. We might concede that story-telling does not satisfy ideal standards of rational argumentation. Again, however, once we see that vaccination debate cannot be conducted by those standards, we must other ways of engaging with our opponents. Story-telling is both a further illustration that we need not embrace the dour implications some have seen flowing from a conclusion that a disagreement is deep and an example of non-coercive, non-reasoned alternative.

5. Conclusion: Why might these strategies be acceptable?

Rorty’s (1989) suggestion that there is nothing beyond deep disagreement but “helpless passivity or a resort to force” and Wittgenstein’s (1969) italicisation of ‘persuasion’ is troubling, both normatively and from the perspective of an ideal critical reasoner, because they appear to contemplate giving people reasons for action which bypass their critical faculties. If that is our concern why might the non-coercive, non-reasoned strategies sketched above look more respectable? Why might they avoid the sinister implications of deep disagreement hinted at by Rorty and Wittgenstein?

First a preliminary point. One reason to reject the ‘sinister’ implications of a diagnosis of deep disagreement is that such a diagnosis might have *positive* implications for our attitude to others and our appreciation of the reasons that motivate them. Someone who acknowledges the benefits of vaccination and relies upon the fact most people vaccinate to avoid the risks of doing so themselves is behaving worse than someone who avoids vaccination because they genuinely deny that such programmes deliver any benefits or because they reject the framework upon which claims for the benefits of vaccination relies. We may still think they’re wrong, and the consequences of their non-vaccination may be the same, but recognizing that we are parties to a deep disagreement may make us treat them with more respect.

Beyond this, there seem to be stronger and weaker conclusions to be drawn from the vaccination example. The strong conclusion is that Rorty is wrong: there is more ‘beyond’ deep disagreement than passivity or force: Incentives, engagement under schemes such as New Zealand’s, and story telling are neither. The weak conclusion is that the vaccination example illustrates some normatively and perhaps epistemically acceptable persuasive strategies, strategies that might make us question the need for Wittgenstein’s italics. Story telling, monitoring, and establishing relationships, are not arguments but they neither completely bypass agents’ capacities for critical reflection nor counsel disregard for the perspectives of those with whom we disagree.

Such approaches look problematic when judged by the standards of ideal moral and rational argumentation, but if we are, as Fogelin (1985) suggests, to *start* with persuasion, these might be more palatable, less sinister, strategies than the alternatives hinted at by Rorty and Wittgenstein.

References

- Australian Government Department of Health and Aging. *Strengthening immunisation for children*. Retrieved from <http://immunise.health.gov.au/internet/immunise/publishing.nsf/Content/factsheet-strengthening-immunisation>
- Banerjee, A. V., Duflo, E., Glennerster, R., & Kothari, D. (2010). Improving immunisation coverage in rural India: Clustered randomised controlled evaluation of immunisation campaigns with and without incentives. *BMJ*, *340*, c2220.
- Beyerstein, B. L. (2001). Alternative medicine and common errors of reasoning. *Academic Medicine*, *76*(3), 230-237.
- Cunningham R. M., & Boom, J. A. (2013). Telling stories of vaccine-preventable diseases: Why it works. *The story of immunization: A special edition of South Dakota medicine* (pp. 21-26). Sioux Falls, SD: South Dakota State Medical Association.
- Dare, T. (1998). Mass immunisation programmes: Some Philosophical Issues. *Bioethics*, *12*(2), 125-149.
- Davis, J. K. (2010) An alternative to relativism. *Philosophical Topics*, *38*(2), 17-37.
- Feudtner, C. & Marcuse, E. (2001). Ethics and immunization policy: Promoting dialogue to sustain consensus. *Pediatrics*, *107*(5), 1158-1164.
- Fogelin, R. (1985). The logic of deep disagreements. *Informal Logic*, *7*, 1–8.
- Grant, R. W. & Sugarman, J. (2004). Ethics in human subjects research: Do incentives matter? *Journal of Medicine and Philosophy*, *29*(6): 717–738.
- Kölbl, M. (2003). Faultless disagreements. *Proceedings of the Aristotelian Society*, *104*, 53-73
- Last, J. M. (1998) *Public health and human ecology* (2nd ed.). Ottawa: Appleton and Lange.
- Moskowitz, R. (2008, November 26). The case against immunizations. Vaccination Risk Awareness Network. Retrieved from <http://vran.org/about-vaccines/general-issues/doctors-speak/the-case-against-immunizations/>
- New Zealand Ministry of Health. (n.d.) National immunisation coverage reports. Retrieved from <http://www.health.govt.nz/our-work/preventative-health-wellness/immunisation/immunisation-coverage/national-and-dhb-immunisation-data>
- New Zealand Ministry of Health. (1995). *National immunisation strategy*. Wellington: Ministry of Health.
- Noble, M. (2005). Ethics in the trenches: A multifaceted analysis of the stem cell debate. *Stem Cell Reviews and Reports*, *1*(4), 345 -76.
- New Zealand Immunisation Awareness Society. (2013, January 17). Vaccine deaths. Retrieved from <http://www.ias.org.nz/vaccination-2/vaccine-deaths/>
- Poland, G. A., & Jacobson, R. M. (2001). Understanding those who do not understand: A brief review of the anti-vaccine movement. *Vaccine*, *19*, 2440–2445.
- Plotkin, S. L. & Plotkin, S. A. (2013). A short history of vaccination. In S. Plotkin, W. Orenstein & P. Offit (Eds.), *Vaccines* (6th ed.) (pp. 1-16). Philadelphia: WB Saunders & Co.
- Relman, A. (1998, December 14). A trip to Stonesville: Some notes on Andrew Weil. *The New Republic*, *219*(24), pp. 28-36.

- Rorty, R. (1989) *Contingency, irony, and solidarity*. Cambridge: Cambridge University Press.
- Turner, N. (2012). The challenge of improving immunization coverage: the New Zealand example. *Expert Review of Vaccines*, 11(1), 9–11.
- United States Centre for Disease Control. *Vaccine safety, epidemiology and prevention of vaccine-preventable diseases: The pink book* (12th ed.). Retrieved from <http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/safety.pdf>
- Wakefield A. J., Murch, S. H., Anthony, A. et al. (1998). Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children. *The Lancet*, 351(9103), 637–41. (Retracted).
- Ward, K., Hull, B. P., & Leask, J. (2013). Financial incentives for childhood immunization—a unique but changing Australian initiative. *Medical Journal of Australia*, 198(11): 590-592.
- Weil, A. & Relman, A. (1999, May 10). Is integrative medicine the future? S. Bunk (Ed.). *The Scientist*, 13(10).
- Weil, A. (1998). *Health and healing*. New York: Houghton Mifflin.
- Wittgenstein, L. (1969). *On certainty*. G. E. M Anscombe & G. H. von Wright (Eds.). (D. Paul, Trans.). New York/Evanston: J&J Harper.
- Zhou, F, J. Santoli, M.L. Messonnier, et al. (2005). Economic evaluation of the 7-Vaccine Routine Childhood Immunization Schedule in the United States. *Archives of Pediatric and Adolescent Medicine*, 159(11), 1136-1144