Absolutism and overruling without explanation are more unacceptable now than ever, given the mindset encouraged by our digital media ecology and in light of new public understandings of how science—and ‘truth’—work. (Sobo et al. 2016)

Introduction

In most Western democracies, the vast majority of people accept the value and efficacy of vaccines and view them as trustworthy tools in promoting public health. However, throughout these societies there remain those who harbour significant misgivings for a very wide range of reasons. These people are often categorized as ‘vaccine hesitant,’ a term that is used by scholars, clinicians, and epidemiologists to name a wide spectrum of approaches to vaccines, from selective acceptance to comprehensive refusal of vaccines. Although most coverage of these controversies is concerned with particular diseases, in fact, there is a great deal the advocates, sceptics, and rejectors involved in these noisy public debates can teach us about the ways boundaries between medical science, religion, and culture are made and policed.

Although there is a long history of inoculation in the west (Monnais and MacDougall 2017), vaccine science entered a new phase with the English physician, Edward Jenner, and his development of a smallpox vaccine in the eighteenth century. Other highlights in this scientific history would include Louis Pasteur’s work on rabies in the nineteenth century and Robert Salk’s ground-breaking work on polio in the 1950s. Today, vaccine scientists combine the established knowledge in the field with modern genetics and personalized medicine. Only clean drinking water has had a more profound impact on human health—in terms of the reduction of unnecessary suffering and premature death—than vaccines (Pollard 2007).

The number of vaccine hesitant people seems small: between approximately two and three per cent of people in most Western societies refuse all vaccines for political, religious, and personal reasons, and another perhaps ten to fifteen per cent are for similar reasons hesitant about them, or prefer to ‘curate’ their vaccines on a case by case basis. Nonetheless, when one adds the 12–18 per cent of the population that either rejects or is hesitant about vaccines to
The small percentage (perhaps a total of 10 per cent) of people who are immuno-compromised due to other medical conditions, who are newborn and therefore unvaccinated, or for whom a given vaccine simply fails to work properly, the overall coverage rate falls well below the levels required to achieve ‘herd immunity’ in the broader population (Bramadat 2017a: 5).

Vaccines work by introducing dead or weakened versions of pathogens (e.g. influenza, measles, mumps, rubella) into a patient (typically but not always a child), thereby causing the body’s lymphocytes to mount a defence by creating antibodies. If or when one encounters the active pathogen later in life, his or her immune system can protect itself with antibodies it, as it were, learned to produce through the early exposure. Although vaccines sometimes lead to ‘adverse effects’ for small numbers of individuals, the number of significant effects in most populations is exceedingly low (Bettinger and MacDonald 2017).

However, while the science and epidemiology involved may appear to be straightforward, the public discourse around vaccines is far more complicated. After all, the vaccine campaigns require parents and patients to trust, or at least to comply with, governments (which often fund, monitor, and licence vaccines), ‘big pharma’ (the corporations which typically produce and market vaccines), educational institutions (which, at the level of university laboratories are involved in research and development, and then at the level of elementary schools are involved in distribution), and the media (which circulates stories about diseases and the vaccines that can control them). Given both the number of social arenas involved in any vaccine campaign and the decreasing levels of trust granted to many representatives of powerful institutions, there are many opportunities for individuals and communities to encounter new or amplify existing frustrations and misunderstandings about the merit of vaccines (Brownlie and Howson 2005).

There is a word sometimes used in casual conversation among some vaccine scientists for the graphs that show what happens to rates of polio, diphtheria, tetanus, measles, mumps, pertussis, rubella, and other diseases after the introduction of vaccines: ‘disappear-o-grams,’ meaning that vaccines have virtually eliminated many fatal, now preventable, diseases. Nonetheless, throughout the centuries during which vaccines were being developed, they have always been controversial, and have been rejected, resisted, or doubted by people for a wide variety of reasons. The choice not to vaccinate oneself or one’s children is complex. This choice is often linked to interrelated concerns: critique of a medical system that some people find quite alienating, clashes between religious and non-religious values related to the body, or fears about what I would describe as the ‘ambient toxicity’ of the modern world. The latter phrase refers to the perception that our air, drinking water, food, clothing, workspaces, homes, recreation areas, and medicines were once conducive to health whereas now they can no longer be seen as safe. Whether this impression is correct or false is not my concern here; I note this common perspective because it is part of the backdrop against which people interpret vaccines as well as their responsibilities to protect their children from the impurities that are putatively widespread in modern societies. Although ‘vaccine hesitant’ movements with regard to specific vaccines have calculable consequences for public health, in this chapter they interest me because they provide an opportunity to learn larger lessons about religion and health in contemporary societies.

In this chapter, I first discuss and then problematize the ways we typically distinguish between ‘religious’ and ‘cultural’ forms of vaccine hesitancy. This particular distinction undergirds the ways other boundaries—those between, say, magic, science, alternative medicine, conventional medicine, complementary healthcare, and so forth—are demarcated. Second, I want to draw attention to what we might call the salvation stories that animate conventional biomedicine and its hesitant critics. There are many voices in this debate, but they almost all have the confidence borne of strong feelings and group solidarity. Third, on both sides of this
debate the wellbeing of children is often invoked: either as the key reason to make vaccines mandatory or as the value that emboldens parents to resist heartless corporations and imperious governments (Dawson 2011). I argue that debates about vaccines, children, and public health are often not narrowly about immunization, or even children, as such, but about much broader concerns.2

Religious and cultural forms of vaccine hesitancy

Discourse analysis of the public debates over vaccines demonstrates that vaccine hesitancy is typically said to be either religious or cultural, with the cultural forms being most often at the root of outbreaks (Bramadat 2017b). The idea that religious concerns ought to be considered to be sui generis, that is, in a class of their own, and distinct from the critiques associated with ‘secular’ or ‘cultural’ ideas is central to the ways the debate unfolds in North America (McCutcheon 1997), with ‘religious’ objections being seen as non-negotiable, but ‘cultural,’ ‘personal,’ or ‘philosophical’ concerns being seen as inherently less fixed. In the following, I will suggest that there is no categorical distinction between these two forms of hesitancy; given the core interests of this handbook it is important to outline the way this binary is invoked in the broader discussion.

In contemporary Canada, notable examples (Bettinger and MacDonald 2017) of religiously-linked outbreaks include the measles outbreak of 2014 and the pertussis outbreak in 2012, both in the British Columbia’s Fraser Valley and an outbreak of rubella in 2005 near Woodstock, Ontario (Alphonso 2012; Basrur 2005). Although there are differences between the illnesses, regions, and religious communities involved, in these cases a small number of fundamentalist Protestants contended that vaccines interfere with the plans God has for each person, and thus represent the human desire to usurp God’s authority. The individuals and groups in question in the recent Canadian cases mostly belong to the Dutch Reformed tradition, which arose as an offshoot of the Protestant Reformation. Organized around the leadership of the sixteenth century Swiss evangelist John Calvin, so-called Reformed Christianity spread to a variety of societies in Europe and North America over the next centuries and adapted itself to the political and national surroundings into which they moved. The Dutch expression of this kind of Protestantism has existed in Canada since the nineteenth century but increased due to a second wave of Dutch immigration following World War II. Although members of these communities do not live communally or in a segregated manner, some of them do espouse views of ‘the world’ and God’s supremacy, which lead them to be resistant to state and social pressure to conform.

This antagonistic orientation to the dominant social and religious forces that surround them began in the sixteenth century during a period in which they clashed both with the dominant Roman Catholic and rapidly expanding Lutheran traditions (and among themselves). Some of these groups eventually adopted a similarly conservative position with regard to the role of women in leadership, the appropriateness of alcohol consumption, and the permissibility of pre-marital or homosexual sexual activity. Of course, such views are consistent with many forms of fundamentalist Protestantism (Bramadat 2000); what makes the Dutch Reformed sub-culture interesting to scholars working in public health is the fact that some members within this group consider vaccines to be morally problematic interruptions of God’s plan.

This is not the only form of Christianity that might encourage members to eschew vaccines. There has been concern among a very small group of Roman Catholics, for example, that some vaccines were developed using cell lines derived from aborted human foetuses.3 While the official representatives of the Catholic hierarchy are concerned about condoning medical
interventions that involve cell lines from abortions—even those performed decades ago (one from 1964, the other from 1970) for reasons other than immunization programmes—they also appear to recognize that in the absence of alternatives to immunizations, the possibility of preventing the needless suffering of mothers and infants makes it not just acceptable but necessary for people to vaccinate their children (see Pontifical Academy of Life 2005). For these reasons, we do not find conventional or even conservative Roman Catholic views of vaccines and health at the root of outbreaks in Canada (Grabenstein 2013).

In most of the cases in which formal religious communities reject or express serious doubts about vaccines, the actors in question are mostly fundamentalists, both in the sense that they represent very small and quite conservative versions of their larger (and typically vaccine-positive) traditions, and also in the sense that they understand themselves to belong to besieged communities that are often set against the dominant society. However, groups not usually deemed fundamentalist, such as Christian Scientists, are able to function fairly easily within a liberal society (Stark 1998). Founded in the late nineteenth century and at its height in the interwar period, Christian Science now has a small and declining population—likely under 5,000 in Canada, and under 70,000 in the USA. Their vaccine rejection or hesitancy does not spring from an encompassing or dogmatic adversarial relationship to a particular debauched or hostile liberal society. Rather, Christian Scientists promote the—they would say positive—conviction that prayer, rather than medicine, is the best route to healing the body, largely because the body and its illnesses are, like all matter in their view, illusory. Prayer is the means by which believers shed the limitations (such as illness) imposed upon them by the material world (Steckler and Bartkowski 2018). So, this approach to vaccines comes out of a religious perspective in which the very categories of illness and health—indeed, the very nature of reality—are questioned.

In addition to the conventional expressions of formal religious objections, I would add another possibility that merges political and religious concerns. That is, in some cases, vaccines are interpreted by community leaders to represent an expression of imperialism. For example, a little over a decade ago, Muslim leaders in Nigeria rejected the polio vaccine for their community, citing fears that the vaccine might be intentionally contaminated with ingredients leading to HIV infection and infertility (Jegede 2007; UNICEF 1997), a rumour that was echoed in some respects by religious leaders in Cameroon (Feldman-Savelsberg et al. 2000).

Moreover, it is not surprising that some—especially religious and political leaders in Muslim societies—might question the value of vaccination programmes. After all, employees from the US Central Intelligence Agency posed as healthcare workers delivering vaccines to locate Osama Bin Laden. This created doubt about the motivations that might accompany Western involvement in overseas healthcare projects. Indeed, in December 2012, volunteer health workers providing the polio vaccine in Afghanistan were assassinated by the Taliban, and a few months later the anti-polio campaign in that country was halted in some provinces following safety concerns flowing from local fears that the practice represented an aggressive, colonial and ‘un-Islamic’ interference in traditional practices (Graham-Harrison 2012, 2013).

In other words, public and political controversies about vaccinations and the broader role of Western healthcare and military interests in the developing world must be understood against the backdrop of a longer story of entanglement of ‘the West’ with the ‘Muslim world,’ or for that matter the ‘developing world.’ We can speculate that such concerns will linger as long as the many benefits of Western science are enmeshed with international ‘aid’ programmes in which relatively poor countries are expected to redesign their policies and economies to suit the preferred models of the donor country or international agency (e.g., the International
Monetary Fund). The fact that conventional foreign policy and military objectives often have undesirable consequences for international public health programmes explains the original title of a widely-read May 2013 *Scientific American* editorial about some of the unintended consequences of the Osama Bin Laden operation: ‘The Spies Who Sabotaged Global Health.’

Religion, however, may shape orientations to vaccination even for some of the approximately 30 per cent of Canadians and 25 per cent of Americans who tell pollsters they have no religion, making ‘nones’ the second largest (post-) religious cohort in most North American regions (Statistics Canada 2011). Comprised of a small minority of atheists and a majority of people who would be described as agnostics and members of the ‘spiritual but not religious’ cohort, this group is likely to become the locus for vaccine debates in the future. It is among such people that one can expect—by definition—to find a dwindling attachment to, and indeed a general mistrust of, not just religious but any conventional institutions. As Kata notes, there is an overlap between alternative spirituality, alternative lifestyles, and anti-vaccine arguments.

Most (88 per cent) [of the health websites she analysed] endorsed treatments such as herbalism, homeopathy, chiropractic, naturopathy, and acupuncture as superior to vaccination. This was linked to the idea of moving ‘back to nature’ (on 88 per cent of sites), where natural methods of disease prevention were preferable—this included breastfeeding, eating whole foods, and allowing children to experience illnesses naturally. (Kata 2010: 1712)

A final comment is in order before we move to the cultural forms of hesitancy. People tend to ‘mix and match’ elements of religion in idiosyncratic and often apparently contradictory ways. This claim is quite unremarkable among scholars by now, although it often puzzles outsiders and aggravates orthodox members of religious communities. In any event, this tendency might be extrapolated somewhat to suggest that one should expect that such fluidity and open-endedness will also be evident in the way religious insiders selectively connect their religious convictions and their approaches to health practices such as immunization.

Now I turn my attention to the more common forms of vaccine hesitancy and rejection. Each expression of ‘cultural’ vaccine hesitancy speaks to a specific cohort of individuals and it is well beyond the scope of this chapter to provide an in-depth description of any case. However, for the sake of offering some common touchstones, I can identify the following main strands of concern. Culturally-informed vaccine critics include those who are:

- merely ill-informed about the case for immunizations (Akis et al. 2011: 1168);
- members of the medical system (such as nurses) who feel that vaccination programmes for certain pathogens—for example, influenza—violate their personal autonomy (Hollmeyer et al. 2009);
- unfamiliar with the ravages of diseases such as polio and measles and thus doubt the value of any even minimal risk to themselves or their children (Roy 2017);
- deeply committed to an ‘alternative’ or ‘complementary’ medical perspective which frames conventional medicine as simply one among several equally effective ways of approaching health (Mnookin 2011);
- women who feel alienated by the patriarchal history of medicine and empowered by the Internet to ‘curate’ their vaccines in a manner that affirms their growing autonomy (Reich 2014);
in favour of interpretations of the body and the universe that are based on widespread metaphysical discourses related to the ‘natural’ and ‘gentle’ nature of non-medical interventions (Kata 2010);
• alarmed by Internet rumours about vaccine safety and especially severe adverse side effects, such as autism (Kata 2010);
• suspicious that state immunization programmes are part of an international conspiracy to control the population or reduce the birth rate (among other explanations);
• concerned that profit-driven pharmaceutical companies might negatively impact the cost, availability, and safety of vaccines (Smith et al. 2004: 193).

In practice, several of these concerns and motivations are often combined (Kata 2010). In a study by Sobo et al. (2016), researchers found that parents

prioritized one standpoint over another differently for each vaccination decision, in relation to individual children, and as regards different time points both in their own parental life cycle (e.g., as first-time versus second-time parents) and in the life cycle of a given child (537).

Consequently, it is not surprising that vaccine promoters often feel frustrated or even confused when they meet someone who espouses several of the perspectives just listed. They might reasonably wonder if arguments about children’s health are strategic rhetorical devices meant to strengthen claims about other issues (such as autonomy, patriarchy, poverty, or alienation from mainstream institutions). This creates uncertainty in the minds of vaccination advocates about how to engage parents with such mixed motivations in a productive conversation about a child’s (not to mention their own or a population’s) health.

Differences and similarities

The most obvious difference between cultural and religious forms of hesitancy involves what we might think of as their explicit referents. The transcendent referents of the religious forms of hesitancy are right on the surface of the concern: God has a plan for my body; my illness is not ontologically real; vaccines are a tool used to endanger my co-religionists (spiritually and physically); certain vaccines are dependent on an act (abortion) that is forbidden by God.

Although the religious referent (e.g. God’s plan) of these forms of hesitancy is explicit (and not empirically verifiable), this does not mean the religious claims carry no additional freight. The notion—within a small number of fundamentalist Christian communities, for example—that vaccines are a ‘worldly’ interference against God’s plan tells us both about the sort of God they worship but also about the way in which the secular world is conceived as menacing, mendacious, and disrespectful.

In fact, it is true that the surrounding society has, over the last century (and especially in the last three decades), increasingly distanced itself from an exclusive loyalty to Christian values and practices (Bramadat 2000). Moreover, it is also quite true that vaccine promotion campaigns expect people (again, mostly children) to accept physical discomfort and a small risk of adverse effects in order to protect the wellbeing of people (mostly adults) in an increasingly post-Christian society many members of which are either indifferent or hostile to a conservative form of Christianity. It should not be very surprising, therefore, that at least some of these evangelicals would view these campaigns with some suspicion. As such, to explore the ostensibly religious perspective animating vaccine hesitant Christians who were behind the
outbreaks listed here, one would also need to grapple with a social structure that—in truth—has gradually marginalized them (Clark and McDonald 2017). To put it another way, the vaccine hesitancy of these conservative Protestant parents and patients is simultaneously rooted in both theology and politics. One could make the same observation for those rare cases of Muslim or Jewish hesitancy, or the hesitancy of Christian Scientists: the concerns are almost never exclusively about formal religious beliefs, practices, laws, or customs.

In the case of cultural or ostensibly secular forms of vaccine hesitancy, however, the concerns do appear to be entirely this-worldly: do vaccines contain a certain ingredient; what is the risk profile of this vaccine; does my child need so many vaccines at such a young age; will the MMR (measles-mumps-rubella) vaccine make my child autistic; do pharmaceutical companies and governments conceal negative evidence of vaccine dangers?

The fact is that each of these questions can be, and has been answered. The public awareness campaigns that have been launched throughout liberal democracies to respond to these concerns have taken many forms: academic studies, cartoons, newspapers stories, radio programmes, television commercials, pamphlets, expert websites, interactive websites, school visits, telephone hotlines, and so on (Picard 2017). Nonetheless, clear ‘evidence-based’ and multi-media responses to these questions have done very little to quell broad concerns about vaccines. This reminds us that the cultural concerns about childhood (or adult) vaccines that appear on the surface to be (simply) about vaccines (i.e. their safety, development, etc.) also carry additional freight related more amorphously to deeper discomforts about the broader society of which conventional biomedicine is a crucial pillar. In short, those forms of so-called cultural hesitancy that remain (or deepen) even after the patients or parents have received answers to their questions must therefore point to broader ethical or philosophical misgivings.

Questioning the boundaries between religious as opposed to cultural forms of hesitancy helps to demonstrate that all of these groups rely on modes of healing and truth that depend on forms of authoritative knowledge that are largely considered external to, or sometimes antithetical to, Western biomedicine. Virtually all forms of vaccine hesitancy share (negatively) a suspicion of the adequacy or comprehensiveness of conventional biomedical reason, and (positively) a preference for other approaches to the body (e.g. homeopathy, naturopathy, Traditional Chinese Medicine, Ayurveda, etc.). In fact, it is often the case that the ‘alternative’ perspectives on the body that might animate one’s hesitancy about vaccines are themselves syntheses of several bodily regimes: part conventional biomedicine, part homeopathy, part postural yoga, part Internet-derived health modality (nutraceuticals, palaeolithic diet, low-carbohydrate diets, e.g.), and so on (Dubé et al. 2017).

The personal and professional

The scepticism within vaccine hesitant communities about the validity and value of the truths promoted by governments, universities, medical practitioners, corporations, and journalists is alarming to clinicians and public policy workers who often perceive themselves as the last line of defence against potentially catastrophic epidemics of vaccine-preventable illnesses that disproportionately affect the youngest and weakest members of society (Bramadat et al. 2017; McDonald 2007; Picard 2017). It is a challenge for healthcare workers and policy makers who have been trained to respond to specific scientific and social challenges to then be faced with the fact that they are (also) dealing with far deeper concerns from hesitant parents and patients. These concerns question the very Enlightenment ideals to which the advocates’ professional and personal identities are moored, the moral and intellectual trustworthiness of the peers with whom and the institutions in which they work, and their role in the advancement of medical
knowledge. These are as much personal and existential as empirical questions—both for the hesitant and the advocates.

Vaccine advocates will usually observe that the core claims and paradigms animating vaccine hesitant perspectives are not evidence-based. From the vantage point of the dominant biomedical regime of knowledge, vaccine hesitant perspectives are typically framed as subjectivist (governed by the inclinations of an individual rather than an institution), anti-rational (opposed to the conventional hegemonic definition of reason), pre-rational (not-yet-knowing the truth about vaccines), or extra-rational (beyond the normal confines of conventional rationality) (Ariely 2008). It must be said, though, that across the spectrum of hesitant communities (both the religious and the cultural cohorts), there is a clear commitment to the truthfulness of their perspectives. In other words, there is an internal consistency and deep sincerity at work in hesitant perspectives that most advocates are themselves not equipped to engage.

Virtually every clinician my team and I encountered while working on and promoting our book, Public Health in the Age of Anxiety, reported that they believe they lack the religious literacy to respond to hesitancy that is existential or metaphysical in nature, or the patience (or time) to engage parents in conversations about any religious or cultural concerns (Boucher 2017). One can appreciate that clinicians and vaccine advocates are unprepared to deal with concerns that are not strictly scientific, since conventional medical and nursing training is strongly rooted in an epistemological model in which most questions have definitive answers and in which people are expected to change their perspectives based on authoritative evidence delivered by professionals.

Furthermore, many people who are at home in the positivist perspective, of course, have been trained to assume that religious claims are somehow profoundly private and uniquely resistant to change. However, as many scholars will observe, all claims—religious, cultural, political, ethical, scientific—are negotiated, adaptable, historically contingent, local, situated, socially constructed. Religious assertions and feelings about the body (or anything else), in other words, are not sui generis: there is no reason, aside perhaps from there being not enough time to do so in a clinical setting, to treat them as apolitical, ahistorical, or hostile to compassionate inquiry.

Just as the transcendent referents and other non-empirical features associated with religious forms of hesitancy are often (incorrectly) presented or imagined as fixed, the this-worldly referents and initially straightforward concerns of cultural forms of hesitancy make them appear to be subject to quick resolution. The evidence suggests otherwise: first, people often cling to their opinions about vaccines in the face of disconfirming evidence (Brunk 2017; Haidt 2012); and second, the corollary, no class of hesitancy is, as it were, uniquely immune to change.

So, while a given expression of hesitancy can certainly be seen as mainly religious or cultural, virtually all critiques of the dominant secular biomedical approach to vaccination are entangled in both critical perspectives. The fact that most of these critiques are articulated publicly as efforts to protect children from either a morally corrupt world or unsafe technology means that the arguments are subject to emotional and even hyperbolic rhetoric. The challenge for observers, then, is to identify and engage the broader cultural, religious, and existential commitments and convictions at work behind the heated arguments made in defence of children when it comes to vaccination.

Science and soteriology

The rhetoric of both vaccine hesitant parents and that of vaccine scientists and clinicians can be so polemical that the gulf between the two discursive communities seems impossible to
bridge. In an effort to identify some of the deeper forces at work behind the more basic tension between conventional bio-medicine and alternative perspectives on dominant health norms and practices, it may be worthwhile to reflect on the strong ‘soteriological’ (from the Greek word meaning salvation) narratives evident on both sides of the debate. The hallmark of a soteriology is the notion that a person, revelation, book, or some other force could ‘save’ individuals or the world. Most salvation narratives are designed to be universal; all people at least have the ability to be saved if they approach the soteriological force in the right way. It is predictable that these perspectives attract (perhaps even require) what we might call ‘faith’ in their claims and convictions. These generalizations are arguably as true for religious as cultural soteriologies.

For the sake of convenience and in order to capture a common discourse in the public and academic arenas, in this chapter I treat science as a unity. In fact, there are many scientific subdisciplines and debates among them are common. Moreover, contemporary scientific norms and practices emerged historically alongside—and took root in—institutions closely aligned with Christianity and Judaism, such as hospices and hospitals. So, the two general forces—science and religion—that are often framed as antithetical, have been closely related for centuries. Nonetheless, I think it is also true to say that according to a very common sensibility, the un fettered observation and experimentation that are putatively the sine qua non of science are assumed to enable us to develop the ability to know the world as it actually is and to act upon it in a manner that maximizes health and happiness. Within this dominant narrative about science, it is the liberated intellect and the institutions built to cultivate it, that will deliver us from ignorance and suffering. This salvation story has its heroes, of course: Copernicus, Newton, Einstein, Jenner, Salk. It also has its demonic figures and darkened generations: mostly, these are identified with strongly conservative tendencies within Christianity (especially the Roman Catholic Church).

The scientific iteration of soteriology that has animated public health regimes for centuries in the west has an impressive track record, at least as measured in terms of extending life, reducing suffering, responding to errors and imprecision, and eradicating pathogens (Bettinger and MacDonald 2017). The success of vaccines is frequently cited as one of the most dramatic proofs in support of the validity of the salvation story of Western medical science. The ‘disappear-o-grams’ I mentioned earlier offer a compelling visual confirmation of the scientific method. Both vaccine science in particular and the broader agendas of Western biomedicine are well-rooted in and normalized through major institutions (e.g. universities, media, courts, and of course hospitals). As such, when vaccine advocates hear from their friends, colleagues, or patients who doubt the value of vaccines or the trustworthiness of the broader system which develops, distributes, and delivers vaccines, their response is likely to be quite defensive, even angry. It is in the nature of a strong soteriology that its adherents find it infuriating that others might question, not to mention reject, it.

The critics of vaccine science (treated here, for convenience, as a unit, although part of their criticism is the rejection of a singular method or institution) also ‘save,’ but they save citizens from an imperious, arrogant, patriarchal medical establishment that is part of a larger hegemonic project associated with capitalism and colonialism. In response, critics offer an alternative, gentle, ‘natural,’ ‘wholistic’ perspective on wellness that has its diverse heroes, such as Deepak Chopra, Dr. Mehmet Oz, Gwenyth Paltrow, and religious parents who would rather home school their children than compromise their autonomy. These heroes are further supported by horror stories, such as increased diagnoses of autism, autoimmune diseases, diabetes, an epidemic of suicide, and clumsy psychiatric care. One of the most appealing features of this soteriology is the fact that the alternative modalities (e.g. naturopathy, chiropractic, yoga, etc.) espoused by critics of the dominant system offer distressed patients time and compassion that seem in short supply in the conventional health system. When a vaccine advocate meets a vaccine critic who attributes his child’s autism to the MMR vaccine, believes an organic diet
and homeopathy will safeguard his child’s health, or is sure her crippling immune disorder is the result of excessive vaccinations (Benin et al. 2006; Ernst 2002; Kata 2010; McDonald 2007; Mnookin 2011; Offit 2011; Poltorak et al. 2005), the salvation narrative of the critic may be as confident and comprehensive as that of the advocate.

Both salvation narratives create and police boundaries, and thereafter the ‘sides’ are often framed by the proponents as incommensurable. The imagined others in most critiques are viewed as—to extend the religious language appropriate for the metaphor of soteriology—fallen, but nevertheless, capable of salvation. Here we are reminded of the power of these discourses to create strong, identity-conferring communities (Boucher 2017).

Other ways of knowing

It is important to bear in mind that physicians, scientists, nurses, clinicians, and the institutions they staffed and represented (medical schools, hospitals, research centres) once served as the trusted and largely uncontested (Imber 2015) gatekeepers of individual and public health. They were in some sense the guardians or priests of the scientific soteriology. This is not the place to tell the broader story of the impact, since roughly the 1970s, of ‘other ways of knowing’ on the conventional authority structures of biomedicine (see Imber 2015; Offit 2011). What is relevant for this chapter, however, is the fact that the diminished prestige and authority of medical professionals has a direct bearing on the public debate around childhood vaccinations.

As Poland et al observe: ‘In today’s environment of hyper-mass communication and in the absence of current and immediate infectious disease threats perceived by parents, a “good mother” does her homework and starts from the point of concern about vaccine side effects’ (2009: 3241; Reich 2014). Unfortunately, the often private context in which parents—though in fact it is usually mothers who bear the majority of the burden for these kinds of decisions—perform this proverbial homework for themselves and on behalf of their children, means that their efforts to arrive at a reasonable conclusion about a health issue will often be frustrated. Healy and Pickering note that:

The power of anecdotal experiences or ‘sound bites’ supplemented by visual imagery also should not be underestimated. A 30-second clip of a child allegedly damaged by vaccines exploits every parent’s worst fears and is more compelling than clips that detail the reduced incidence or elimination of infectious diseases of which many parents have never heard, much less seen. These impressions supplemented by stories parents may have heard or read on the Internet may become more memorable and lead parents to believe that vaccines are harmful.

(2011: 129)

As a result of the proliferation of other ways of knowing our bodies and creating communities of solidarity—thanks largely to what we might call the digital turn in the middle of the first decade of this millennium—the salvation narrative offered through conventional biomedicine (and its associated institutions, policies, and personnel) needs to compete with a wide variety of other often comprehensive perspectives on health and wellness. These alternative perspectives—whether they are rooted in religion or culture—flourish on the Internet, since it is the ideal medium for solidarities and assertions that tap into latent concerns over authority and autonomy. Most mass vaccination programmes, however, are part of the old ‘top-down’ approach to health and science with the government’s pursuit of the greater good being enacted by clinics and school systems, thus exposing all individuals (with most vaccinations administered to children in their first several years of life) to a usually small amount of immediate physical discomfort and also a very small number of potential adverse side effects.
One might say that in vaccine hesitancy, one observes a conflict between the consensus achieved around a powerful expression of science on the one hand and a radical exercise of autonomy on the other hand. Clearly, the capacity or the right of an individual in a liberal democratic society to refuse to participate in a vaccination programme promoted by the state (and involving multi-national pharmaceutical corporations), or to refuse to subject his or her child to vaccination is a function of the late twentieth century increase in personal autonomy. Each jurisdiction responds differently to these moral, legal, and medical issues. As the threat of pandemics increases, one sees—as in the 2019 measles outbreak in North America and the global impact of COVID-19—societies re-adjust the balance between the values of public health and autonomy. Probably the most contentious moments in these debates are related to proposals to exclude unvaccinated children from public schooling. In legal and administrative terms, school boards usually treat the ‘religious’ (as opposed to the ‘philosophical’ or ‘personal’) objections as the most inviolable in these debates. This special treatment is indicative of the place religion has had in our shared cultural history, but even that convention can be set aside if the danger to public health is assessed as severe (Dawson 2011; Nelson 2019; Salmon et al. 1999: 50).

Conclusion

Imagine how an eighteenth century woman—who could not vote and who had to worry whether she or her loved ones would contract polio, diphtheria, measles, or a deadly strain of influenza—might respond if she heard that in the future some parents would be born into virtually full civic autonomy and would exercise this through rejecting safe and effective vaccines for these diseases. My hope is that this chapter helps to explain both why she would likely be puzzled by learning about this development but also why it should not be surprising.

Some of the deep scepticism one sees within vaccine hesitant communities is a response to the past (and some present) arrogance of clinicians, researchers, public health advocates, and other proponents of the scientific consensus that has emerged around vaccines (Boucher 2017; Roberts and Mitchell 2017). Duly armed (at worst) with catastrophic conspiracy theories or (at best) with alternative notions of wellness, and bound together in the ether of the Internet, vaccine hesitant parents can become an immediately responsive community of care and compassion, resisting an invasive state, an indifferent economy, and the hegemonic institutions of science. However, Sobo (2016) is quite correct to see in vaccine hesitant movements a fundamentally constructive expression of identity formation. These movements are not only about saying no. They believe they must say no, of course; but they also construct this negation as a necessary part of a broader and courageous affirmation of an alternative community governed by different values and working to protect the most vulnerable among us. In light of the tectonic shifts we have seen in the ways healthcare, science, autonomy, and religious practices are considered to hold authority, it would be wise to for scholars, policy makers, and healthcare practitioners to enrich our capacity to engage in conversations with people who question not only the naturalistic and positivistic perspectives underlying conventional medicine but also the influential institutions and authorities that govern vaccine science and public health.

One might well wish simply for a greater capacity on all sides to appreciate ‘other ways of knowing’ or even the enduring benefits of conventional ways of knowing. One might hope that a more inclusive approach to how we might all know about and act upon our common world would allow us to distinguish between the value of vaccines and the shortcomings of the individuals and institutions on which they rely. However, for many of the scientists we worked with in our research project, an explicit openness to alternative health modalities represents a capitulation to a perspective that would create the conditions for horrendous pandemics (cf. Picard 2017).
This chapter has focused on the symbolic role of the vulnerable child in debates over vaccine hesitancy. To date, children have not been included in COVID-19 vaccination campaigns, and as such recent debates have mainly focused on elderly and other vulnerable citizens who succumbed to this virus at alarming rates. Further research will be needed to determine the ways the rights and nature of children are invoked even when their own health seems to be less imperilled than the adults on whom they depend. In general, however, the conflict we see between advocates and critics extends far beyond the ingredients, adverse effects, or religious appropriateness of vaccines and tells us a great deal about the ways communities come into being, promote their own interests, and imagine their opponents. Usually, the debates over routine vaccines often take place in the name of the fragile child who is imagined as under siege either by a dehumanizing state or by misguided parents. Both sides, however, are equally compelled to act out of concern that these children will inherit an unstable, unfamiliar, and unpredictable world.

Notes
1 The desirable coverage rates vary depending on the pathogen in question. For measles, herd immunity requires a vaccination rate of approximately 95 per cent. Failure to meet this level has resulted in major outbreaks (throughout the world, but increasingly in liberal democracies) that led to approximately 110,000 global measles-related deaths in 2017; the vast majority of victims were children (WHO 2018).
2 This chapter is loosely based on a chapter in a book about vaccine hesitancy (see Bramadat et al. 2017). The Canadian situation is similar to what we have seen in other western liberal democracies both in terms of the popularity of vaccine hesitancy and the ways these controversies allegedly represent perennial tensions between religion and reason. Although the 2020–2021 COVID-19 pandemic unfolded after this chapter was submitted, most public debates around vaccines until then focused on routine childhood vaccines such as the MMR vaccine. Moreover, COVID-19 vaccine programs have (to date) excluded children and as such the religious, cultural and political themes in the current public debate are somewhat distinct from those I discuss here.

Bibliography


The politics of vaccine hesitancy


