Vaccine Hesitancy

Andy Blunden 2015

Last year (2014), the rate of measles infections reached a 16-year high in Australia, mainly due to travellers catching measles overseas and passing it on to unvaccinated children after coming home. We are in serious danger of horrible diseases which had been eliminated from Australia, making a comeback due to a rapid increase in parents failing to have their children vaccinated.

The conventional term, 'vaccine hesitancy' (VH), implies *hesitancy* in relation to *vaccination*, but some people are not hesitant at all but *decisive* in refusing vaccination, and some are hesitant about a specific vaccine not vaccination in general. However, the term is accepted as indicating this entire field of activity.

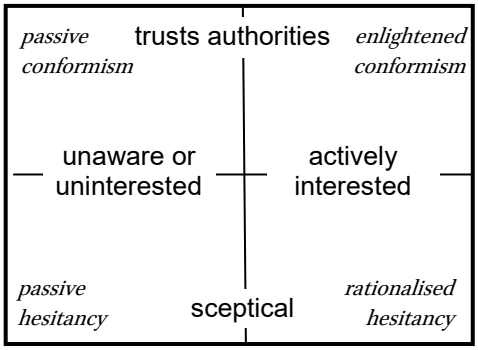
Since the Christian Scientists confirmed that they do *not* have a conscientious objection to vaccination, there is now no basis for objection on religious grounds. The tolerance and legal protection extended to religious orders is firmly established in the principles of secular government. Implicit in this tolerance is the reciprocal obligation on religious orders to conform to the law of the land. Conflicts which have arisen between religious and secular law have been resolved historically by negotiation, and continued tolerance relies on past compromises. Examples include the allowance for religious holidays celebrated by minority communities, and the right of conscientious objection to performing abortion or serving in the army. In the absence of such formal accommodation, the secular law prevails, forbidding genital mutilation and so-called honour killing, for example. Nowhere in this practice is there room for an individual or group to unilaterally declare a conscientious objection on the basis of personal conviction. Such an idea would make a mockery of the very idea of human civilisation.

There remain however a range of reasons behind failure to access available vaccination programs, and different responses by the community are required in each case. The Abbott government's policy to send a 'price signal' by withdrawing welfare payments will work for a minority of those who have not had their children vaccinated but will alienate and harden the resistance of an expanding section of refusers for whom a legal penalty would only confirm their scepticism.

Socio-economic status and level of education have proved to be poor predictors of vaccine hesitancy and the usual empirical-demographic and public education approaches to public health challenges have proved ineffective. Policy makers do not know what to do to improve the uptake of vaccination.

Peretti-Watel et al (2015) use the ideas of 'reflexive modernity', 'risk society' and 'life politics' from Ulrich Beck and Anthony Giddens to describe the field of vaccine hesitancy in terms of two dimensions, parallel to the way that Giddens described 'beyond left and right' in the political domain, with his 'political compass'. That is, just as political opinion can longer be mapped on to a single axis, people cannot be seen as simply more or less reluctant to vaccinate.

The horizontal axis measures the extent to which the subject has embraced the modern trends of *risk culture* in which the world is full of unpredictable sources of danger, and 'healthism' in which the subject is someone who takes active responsibility for managing their own health. The vertical axis measures the subject's disposition to trust the entire system of expert culture and established power and authority, or not.



Risk culture and healthism

On the left of the horizontal axis are people unaware of the severity of diseases like measles, smallpox, rubella, because they have never had any personal experience of them (thanks to the success of past immunisation programs) and are unaware of the need for immunisation programs.

On the right are people who take an active interest in their own health and that of their children, seek out information and are strongly committed to whatever action they find to be appropriate, positive or negative.

Positioning on this axis is questionably deemed to reflect a *personality trait*. What is characteristic of modernity is the shift towards *individual responsibility*. Typically, people no longer ascribe either their good fortune or their poverty to the prevailing political-economic system nor look to governments and authorities to help them. People tend to accept that problems in their life are the result of their own actions. Further, governments actively promote ideologies of self-reliance, and discredit *collective* action, such as by trade unions or other kinds of activism. Governments have changed employment laws, for example, to encourage individual contracts, and reduced welfare payments. Under these conditions, it is questionable to attribute vaccine hesitancy to personality traits, irrespective of quite rational bases for scepticism and customs and norms which encourage people to accept personal responsibility for their own welfare.

Trust

Distrust of public officials is as old as civilisation, but in the past, while people may have distrusted salespeople, police or their boss, they tended to accept the advice of experts. However, the rational scepticism which has been the province of science for 400 years, is now turned back on to science itself and non-scientific people routinely treat scientific opinion with scepticism (This is one of the implications of 'reflexive modernity'. It is 'reflexive' because now people who were formerly merely the objects of social science are now sufficiently educated to see themselves subjects of science, and are aware of the sciences being used to control their behaviour). People don't generally believe advertisements, whose economic interest is undisguised, and nor do necessarily they believe the unbiased, measured but less persuasive claims of scientists and public health officials. Modern egalitarian individualism suggests that every citizen is as qualified as any other to offer an opinion on questions of science.

At the top of the vertical axis are those who still believe that the doctor will generally keep you healthy and that scientists generally understand nature. People who believed that Iraq had weapons of mass destruction and our soldiers are the most courageous in the world would also be found at this end of the vertical axis.

At the bottom of the vertical access are those who presume that genetically modified food is dangerous to world health, the government is probably lying, scientists are motivated by prospects for promotion and whoever is funding their research, while vaccination programs are either a cover for the CIA or a fraud perpetrated by Big Pharma.

What is characteristic of modernity is that rational scepticism is now turned, not just on corrupt or foolhardy officials, but on science itself.

The 'VH compass'

The combination of the two axes produces four archetypes which can be mapped on a 'compass'.

Passive Conformism: in the top-left quadrant are people who take no interest in vaccination issues, believing it to be either unimportant or all taken care of. Unaware of the danger of diseases like rubella and smallpox or their part in eliminating them, they forget to attend clinics for top-ups and ignore news about infectious diseases. But when told that this is what they have to do, they will not suspect any ulterior motive or doubt what their doctor tells them, and will try to comply. These are the people who may possibly respond to 'price signals' or 'No jab no play' rules at childcare.

Enlightened Conformism: in the top-right quadrant are people who generally seek and follow the advice of their doctors and health authorities, closely read the instructions on the packets, check that the local school is doing the right thing and actively support public vaccination programs. These people need neither threats nor propaganda, just reliable and accessible public information.

Passive Hesitancy: in the SW quadrant are people who make no effort to inform themselves about vaccine issues but neither do they believe what the government or their GP tell them. They trust information from their friends and neighbours, however, without questioning the source of the advice given. Messages from experts or authorities are liable to be judged politically.

Rationalised Hesitancy: in the SE quadrant we have that group which is truly a product of our times: they take responsibility for their own health, meticulously controlling their diet, avoiding manufactured food and taking an active interest in issues such as contamination of crops and water sources and inform themselves about vaccination issues. However, they do not regard their GP or the government, far less pharmaceutical companies like Pfizer or Roche, as sources of reliable information and believe that university research is subject to malign corporate influence. Because individuals in this group make their own judgments based on evidence, they may refuse one vaccine while accepting another. It is this cohort which is of particular interest, both because it is the quadrant which is growing, and which is most resistant to blunt public health instruments such as Abbott's 'price signal' and dumbed-down public health messages.

'Herd immunity' relies on the number of unvaccinated people remaining below a critical percentage, somewhat like the critical mass of a radioactive material beyond which a nuclear chain reaction occurs. So long as the percentage of vulnerable people is less than some critical level, the reproduction rate of the infection will be remain at a level such that the infection will eventually die out. Beyond that level, transmission continues indefinitely, or spreads exponentially. So vaccination is *not* a question of personal choice but of *public safety*, like the fire ban enforced during the summer months, and messages based on 'rational actor' logic are misplaced. Self-interest would advise an individual *not* to get vaccinated, but rely on other people's immunity.

At the same time, rational scepticism is an entirely responsible orientation. There are ample precedents for irresponsible marketing of health products and unforeseen consequences of innovative medical practices. There is no formula or universal criteria by which to judge the safety and efficacy of vaccination which does not rely on *trust*.

The question is always: who to trust and for what kind of advice?

The 1976 Swine Flu scare at Fort Dix

In February 1976, hundreds of soldiers at Fort Dix, NJ, contracted a new strain of the H1N1 virus (swine flu). President Ford met with a panel of experts and appeared on TV saying "we cannot afford to take a chance with the health of our nation," announcing an immediate $135 million congressional appropriation "for the production of sufficient vaccine to inoculate every man, woman and child in the United States." A vaccine was fast-tracked past the usual clinical trials, and celebrities, including the president, lined up to get jabbed (Abeysinghe, 2015). As it turned out, the H1N1 strain never made it out of Fort Dix, where only one Army recruit died. But of the 45 million vaccinated, an estimated 450 people developed the paralysing Guillain-Barré Syndrome and more than 30 died, and the government suspended its mass vaccination effort in December.

Whooping Cough vaccine scare in UK, 1977

In the early 1970s, the whooping cough vaccine was producing some unpleasant but harmless side effects. In 1977, the *Lancet* published an article by Gordon Stewart (1977) suggesting that the risks of this vaccine outweighed the benefits and media coverage led to the coverage rate falling from about 75% to 40%. Controversy raged in medical press until 1981 and public confidence gradually recovered, coverage reaching 90% by 1992.

During this period there were no active anti-vaccination groups, which only appeared during the late 1980s and the 1990s. In both the above cases, vaccine hesitancy would have been a manifestation of rational scepticism.

MMR vaccine scare in UK, 1998

In 1998, the *Lancet* published a paper by Andrew Wakefield (1998) claiming that the MMR vaccine – a combination of measles, mumps and rubella vaccines – caused autism and colitis. The claim was completely fraudulent, but it was only in 2010 that the *Lancet* fully retracted the paper and

Wakefield was struck off the Medical Register. Epidemiological research conclusively ruled out the claimed association, but the claim was widely reported in the media internationally, and the belief that MMR vaccination can cause autism persists to this day (2015). MMR vaccination rates in the UK dropped from 92% in 1996 to 84% in 2002, as low as 61% in parts of London, and has still not recovered to the 1996 level. By 2006, the incidence of mumps was 37 times higher than 1996 levels, and in 2008 measles was once again declared endemic in the UK, and there were consequent outbreaks in other countries.

In these latter two cases it was the most trusted medical journal in the world which started the scare, but it proved extremely difficult to put the genie back in the bottle.

Polio vaccine boycott in Nigeria, 2003

Between August 2003 and July 2004, there was a boycott of polio vaccinations in five northern states of Nigeria initiated by Muslim leaders who claimed that western powers "deliberately adulterated the oral polio vaccines with anti-fertility drugs and…viruses which are known to cause HIV and AIDS," (Jegede, 2007). In the context of the US invasion of Iraq, a recent case of Nigerian children being used as guinea pigs by Pfizer, and earlier similar claims about vaccination and medical research in Africa, the people were inclined to believe these claims by their religious leaders (see Jegede, 2007). All efforts by the government to verify the purity of the vaccine were rejected and despite the spread of polio and the lack of any evidence of contamination, the boycott continued. The impasse was eventually resolved in July 2004 through dialogue between the religious leaders and the health authorities. In the meantime, polio had infected 1,434 people in Asia, 1,133 in Africa and 25 in Europe before the outbreak was stemmed.

The issue of trust in the pharmaceutical companies providing the vaccine and the health authorities administering it was legitimate. This was combined with the greater trust in religious authorities who unfortunately misused that trust. The religious leaders evidently underestimated the dangers of not vaccinating and acted precipitously in publicising their suspicions. It was these same religious leaders, however, who were able to quell the panic.

H1N1 vaccine dispute in Europe, 2009

In December 2009, Council of Europe parliamentarian and epidemiologist Wolfgang Wodarg presented a recommendation to the Council of Europe entitled 'Faked Pandemics: A Threat to Public Health' claiming that the WHO had over-reacted to the threat of the H1N1 virus in effectively obliging governments to institute mass vaccination programs in readiness for a possible pandemic. After months of debate, the Council of Europe passed a motion decrying WHO's public reaction to H1N1 (see Abeysinghe, 2015). In the event, Britain, which did implement a mass vaccination program, had more cases of infection than Poland, which did not. So subsequent experience tended to confirm that the Council of Europe had been correct. Scientists judged that a pandemic had not developed, there were questions over the efficacy and safety of the H1N1 vaccine and the threat was not serious enough to warrant mass vaccination, which carries its own risks. The anti-vaccination voice proved to be the most worthy of trust in this case, even if one allows that WHO may have legitimately erred on the side of caution. The discrediting of H1N1 vaccination in this instance may have tainted the reputation of vaccination and health authorities in general.

Abeysinghe, who is a discourse theorist, makes the point that decisions on vaccination cannot sensibly be understood as individual decisions. The Council of Europe and *Lancet* are not simply 'sources of information' on which an individual can draw. An individual is a participant or not in a discourse prior to the reception of an argument framed within that discourse, and will accept or reject the argument accordingly. Who to trust? is not a question which can be answered from outside the discourse in which advice is framed. In Abeysinghe's terms, it is always decided *within a discourse*. I understand that a 'discourse' is the linguist's name for a project.

Consider the case of asbestos (Beaton & Blunden, 2014). The entire medical science establishment world-wide, the regulating authorities, unions and media were nobbled for 60 years after the Australian industry, at least, had become convinced that it was killing people and took legal action to defend itself from claims for compensation in 1939. A collaboration between a US

medical scientist, a trade union, a legal firm and an ABC journalist eventually brought the issue to public attention and forced the government to take action. Asbestos was banned in Australia in 2003, but it is still used in most countries to this day. And there are great many instances of the corruption of science and public health authorities by capital (see Bell, 1992; Epstein, 1996). No one who was alive in the 1960s can fail to remember the impact of Thalidomide – a medication recommended for pregnant women that produced thousands of terrible deformations, or the bare-faced lying of the tobacco companies who swore that cigarettes promoted health. Who to trust? is not a question which can be answered from outside the networks of trust built around the shared pursuit of common life-goals. It is always decided *within* whatever frame originally produced a person's perception of the safety of medical treatments, be that a religious, scientific, political or cultural discourse.

Persuasion and decision-making

In Australia, the average vaccination rate at five years old is 91.5% (NHPA 2014). This leaves 75,000 children vulnerable, with 15,000 of them registering a conscientious objection, distributed across the country. The three postcodes with lowest vaccination rates at 5-y-o are:

2481 Byron Bay, NSW North Coast 66.7%
2483 Brunswick Heads, NSW North Coast 70.2%
2000 Sydney, NSW CBD 72.1%

These areas are well-known for having significant sections of the population which can be described as well-educated, favouring 'alternative' life-styles and distrustful of authorities, squarely fitting the profile of 'rationalised hesitancy'. Areas with the highest numbers of children registering with a 'conscientious objection' (which was possible before 2015) were: North Coast (NSW), Greater Metro South Brisbane, Metro North Brisbane, Sunshine Coast and Gold Coast (Qld), emphasising the same demographic.

The highest rates of vaccination are in far north Queensland, exposed to transmission of diseases across the Torres Strait. In Indigenous communities, rural areas, immigrant and working class suburbs, the 5-y-o vaccination rate is nowhere under 90%. So it is clear that the problem with vaccination levels is with the 'rationalised hesitancy' of the SE quadrant, whether or not living in the 'life-style' postcodes. On the whole, in Australia, working class, immigrant and indigenous communities trust the medical authorities.

So in a modern country like Australia, the analysis offered by the VH compass seems to fit. The types of people described in the low-trust half of the compass are well-known characters. A finer analysis would be required, however, to bring out the influence of place reflected in the marked 'local vaccination cultures' indicated by the postcode data.

On the other hand, the dramatic collapse in the immunisation experienced in Nigeria reflected modernity inversely in that Muslim people trusted their religious leaders more than the government in the Christian South, while the Muslim leaders in turn had good reason to distrust the American pharmaceutical companies (*Lancet*, 2014).

In the UK, one could say that the public's loss of confidence in the whooping cough vaccine was a rational reflection of the state of scientific knowledge in the 1970s. But whereas authorities could restore confidence in a vaccine in 1992, a few years later they proved unable to do so, even when confidence had been shaken by a clear fraud rather than by doubt in genuine science.

Modernity has fostered certain social attitudes which colour public health problems in a distinctive way, but the strongly localised concentration of refusal of vaccination suggests that the problem is not one of attitudes and personality types, but that individual responses to modernity are *socially constructed* in definite networks through which attitudes to sources of advice are formed.

Statistical research (Blume, 2006) has shown that being critical of vaccination is correlated with preference for natural childbirth and the use of alternative therapies such as acupuncture, homeopathy and naturopathy. This, combined with correlation with living in the 'life-style' areas or

the inner-city neighbourhoods of the major capitals confirms that vaccine hesitancy is part of a *wider* attitude to health.

Giddens and Beck have given us a plausible description of the social conditions which have fostered distrust of experts and individual 'entrepreneurship' – high levels of education, industrial practices with potential for catastrophic impact, ubiquitous media reporting, neoliberal economic policies, the rise of service industries, extreme concentration of wealth, widespread radicalism amongst the middle-classes, etc. However, if anti-vaccination views are taken to passively reflect the conditions of modernity, how could we *change* this situation? Short of a social revolution, these social conditions will continue, and so presumably will the attitudes characteristic of these conditions. However, the 'life politics' of 'reflexive modernity' is not a spontaneous response to modern social conditions but a product of projects which have arisen from modern conditions and together *produced* modernity as we know it.

None of the archetypes represented in the VH compass are actually entirely rational stances, including the 'balanced position' at the centre-point. The WHO, the *Lancet*, the Council of Europe – all paragons of rational decision-making – are also subjects that could be mapped on to the compass. There is no dimension on the compass measuring the *real* level of expertise of the subjects, all of whom are taken to be laypeople, or the *real* efficacy of the relevant treatment. This reduction of the problem to an objective process, a stimulus→response process leaves no room for a genuinely reflective, human response to real problems. In such a view, 'reflexive modernity' simply reproduces itself like a virus. If we are going to characterise subjects according to dimensions, is it believable that there are only *two* dimensions? For example, isn't trust specific to *who* is trusted – religious leaders, passers-by, neighbours, scientists, pharmaceutical companies, the media, politicians? And is 'entrepreneurship' really so thoroughly individualised, or do some people still seek to control the events affecting their lives collectively, maybe not through governments, but possibly with trade unions, self-help groups, political parties, church groups, and so on? In any case, one and the same person would occupy different positions on the compass in respect to particular vaccines. Rational scepticism discriminates according to the severity of the infection, the efficacy of the treatment and its safety.

As valuable as the insights of 'reflexive modernity' may be, we are still left with a picture of an individual making rational decisions on a background of given social conditions and policy makers have no clue as to how to deal with rationalised hesitancy. Asking sceptics to 'listen to reason' has not worked so far, and legal sanctions will not work either.

Rather than taking the rational hesitancy of a section of the population as an individual response based on personality, we need to know *how* parents actually acquire their opinion of a vaccine, and *how* and *why* the population's trust in the scientific and medical establishments was lost, in order to know if and how it can be restored, while continuing to see to it that scientific, regulatory, corporate, media and political figures act in a way which is worthy of trust and subjecting them to effective oversight.

Stuart Blume (2006) examined the proposition that vaccine hesitancy could be explained as the product of an anti-vaccination social movement. He has assessed data on how parents have formed their attitudes to vaccines, and examined the contribution which the medical profession have made to this loss of trust. The history of earlier health activism such as Women's Health Movement (Nichols, 1999) and the HIV/AIDS movement (Power, 2014) and the Asbestos Campaign (Beaton & Blunden, 2014) make it clear that relations between the medical establishment and the population is actively produced and not a passive, individual reflection of social conditions.

In order to cut through some difficulties of terminology, I will first introduce the concept of 'collaborative project'.

Collaborative projects

Rather than taking as units of analysis individuals and the discourses or social groups to which they belong, I propose 'collaborative projects', or just 'projects' for short. A project is an aggregate of actions that share a common object, so it is made up of actions not individual people. Individuals participate in various projects through their actions, and their psychology will vary according to the

different action settings and their position in a given project, as a novice or old-timer, more or less committed, etc. Social formations can be seen as bundles of such projects, interacting with one another in changing ways, and changing as the projects themselves develop.

Projects begin as a social stratum that shares some aspect of their social position, but have no collective self-consciousness. As a result of some problem or opportunity that arises for this social position someone launches a project to resolve the problem and others then join that project. That is, you do not just have a lot of people all reacting to their situation in the same way – people collectively affiliate to a proposed solution. The project begins with some object but in the course of time and the difficulties which arise, that object develops, becomes more concrete and may be subject to radical revision in the light of experience. The project thus takes the form of an evolving social movement, in which there is a shared ideal which usually gives its name to the movement. Around that ideal, a whole 'theory of the world', an ethos and self-consciousness – a discourse – develops. Projects are limited in time as a social movement. They either pass away, or to the extent that are successful in objectifying their ideal, they become institutionalised – their ideal is incorporated in the customs and laws of the community, albeit in a truncated or compromised form. Nation states, religious movements, capitalist enterprises, political parties, sciences, pressure groups and fashion trends – these can all be seen as projects. The world we live in is the product of past projects and the projects of today are shaping the world of the future. The world is a work in progress, we are building the 'plane as we are flying it.

A collaborative project is needed, probably like the HIV/AIDS campaign (see Power, 2014), involving medical professionals and public health officials collaborating with stakeholders in the 'wellness industry', complementary medicine practitioners and leaders in life-style communities to restore trust in vaccines and the people who provide them.

Participation in a project means collaborating with others, and collaboration is governed by norms specific to that project. These norms constitute the fundamental ethical substance of the whole social formation. Unlike the assumptions of the rational actor theory which underpins bourgeois economic science, projects are therefore not idealised, but realistic and *normative* for the participants themselves. Because projects of the past underlie the concepts found in a culture and projects of the present provide the motivation for action, analysis by projects not only gives insight into dynamics of a social formation, it also gives insight into the psychology of the individuals.

The conditions which give rise to a project are objective in the sense that they arise from contradictions implicit in a society at a given historical moment. These conditions do not depend on the consciousness of individuals but are objectively given. However, where a person is placed in some kind of predicament by these conditions they are going find a resolution and, finding that others share their predicament, they will collaborate. The project which arises in this way is subjective in the sense that it expresses the standpoint and will of people who have joined together to act in collaboration. Learning takes place collectively in the context of experiencing the reaction to their own collaborative activity. Medical science is a project, and in the context of its interaction with the world it generates and enforces its norms. Individuals within that project are of course also participants in other projects. As a result, the norms which enforce fidelity to scientific practices are under constant pressure from other motivations acting on individual scientists. But on the whole, institutions of this kind develop and learn over time. Corruption comes and goes. Thus the relations which gave birth to the project are reshaped by it; a new objective alignment of relations is the result. Social change is thus viewed as a subjective reaction to an objective situation. The state of affairs at any given moment is conceived of as a process, arising out of objective contradictions.

Even institutions which have become a settled and accepted part of a society remain projects with an object, and a corresponding worldview and norms of collaboration, which underpin not only forms of collaboration, but hierarchy, division of labour, material rewards, training and motivation. Contradictions can arise within projects precisely because they are normative. Such contradictions can have the effect of revitalising a formation that may have had the appearance of a fossilised structure. In response, an institution it can regain properties of a social movement.

Before reflecting on the history of medical science in general, vaccination in particular and how attitudes and practices have been shaped, a couple of observations about a project whose historical development is more well known may be helpful.

One could say that modernity inherited from the past the practices of gender discrimination which provoked the women's movement. One could also say that modern social conditions fostered the emergence of the Women's Liberation Movement in that it provided opportunities which were not previously present and threw light on certain contradictions. It would be untenable, however, to say that the resultant relative equality that women now have in westernised countries (such as equality before the law, the vote, right to own property, etc.) is a 'product of modernity'. No! Women fought for these things and what is more, certain gains, such as equal pay, are still incomplete and constantly in jeopardy and still have to be fought for. And this is an important, practical distinction. Even an institutionalised project, which the Women's Movement now is, is never simply a 'structure' but remains a project at a certain stage in its lifecycle, with its object, its rationality, its ethics and its identity. On the other hand, the ubiquitous fragmentation of social relations characteristic of modernity is probably not a condition anyone ever fought for. It is largely collateral damage pursuant to neoliberal capital accumulation.

Both the trust and the lack of trust in the medical establishment and the popular interest in assessing the evidence for oneself is not simply an aspect of the structure of modernity, but the *products* of projects which continue to this day, and which have the capacity to overcome the distrust and harness the interest in science beneficially.

The origins of vaccine scepticism

Blume (2006) says that anti-vaccination social movements first appeared in the 19th century when compulsory mass vaccination programs were first introduced in Europe and America. These movements were generally led by the promoters of alternative therapies whose projects were threatened by mass immunisation. They found allies in both the working class and middle class because of the compulsory aspect of the vaccination programs. Compulsory vaccination was a challenge to the workers' movement, because after the failure of Chartism in 1848, until the successful turn to parliamentary representation in the 1890s, the project of the workers' movement was *independence* from state regulation, welfare and philanthropy. The project of the liberal middle class, on the other hand, was the extension of personal liberty. Without a history of the success of mass vaccination, the procedure did look risky, and there were plenty of adverse outcomes to fuel antipathy to vaccination.

However, with the progress of medicine and the manifest success of public health measures overall, the rhetoric of the snake oil salesmen sounded less convincing while the frequency of adverse outcomes declined. At the same time, Social Democracy began to deliver real benefits to the working class mediated by the welfare state. Independence from the State was no longer a project of organised labour. The anti-vaccination movement disappeared in the first decade of the 20th century and science-based medicine and mass vaccination was generally accepted and welcomed until the 1980s.

Because of this hegemony, the medical establishment suffered from a measure of hubris. Critics of medical science began to appear in the 1960s, such as Critical Psychology which began among psychology students and other critical trends within psychology (Teo, 2012). The natural childbirth movement also emerged *within* the medical profession, and the Women's Health movement of the 1970s involved both medical professionals and patients demanding women have a say in how they were treated (Nichols, 1999), followed by the HIV/AIDS Movement in the 1980s. The AIDS activists (Epstein, 1996) objected to terminally ill people being given placebos in clinical trials, and demonstrated that research could be far more effective if people with AIDS were included as *collaborators* rather than objects of research, and that gay men, drug users and prostitutes were better placed to design and implement public health programs than public authorities. In the US, medical institutions were dragged kicking and screaming into collaboration with their clients. In Australia, the Women's Health Movement had already prepared the ground, and the government of

the time initiated what proved to be a successful collaboration along the lines suggested here (Power, 2014).

A rising tide of voices objected to the abuse of research subjects, the marketing of drugs which later proved to be toxic, the corruption of GPs and researchers by drug companies, and dangerous and unethical research practices by the US military. Modern conditions contributed positively to the formation of these opposition projects and the scientific and medical institutions failed to rein in their hubris before these voices were raised. Among the critical voices were a number of anti-vaccination groups, which first appeared in the late-1980s, after the decline of the 'new social movements' and in the wake of the AIDS controversy and the whooping cough scare.

According to Blume, these anti-vaccination groups are predominantly self-help groups of people who have become anti-vaccinationist as a result of adverse experiences that they (rightly or wrongly) associate with vaccination. Their message is promoted over the internet and is easily accessible for anyone who goes looking for them. Only a minuscule proportion of the population would have contact with an anti-vaccination group by any other means, far fewer than the number who exhibit vaccine hesitancy. How many parents actually make their decisions about having their children vaccinated by consulting internet sources? According to Blume (2006), only 2% of parents consult the internet in making their vaccination decision, and only a proportion of these would even have read an anti-vaccination website, let alone trusted it, although this figure probably would be larger nowadays. Only a minuscule proportion of the population would have direct contact with an anti-vaccination group, insufficient to explain the extent of vaccine hesitancy. So vaccine hesitancy is *not* the product of scaremongering by anti-vaccinationists. These groups do indeed propagate misinformation, but according to Blume's (2006) research, their influence is negligible. They are more a *manifestation* than a *cause* of widespread vaccine hesitancy.

The most dramatic collapses of trust in the safety of specific vaccines have occurred in direct response to doubts raised *within medical research itself*. But parents did not get this information by reading the *Lancet*. They received the information mainly through conversations with friends, family and neighbours. A survey showed that 75% of parents who had made a decision on vaccination had had at least one discussion on its advisability with the relevant health professional and 85% had read the literature provided, but 16% felt they needed more information. For the majority it was the information they received from *trusted peers* which was most decisive in forming their opinion. Moreover, the proportion of parents distrusting the information from health authorities is growing. This group is strongly correlated with people using 'alternative' therapies. However, Blume finds that active criticism of vaccination by advocates of alternative therapies is also insufficient to explain the decline in vaccination rates, although such views are finding increased resonance among the population at large.

So the question is: why are increasing numbers of people open to arguments that the medical establishment should not be trusted and accepting advice which contradicts the scientific consensus, even while the days of unchecked marketing of drugs like Thalidomide or practices like shoe shops using X-ray machines, are long gone?

> Most of the parents with whom they spoke, explain these authors, see vaccination as a dilemma for which there is no clear solution. Starting from their own individual perceptions of risk they try to make an optimal, vaccine-by-vaccine choice: decisions for which they are willing to assume responsibility.
>
> Blume, 2006, p. 635

One bad experience can sow the seeds of doubt, but this would not be enough on its own for a parent to reject the advice of their doctor. Given that publishing by vaccine sceptics and alternative therapists is not in itself sufficient to explain the extent of vaccine hesitancy and its growth, it seems that it is when parents consult their trusted friends, neighbours and family that doubts become consolidated. Even someone who trusts vaccines may be unwilling to vouch for them for a friend.

Blume claims that the best predictor of vaccine hesitancy is "a general commitment to holistic ideas about health (and to natural child birth and breast feeding) and the importance of life style and environment for a child's well-being."

Information about vaccination from the media, friends and neighbours, alternative health practitioners and health professionals will be framed by this pre-existing view. Most influential in developing this 'holistic' view of medical issues are friends and neighbours, not professionals of any kind. *Local* vaccination cultures form because it is through friends-and-neighbours networks that antivaccinationism is propagated, as an incidental part of interest in 'holistic medicine'. Generally speaking, the original source of a vaccine scare is *genuinely authoritative*, but it is hearing it from a trusted source which is decisive for its acceptance.

Blume claims that the antivaccination movement is not aiming to create or defend a shared identity nor threatening mass mobilisation to defend the interests of any social strata, but according to some theorists, "what binds social movement organisations together is their collective attempt at building an 'oppositional culture' ... in a shared project" and it is this conception of a social movement which best describes antivaccinationism. I don't agree that the holistic medicine movement is lacking in an element of identity formation, though perhaps not to the extent that identity formation is central to movements like those representing denigrated groups in a society. *All* projects have an element of identity formation.

Vaccine hesitancy is not the product of an antivaccination social movement as such, but the by-product of a movement *for holistic health*. Science is a hegemonic ideal. Some of the wackiest strands of alternative medicine still *claim* scientific status, even if without basis. In itself, an holistic health movement ought not to be a danger to public health. But because it arose as a critique of institutionalised scientific medicine, holistic medicine is saddled with a fatal contradiction – it excludes the only party capable of producing a genuinely holistic theory of well-being: scientific medicine.

Both the holistic medicine movement and the public health institutions should recognise that they are in the same position as the HIV/AIDS Movement and the medical science establishment was in the mid-1980s – being treated as an irrational pariah by those with whom they needed to collaborate. Instead of treating antivaccinationism as an irrational curse, the medical establishment needs to enter into a collaborative relationship with antivaccinationism as part of a scientific holistic medicine movement, involving activists in clinical trials, inviting consultation over vaccination programs. Critics have to be invited into the tent. This was the outcome of both the Women's Health movement and the HIV/AIDS movement, and in many different contexts, corporations have been dragged into collaborative relationships with their critics, which have ultimately proved to be invaluable.

Nowadays, people want to make decisions about their own health and that of their children 'for themselves'. In fact such a decision is possible only by weighing up conflicting sources according to the trustworthiness of the original sources of the information. The sources of information themselves – whether neighbours or professionals – and assessment of those sources, is constructed through participation in collaborative projects and generally speaking one trusts a collaborator before someone you have never collaborated with. If your doctor has only ever issued instructions, then you are unlikely to trust them. For many people the only collaborative relations they have are with family, colleagues, friends and neighbours.

The brochures provided by the health system supporting vaccination make no pretence at helping you make your *own* decision. They are transparently aimed at *persuading* you to comply.

The medical establishment is part of the problem and the holistic health movement is part of the solution. Only by these two projects collaborating can scientific medicine become genuinely holistic and the holistic health movement become genuinely scientific. 'Science' can be subjected to stereotyping. Most people are unaware that the positivist, narrow and dogmatic style of analytical science and medicine is only *one style* of doing science. Science is, in essence, holistic and collaborative. But science also relies on trust. Science needs to be able to trust its sources, and the elaborate procedures by means of which science verifies its sources is the most essential part of

the scientific project. There is no scientific concept which stands up if separated from the narrative about how it was created.

You cannot claim to be holistic if you exclude the most significant source of experience, the scientific establishment. Medical experts have to be *engaged* and drawn into collaboration. People become doctors, public health officials or nurses, because they want a career in promoting health. The departmentalisation of all the relevant institutions militates against a holistic approach, but medicine is in essence holistic. In collaboration with non-experts who insist on taking the idea of holistic medicine seriously, these structural problems can be overcome. Realistically, it probably means forming an alliance with *a section of* the medical establishment, in order to achieve the necessary transformation of the health system. But for this to be possible, the holistic health movement would itself be transformed.

Conclusion

The vaccine hesitancy arising from the growing distrust of institutionalised medicine is a serious problem. If it continues to grow, we will eventually learn our lessons in the wake of a global pandemic. Public health authorities must take the holistic health movement seriously and engage them in finding practical solutions in collaboration with the medical profession. 'Representatives' of the holistic health movement are not easily identifiable, but people who may be influential in localities where there is an antivaccination culture, could be engaged in formal deliberative dialogue, not to persuade but to explore solutions. The grievances have to be seriously engaged collectively and not treated as the mistaken opinions of individuals.

Postscript 2020

How much this terrain has changed in the five years since a abridged version of this article was published in 2015! Compliance with childhood vaccination regulations has improved to 95% and the seasonal flu vaccine has been accessed by more than 50% of the population, whilst antivaxxers have come to be widely seen as dangerous, albeit marginal, misanthropes and attract the attention of the police. But the wider field, generally characterised as 'conspiracy theorists', has expanded enormously, even in Australia, where the 'First Lady' is a close friend of the leader of the local wing of QAnon and the wackiest conspiracy theories are sometimes promoted from government benches.

The source of this moral pandemic is the United States and its provocateur-in-chief, Donald Trump. If the reader has gained anything from the above article it must have been that *trust is gold*. The only way of restoring trust where it has been destroyed is to 'reach across the aisle' and collaborate to find solutions. Trump himself is beyond any such project of course, and probably the entire leadership of the Republican Party, which has enabled Trump's madness through their own cowardice and complicity. But at 'ground level' there remain surely common projects from defending public schools to restoring normality on the streets of decimated cities where collaboration is both sorely needed and surely possible.

At the time of writing (August 2020), there is no vaccine which has undergone the normal trials and approval processes. Ironically, it is government leaders (Trump, Putin, Bolsonaro) who are promoting the use of unsafe treatments from injecting bleach to hydroxychloroquine and untested vaccines, and the same leaders are spokesmen for anti-science conspiracy theories. This in turn places the medical science establishment and those who take science seriously in the role of sceptics. How ironic! But it was the same with the whole multicultural movement which advocated for cultural and ethical relativism against a conservative establishment – this relativism is now the ideological weapon of white supremacists who claim the victim role and an entitlement to 'alternative facts'. The idea of 'healthism' mentioned above is now coopted by evangelical advocates of injecting bleach. At the same time, it should be recognised that not all conspiracy theories are equal. Some, like QAnon, are vehicles for racism and anti-Semitism, others, like the 5G

conspiracy, are terribly misguided but progressive in their intent. Clearly, this is a phase of cultural development beyond the terrain characterised as 'reflexive modernity'. The barbarians are inside the gates.

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