Dummheit

Stupidité

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"Mit der Dummheit kämpfen Götter selbst vergebens." – *Friedrich Schiller*
(Against stupidity, the gods themselves struggle in vain.)

Abstract

Immunizing against influenza is tricky; against measles is not. Influenza comes in many constantly evolving strains, but one measles shot in childhood confers lifelong immunity. Unlike the flu, measles was wiped out. Its return represents an outbreak not of disease, but of stupidity. The matrix of stupidity is, however, reinforced by strong strands of malice, as when Andrew Wakefield's fraudulent 1998 paper linked the MMR vaccine to autism. The fraud was unmasked and the vaccine–autism link disproven, but the evil influence continues.

Measles offers an illustration of Virchow's insights that medicine is a social science and that politics is medicine writ large. It is this "inconvenient truth" that is being suppressed by muzzling the Chief Public Health Officer (CPHO) and attacking public health for addressing "social determinants."

Résumé

L'immunisation contre la grippe peut être compliquée, mais contre la rougeole, ça ne l'est pas. Les souches de la grippe sont en continuel changement, alors qu'une injection contre la rougeole pendant l'enfance protège pour la vie. Contrairement à la grippe, la rougeole avait été éradiquée. Son retour représente une éclosion, non pas de maladie, mais de stupidité. Le creuset de la stupidité est toutefois renforcé par une forte malveillance. L'article frauduleux d'Andrew Wakefield établissait, en 1998, un lien entre le vaccin ROR et l'autisme. La fraude fut démasquée et le lien entre le vaccin et l'autisme totalement réfuté, mais les mauvaises influences poursuivent leur chemin.

La rougeole est un excellent exemple de l'idée de Virchow voulant que la médecine soit une science sociale et que la politique soit une médecine pratiquée à grande échelle. C'est cette « vérité dérangeante » qu'on supprime en bâillonnant de l'administrateur en chef de la santé publique (ACSP) et en accusant la santé publique de s'intéresser au « déterminants sociaux »

de la santé.

We are having a bad flu season in British Columbia. Now a team of researchers headed by Dr. Danuta Skowronski at the BC Centre for Disease Control has confirmed medical suspicion that this year's flu vaccine is working very poorly, if at all. Many of us are getting our shots, and then getting the flu as well. Predictably, "this season's dismal results are prompting many Canadians to question why we even need an influenza-immunization program" (Weeks 2015a).

Such questions completely miss the point of this year's experience. Flu rates are unusually high because in most years, they are significantly lower. When the dominant influenza strain is one against which the offered vaccine is more effective, the vaccination program works. Developing the right vaccine for a constantly moving virus target is always a challenge, but most years the effectiveness rate is about 60%.

The BC study raises some genuine scientific questions. Recent advances are "allowing researchers to develop … a much deeper understanding of the true benefits and limits of the current flu vaccine" (Weeks 2015a). Such an understanding could provide a basis for more effective, and perhaps more cost-effective, anti-flu campaigns in the future. Science advances.

But ignorance does not. Most of those who refuse the flu shot have based their opposition not on a sophisticated assessment of the benefits and limits of current vaccines for different demographic groups, but on some form of scientific nihilism – bizarre personal beliefs as to how the world works. Their opposition long predates this year's rather disappointing results, or the just-released study from the BC Centre for Disease Control. The leadership of the BC Nurses' Union, for example, which championed its members' right to refuse immunization while continuing to work in hospitals and long-term care institutions, was acting not on professional principle, drawing on up-to-date scientific knowledge, but on plain old *dummheit*. They were, in effect, asserting a right to bring in the flu virus and put vulnerable patients at risk. Some nurses, as well as other health professionals, were appalled.

Arguments about compulsory medication and constitutional rights are equally beside the point. There is a sign in the Vancouver airport that reads, more or less, "You are under no obligation to submit your person or property to inspection. You can always choose not to board the aircraft." A passenger's right to privacy does not trump the security interests of other passengers and the crew. One might have thought it obvious that institutionalized patients had a similar right not to be unnecessarily exposed to dangerous infections. (Security of the person, eh?) Apparently not. (Hand sanitizers, for voluntary use, are no doubt worthy in intent. But they have the air of a TSG – tiny symbolic gesture.)

One should not overestimate the extent of anti-flu shot sentiment. I suspect that most of the population – us – are quite capable of understanding that the flu virus is a complex beast, and that vaccines have to be developed before the flu season on the basis of advance bets as to what this year's threats will be and what will offer the best defence. Sometimes, as this year,

the bug wins. But more often it does not. And most of us, particularly those old enough to remember the really debilitating flus of 40 years ago, will get our shots next year. A real influenza is no mere heavy cold. It can be fatal, particularly among the elderly, and it is seriously miserable, with prolonged after-effects, even among the young and healthy.

But the political and ideological climate surrounding immunization, and the instant media amplification of protest, make it hard to imagine any cool, laboratory-based, scientific rethink of immunization policy. There is always more to learn, particularly when things do not work out as planned. But for now, get the shot.

And get it because, as again everyone understands, you are doing it for me as well as for you. "Herd immunity" – which occurs when the proportion of the population immunized is sufficient that the infective agent cannot spread – protects those who were too thoughtless or too stupid to protect themselves. It also protects those who, for sound medical reasons, cannot safely be vaccinated. Immunization is a classic example of what economists call a "positive externality" in which your behaviour confers benefits on me, and vice versa. Conversely, your failure to get the shot is a form of "free riding" in which you are relying on me to take steps that will benefit you. It is a standard demonstration in intermediate economic theory that commodities with positive externalities will be underprovided in a free-market society of purely selfish individuals. A little concern for others – or, if that fails, public regulation, subsidy, or both – can make everyone better off.

At time of writing (early February 2015), the issue of inadequate immunization suddenly exploded in the media discourse. A recent high-profile outbreak of measles in Disneyland Park in California – "the Happiest Place on Earth" – has presumably stimulated much of the excitement. This occurrence may be fortuitous in drawing extraordinary attention to a larger underlying problem: the recent decline in rates of immunization against a wide range of once-common childhood diseases.

Measles vaccination is a major public health success story. Prior to the development of a safe and effective vaccine in 1963, measles cases in the United States were averaging about 400,000 per year ("Of Vaccines and Vacuous Starlets" 2015). Within less than a decade, that number had fallen to under 100 annually. The disease was effectively wiped out, and remained so until 2012. Over the last two years, however, the number of reported cases began to rise sharply. In 2014 there were 644; in the first month of 2015 there were 100 more.

Of course, that is in the "Excited States," where all manner of weirdness is endemic. Fortunately, that could not happen in calm and sensible Canada, right? Alas.

A year ago, for example, there was a measles outbreak in the Fraser Valley, British Columbia, traced to the Mount Cheam Christian School (Maki 2014). The school's spiritual guide apparently discourages vaccination because childhood illness is "God's will." (One might ask how many of the children's mothers were advised to give birth squatting under a bush while prayers were intoned?)

The fundamentalist Christian dimension is not incidental: "The cases in Chilliwack have

some resemblance to November's measles outbreak in southern Alberta … . A student at the Coaldale Christian School who had been to the Netherlands contracted measles and set off the chain reaction" (Maki 2014).

Picard (2015) notes that "there were significant outbreaks of measles in five Canadian provinces last year. They were much worse than the Disneyland outbreak."

There is no mystery behind these outbreaks, or the rapidly rising overall rates of infection. Unlike influenza, the measles virus is not a moving target with multiple varieties, constantly evolving. There is no challenge in determining from year to year which of a number of strains the vaccine should address. And vaccination in childhood confers lifelong immunity; there is no need to reach the whole population each year. So rising measles rates are a simple and natural consequence of parents' failure to have their children immunized. We are witnessing a new epidemic – of *dummheit*.

Measles is the bellwether for a range of childhood diseases that, while typically relatively benign (been there, done that), can in some cases turn very nasty indeed. Falling immunization rates are not a trivial issue, and the extensive media coverage is a good sign. But "Why here? Why now?" And what to do about the situation?

Picard (2015) has a vigorous response to the last question: make vaccination mandatory, or at least difficult for parents to avoid. After all,

> [o]nly about 2 per cent of parents are intractably against vaccinations – an oddball group of conspiracy theorists and religious zealots. … Do we have an inalienable right to catch and spread infectious diseases? Of course not. … Better a little coercion than a dead child.

Renzetti (2014) is equally forthright:

> … we need more of a good old kick in the pants [for the anti-vaxxers]. If we penalize people for other behaviour that's harmful to the public good – smoking in bars, not using car seats – then why would we not fine them for refusing to vaccinate their children? Under the law, you are not allowed to physically abuse your children – why should you be allowed to willfully expose them and others to easily prevented harm?

The Economist reinforces Renzetti's dismissive description of anti-vaxxers as encouraged and promoted by "[a] gaggle of B-list celebrities such as Jenny McCarthy … , a former Playboy model and anti-vaccination megaphone … ." The article includes an emotive photograph of Ms. McCarthy, mouth open wide, captioned: "Playmate, actress, epidemiologist" ("Of Vaccines" 2015).

But Schiller gives us a warning. Just because we are dealing with obvious and self-evident dummheit does not mean that the problem can be resolved by earnest efforts at better educa-

tion and communication. As suggested by the measles outbreaks in the Christian schools in Alberta and British Columbia, opposition to vaccination can be part of religious belief, notably impervious to fact or argument. But the "rapidly growing group of skeptics, parents with a hodgepodge of doubts and fears, real or imagined" (Picard 2015) appears to have become a cult in themselves, independent of any formal religion. The sudden and rapid rise in measles cases in the United States reflects this rapid growth, and the new social media, providing closed communities for pathological internal hypercommunication, lend themselves to cult formation and promotion.

Cultists also tend to be quite skillful in evading public authority. As Picard (2015) notes:

> The United States actually has some of the strictest mandatory childhood vaccination rules in the world. But many states also have "religious" and "personal belief" exemptions that allow parents to opt out.

The persistence and spread of dummheit has a further aspect – malice. Like the toughness of a composite material – consider fibreglass – cult beliefs depend on strands of malice binding together and strengthening a matrix of ignorance and gullibility. Cult leaders are often well aware that they are promulgating nonsense, and that it pays. Here the notorious Andrew Wakefield enters the story.

Andrew Wakefield is a British former physician and medical researcher who in 1998 published a paper in *The Lancet* making the now-discredited claim that there is a link between the measles-mumps-rubella (MMR) vaccine and the development of autism ("Wakefield's Article Linking MMR Vaccine and Autism Was Fraudulent" 2011).

The word "fraudulent" is of central significance. It means that Wakefield's work is not simply a focus of scientific disagreement or controversy, but represents deliberate malfeasance – a conscious attempt to mislead (the lawyers' *mens rea*). Secondly, it opens an obvious door to an action for libel. British law is particularly supportive of libel actions, and a successful suit can be very lucrative for the plaintiff. (Liberace famously remarked about the personal hurt he suffered from being libelled: "I cried – all the way to the bank.") But there is one sure defence: proof that the alleged libel is in fact true.

Wakefield has yet to succeed at law; his latest effort was a defamation suit filed in January 2012 in Travis County, Texas. The defendants, like Wakefield himself, were all British nationals or organizations, but he may have hoped for a more sympathetic hearing (he requested a jury trial) in the American South. If so, the stratagem failed. In August 2012, District Court Judge Amy Meachum dismissed his suit and ordered him to pay the defendants' costs as well as his own (Dyer 2012). Her ruling was upheld on appeal.

But this is only a recent episode in a long and sordid tale that has unfolded since 1998. Wakefield's results, as reported in *The Lancet*, have never been reproduced. A 2004 investigation by *Sunday Times* reporter Brian Deer identified "undisclosed payments" to Wakefield indicating financial conflicts of interest on Wakefield's part. A 2010 inquiry by the British

General Medical Council into allegations of misconduct found him guilty on three dozen charges, including dishonesty and irresponsibility in his published research. *The Lancet* immediately retracted his 1998 publication ("Retraction" 2010), noting that some of its claims had been proven false. *The Lancet's* editor-in-chief, Richard Horton, said he felt the journal had been "deceived" (Bosley 2010). Wakefield was subsequently struck off the medical register and is barred from practising medicine in the United Kingdom.

The "undisclosed payments" (Deer 2004) were fees paid to Wakefield, amounting to nearly half a million pounds, under a contract with a firm of solicitors trying to build a case against the manufacturer of the MMR vaccine. This relationship, unknown to his co-authors, had begun two years before the publication of the fraudulent *Lancet* article. Brian Deer's disclosure of these payments led Wakefield to drop then-pending libel actions against Deer and the *Sunday Times*; the judge awarded costs to the defendants.

Wakefield subsequently moved to the United States, where he draws his not-inconsequential income from various forms of anti-vaccine publicity, despite his loss of medical qualification. Critiques and ridicule of his work could fill a small library.

By contrast, in 2011 Deer was named the UK's specialist journalist of the year in the British Press Awards. The judges said that his investigation of Wakefield was a "tremendous righting of a wrong" ("Brian Deer Wins a Second British Press Award" 2011).

It is an amazing story. It is well said (and variously credited, from Napoleon Bonaparte to Robert A. Heinlein) that one should never attribute to malice that which is adequately explained by incompetence. But in this case, the attribution is clear. As the editors of the *BMJ* asked:

> Who perpetrated this fraud? There is no doubt that it was Wakefield. Is it possible that he was wrong, but not dishonest: that he was so incompetent that he was unable to fairly describe the project, or to report even one of the 12 children's cases accurately? No. A great deal of thought and effort must have gone into drafting the paper to achieve the results he wanted … . ("Wakefield's Article" 2011)

The journals have been cleansed and the legal record set straight. But the evil that men do lives after them, and the taint remains. There is still in the popular culture a certain strand of unease and suspicion about childhood vaccination. In the United States, of course, there is also a significant portion of the American population that simply does not have access to adequate healthcare, but this has always been true. The anti-vaxxers of conviction are those who drank, but not deeply, at the Pierian Spring. Wakefield was and is foremost in poisoning the shallower waters.

The American data on measles cases are particularly disturbing, because Wakefield's original paper is nearly 20 years old. The damage is only now starting to show up. How long is the lag time; how high will the rates climb before they start to drop again? And will they drop? Although Wakefield's papers have been withdrawn and he has been "struck off," he continues

to work his evil, and his message has clearly metastasized as it has gained a cult following. As this is being written, a Canadian survey reports that 20% of respondents believe that there is a link between autism and the measles vaccine, and another 20% simply "do not know" (Weeks 2015b).

One thing is crystal clear. The resurgence of measles, and of other childhood diseases, is *not* a challenge to "bench science" or to medicine in the narrow sense. That work was all done, and done well, a generation ago. The vaccines are in hand, and their safety and effectiveness long established. The clinical problem was solved. We are now facing what might be called a form of "social disease." The measles resurgence exemplifies the insights of Rudolf Virchow (1821–1902), the great German pathologist and father of social medicine, who wrote: "Medicine is a social science, and politics is nothing more than medicine on a grand scale."

Virchow went much farther than worrying about anti-vaxxers:

> In his view, medicine and public health practices, applied politically, could transform society; politics and social systems could have profoundly positive or negative effects on public health; and both the physician and the politician had a moral obligation to heal society.
>
> Virchow believed that all epidemics were social in origin. … The improvement of social conditions, he wrote, would achieve the desired result "far more rapidly and more successfully."
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> Virchow, like Florence Nightingale, was skeptical of the germ theory because of its potential to de-emphasize the social factors that caused disease and to encourage a superficial approach to prevention and cure. (Contagion: Historical Views of Disease and Epidemics 2015)

As though on cue, here we have Peter Shawn Taylor, editor-at-large of *Maclean's* magazine, offering his take on public health in the *Globe and Mail*:

> Across the country, public health departments at all levels of government have wandered much too far from their original mandates. Instead of focusing on the prevention of communicable diseases, they've been indulging in overt ideological crusades, inventing obscure new problems and claiming jurisdiction in areas well past the limits of their competency. …
>
> It is not the job of public health to have an opinion on taxes, economic policy, free trade or corporate control. Neither should it be their business to interfere in the freely-made choices of adults.
>
> Public health ought to stick to their needles, and leave the economy alone. (Taylor 2014)

Taylor's comments reflect a degree of scientific nihilism as glaring in its own way as that of the anti-vaxxers. A large and growing body of research has built on and confirmed Virchow's insights, and this broad base is familiar to and well understood by all of today's students and practitioners of public health. And like Virchow before them, they have taken up the moral obligation to try to heal society.

Those efforts have not always enjoyed universal support, now or in Virchow's time:

> The Health Department of a great commercial district, which encounters no obstacles and meets with no opposition, may safely be declared unworthy of public confidence; for no sanitary measure, however simple, can be enforced without compelling individuals to yield something of pecuniary interest or of personal convenience to the general welfare. (Metropolitan Board of Health of the State of New York 1868)

Taylor's polemic, an attack on pretty much the entire public health community of Canada, seems in fact to be part of just such an "overt ideological crusade" to protect any pecuniary interests or personal convenience that might be threatened by the intellectual heirs of Rudolf Virchow. Many "inconvenient truths" emerge from study of the social determinants of health.

Specifically, Taylor defends, and indeed celebrates, the measures taken by the Harper government to downgrade the position of the Chief Public Health Officer (CPHO) of Canada and place it under direct political control. These changes have been universally condemned by the Canadian public health community.

Picard expresses well what is at stake in the leashing and muzzling of the CPHO, in his commentary on the *de facto* suppression of that officer's most recent report:

> Over a decade of service, the first CPHO, Dr. David Butler-Jones, tackled issues like the social determinants of health, Canada's poor record on child health, the resurging threat of infectious disease, the sex and gender inequalities in health outcomes and the impacts of aging, to name a few.
>
> The latest report follows that tradition. Its theme is the future of public health, but the real gem hidden in there is a chapter on public health impacts of climate change.
>
> When a report of this import falls silently and invisibly, the sound you're hearing is Canadians suffering harm. (Picard 2014)

The neutering of the CPHO is of a piece with the Harper government's sidelining of the Chief Electoral Officer, the termination of the mandatory Census long form, the destruction of long-term studies of environmental change, and the general muzzling of the scientific community wherever the federal arm can reach. Don't like the message? Kill the messenger.

When information is ignored or suppressed, *dummheit* can flourish. But whatever else he may be, Stephen Harper is no dummy.

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