



RESEARCH ARTICLE

POLIO PROVOCATION: PHILOSOPHICAL REFLECTIONS ON THE RISE AND DEMISE OF POLIO IN THE TWENTIETH CENTURY

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ABSTRACT

This paper addresses some myths and misconceptions surrounding what may have been the most feared disease of the last century—poliomyelitis. After lying dormant for thousands of years, polio suddenly assumed epidemic proportions early in the 20th century, consigning thousands to life in iron lungs—particularly in more well-to-do countries in Scandinavia, Europe and North America. Nor did Britain and Australia escape. In response to the threat, Salk (in 1955), and Sabin (in 1962) introduced their respective vaccines, and by the mid 1970s, polio, somewhat miraculously, and completely unexpectedly, disappeared from the developed world. Nathanson, writing in the *American Journal of Epidemiology* avers, “Beginning in 1955, the creation of poliovirus vaccines led to a *stepwise reduction* in poliomyelitis, culminating in the *unpredicted elimination* of wild polioviruses in the United States by 1972.” (Nathanson, 2010) (pp 1213 – 1229) (emphasis ours). Nathanson’s assertion was elaborated further by Mawdsley, in *The Lancet* in 2014 Just as anxiety surrounding *polio provocation* crested, a series of related scientific discoveries fuelled its rapid decline. The introduction of the Salk vaccine in 1955 and the Sabin vaccine in 1962 ushered in an era of polio prevention, which parents and health professionals greeted with a combination of relief and enthusiasm. (Mawdsley, 2013) (emphasis ours). Mawdsley goes on to say, “Once polio vaccination programmes established *herd immunity* among children and adults, . . . [o] rthodox public health and surgical practices were restored.” (Mawdsley., 2014) (emphasis ours). The essence of the official story, outlined above, is now offered as a classic example of modern “scientific” medicine’s contributions to population health and well being, and as prime justification for medicine’s position of dominance in modern society. (CDC., 2018) (297—310). However, in this paper, we suggest that the story is at best an oversimplification; at worst, a gross misrepresentation of the historical and scientific facts.

INTRODUCTION

For the sake of clarity, the facts relating to polio will be discussed under two headings: (1) the history of polio *before* vaccination; and (2) the history of polio *after* vaccination. Such a review will throw into sharp relief a side to the polio story that is routinely ignored, perhaps because it casts serious doubt on the validity of common medical claims.

Before polio vaccinations were introduced

An Egyptian hieroglyph depicts a man propped up on walking sticks, with one leg thinner than the other, indicating that poliomyelitis has been known to the human race at least since the time of ancient Egypt (Nathanson, 2010) (p. 1214). Polio appeared first in Britain about 1834, with just four cases reported, but not in epidemic proportions until early in the twentieth century (Nathanson, 2010). After spasmodic reports of polio in various countries, a true outbreak occurred at the end of World War I (1917). The most severe epidemic in the United States occurred between 1942 and 1953. In 1952, 33,344 US cases were reported.

Other outbreaks occurred the same year in Germany and Belgium. (JRPa, 1965). However, at no stage did the threat of polio even remotely approach that of the Black Death or many other diseases. For example, in 1960 the United States was without universal vaccination. Ninety-five percent of [polio]-infected patients had no symptoms whatsoever, 4% had fever, headache and flu-like symptoms and 1% developed poliomyelitis (paralysis) (Humphries, 2012). Of those cases that proceed to paralysis, the majority recovered within a few weeks to a few months. Only 2% to 5% of childhood paralytic cases resulted in death. The proportion was slightly higher in adults (CDC., 2018) (p. 297). Compared to the 25% to 50% mortality of the Bubonic Plague, this is an almost insignificant number (JRPa, 1965).

“Stepwise reduction” in polio and “unpredicted elimination of wild polio viruses”

Nathanson’s term ‘stepwise reduction’ in poliomyelitis (above) implies that polio responded to an intervention model based on the medical paradigm of infectious disease that had been in vogue for over a hundred years: that systematic and complete vaccination of a population over time would result in herd immunity, leading to the demise of the disease. On the other

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hand, Nathanson's claim that the "elimination of wild polio virus" was "unpredicted", (Nathanson, 2010) betrays the fact that the demise of polio did *not* follow the predicted medical model. Firstly, it disappeared independently of medical intervention, calling into question the validity of the medical paradigm. Secondly, the reference to *wild* polio virus hints at another uncomfortable truth. The vaccine that supposedly eliminated *wild* polio caused another more harmful and more intransigent form of polio (Vashisht, Puliyl, and Sreenivas, 2015).

In order to avoid the immediate and obvious consequences of such an unacceptable eventuality, the medical industry was quick to rename the medically induced kind of polio "*Non Polio Acute Flaccid Paralysis*" (NPAFP), a disease virtually indistinguishable from polio, but more serious. According to Jonas Salk, virtually all polio in the world today is the result of, or, in Mawdsley's terminology, 'provoked', by Sabin's Oral Polio Vaccine (Saul, 2013). After Salk's death in 1996, the American *Centres for Disease Control* (CDC) tacitly acknowledged Salk's assertion. They said: "To eliminate the risk for vaccine-associated paralytic poliomyelitis, an All-Injected Polio Virus schedule is recommended for routine childhood vaccination in the United States"(CDC, 2000). Sabin's paralysis-causing polio vaccine (OPV), was to be replaced with Salk's injected vaccine. Thus only after two decades would orthodoxy at last take heed of the cautionary words of Dr. Salk, the man credited with creating the first polio vaccine (Saul, 2013). In other words, NPAFP is an *iatrogenic* disease caused by a routine medical procedure vaccination.

Polio provocation

Far from "polio vaccination programs" establishing "herd immunity" the facts reveal that before vaccination, populations of the developed world, as a whole, enjoyed a very high degree of herd immunity against polio, and had done so for thousands of years. This equilibrium was interrupted only when industry began contaminating the environment with pesticides and the medical profession assaulted the population with chemical and surgical "preventive measures". While the virus may have been the infectious agent, the organized chemical and medical industries "provoked" it in the population.

The response to the polio outbreak was twofold. On the one hand, medical scientists began searching for a vaccine to fit their medical model. On the other, health organizations, charities and professional medical associations such as the American Academy of Paediatrics and the American Public Health Association began investigating "the possibility of *polio provocation*" in other words, the causes of the epidemics. (Mawdsley, 2014) (Emphasis ours). Mawdsley's almost incidental use of the term "polio provocation" (above) represents an interesting and telling concession to modern medicine's causal role in the polio epidemic. The word "provoked" avoids the more damning implications of "caused". By the 1950s, before Salk and Sabin vaccines, an "impressive volume of literature on polio provocation" that "fuelled changes in health policy" already existed. (Mawdsley, 2014). Mawdsley indicates that the changes involved recommendations to limit tonsillectomies and DPT vaccinations while there was any risk of polio around. Then, passing over these "changes in health policy", he proceeds to credit vaccination with being responsible for the "unexpected"

demise of polio. Mawdsley's assertion that a "series of related scientific discoveries fuelled [polio's] rapid decline" is more significant for what it conceals than what it reveals. Mawdsley studiously and perhaps deviously passes over all the "related scientific discoveries" that had far more relevance to the demise of polio than either the Salk or Sabin vaccines, but which do not serve the medical industrial paradigm. The reader is left with the impression that vaccination was the only, or at least the most significant, factor impinging on the course of the disease. In fact, a review of the "series of related scientific discoveries" which 'fuelled [polio's] rapid decline' suggests that vaccination may be an interloper, even an imposter, in this story. Consider the following. By the middle of the twentieth century, the "series of related scientific discoveries", all of which actually "provoked" polio, were known to include all the following (Humphries, 2012):

The DDT story: For most of the first half of the 20th century, schools, homes, offices and factories were routinely sprayed with DDT in an effort to wipe out mosquitoes which were believed to be polio's vector. But by the middle of the century, DDT was recognized as a cause of paralytic disease, and public pressure began building for its elimination from the environment (Cáceres, 2015). The publication of Rachel Carson's *Silent Spring* (Carson, 1962) goaded the global community into taking action to reduce or eliminate the use of DDT and other toxic chemicals. Thus a significant cause of polio was identified and removed.

Highly processed refined food: The early 20th century saw an explosion in the consumption of refined foods white flour, white rice, white sugar and many other vitamin and mineral deficient "foods". Increasing consumption of these *refined foods* emasculated the immune systems of children (and adults), destroying their natural immunity to polio (as well as all other infectious diseases). For example, it was noted that children who were fed wholemeal bread, rich in B vitamins, rarely contracted polio, and if they did, it never proceeded to paralysis (Helms, 1941). After the second world war, legislation was widely enacted, requiring "enrichment" of refined foods with B vitamins and other trace elements and substances (FDA, 2018). This fortification of foods with B vitamins and other vitamins played a significant role in the falling incidence and demise of polio.

Diphtheria, pertussis, tetanus (DPT) vaccinations: Widespread inoculation of children with the pertussis, diphtheria and tetanus (DPT) vaccines all too often resulted in paralytic polio of the injected arm or both arms within days or a few weeks after vaccination (Cunningham, 2015). During the 1949 British polio epidemic, according to Austin Bradford Hill and J. Knowelden, "the risk of paralytic polio was increased 20-fold among children who had received the DPT injection" (Cunningham, 2015). The injections, deep into the muscle, buried the polio virus deep in the tissues. From there it migrated up the nerves to the spinal column where it caused paralysis. When this became known, doctors were advised by their medical boards to suspend the DPT vaccinations while there was any polio around. The abandonment of this "provocative" procedure led to a further fall in the incidence of the disease.

Tonsillectomy: In 1914, after a long history of trial and error, experiment and failure, with not a few casualties, anaesthesia was launched as a safe and effective medical aid in surgical

procedures. (Grob, 2007). Medical doctors, with their comparatively new medical toy of anaesthesia together with a new found confidence in their ability to cure all disease, even to prevent it, adopted tonsillectomy as a mass preventive measure against later tonsil infection simple to perform; financially lucrative. In developed countries, at least, the removal of the ‘vestigial’ tonsils from young children became an almost universal practice. (Grob, 2007). However, unknown to doctors at the time, the tonsils are critical to the body’s primary defence against the polio virus. (Grob, 2007). The wholesale removal of tonsils from almost all children set the stage for a rising epidemic of polio. (Mawdsley, 2014). While not all children who had their tonsils removed caught polio, children who caught polio had more often than not had their tonsils removed a few days or a few weeks prior to contracting the disease. For example, a study of more than 2000 case histories by the Harvard Infantile Paralysis Commission in the 1940s concluded that tonsillectomies led to a significant risk of respiratory paralysis due to bulbar polio (Mawdsley., 2014). As a result of the above, many health researchers and authorities took “polio provocation” seriously. Some health departments even shut down child *immunization clinics* and discouraged *throat operations* [tonsillectomies] out of concern that the risk of causing polio was too high. (Mawdsley, 2013).

Finally, Mawdsley’s assertion that ‘orthodox . . . surgical practices were restored’ after vaccination supposedly established herd immunity represents a further misrepresentation of the facts. (Grob, 2007). The only ‘surgical practice’ to which he can possibly be referring is tonsillectomy, which never, since the 1950s, was ever resumed on the scale it was during the first half of the 20th century. It now appears that the widespread practice of tonsillectomy, together with DPT vaccination, may have been the most significant cause of the polio epidemic in the 1940s and 1950s, in that it robbed the population of the herd immunity against polio which it had previously enjoyed. Thus, the two major direct contributors to the polio epidemic are seen to be *iatrogenic*—caused by doctors and their medical ‘treatments’, thus exacerbating the ‘Polio Provocation’ controversy.

Not all agreed with the above “provocation” paradigm. In the middle of the last century, it was a topic of heated argument and not a little disagreement. Some said it was a chimera; others believed it was a valid explanation of the polio epidemic. However, “clinical evidence, derived from across three continents, had established a theory that required attention”. (Mawdsley., 2014). Could the fact that the same disease patterns occurred, not only in three *countries*, but on three different *continents*, be a coincidence? In 2015, Alan S Cunningham (Cunningham, 2015), reported that polio provocation was most convincingly documented by Austin Bradford Hill and J. Knowelden during the 1949 British polio epidemic when the risk of paralytic polio was *increased 20-fold* among children who had received the DPT injection. (BMJ 2:1--July 1, 1950). (emphasis ours). Similar observations were made by Greenberg and colleagues in New York City; their literature review cited suspected cases as far back as 1921. (Greenberg, 1952), (Davis, 2003). In 1998, Gromeier and Wimmer uncovered “the pathogenic mechanism linking intramuscular injections and provocation poliomyelitis.” They showed that Skeletal muscle injury [vaccination] induces retrograde axonal transport of poliovirus and thereby facilitates viral invasion of the central nervous system and the progression of spinal cord damage (Gromeier, June 1998)

Further developments in research and diagnostic methods meant that over the course of a century, polio provocation had migrated from a theory to a clinical model. (Mawdsley, 2014). But there is yet another reason for the somewhat “unexpected” demise of polio after the introduction of vaccination: the *reclassification* of a number of paralytic diseases.

After the introduction of polio vaccines

Before “the [polio] vaccine was in widespread use, many distinct diseases were naively grouped under the umbrella of ‘polio’,” rendering the high incidence of polio in the first half of the 20th century something of an illusion. (Humphries., 2012). The number of paralytic diseases that had been (wrongly) classified as polio included

- Enteroviruses such as Coxsackie and ECHO;
- Undiagnosed congenital syphilis;
- Arsenic and DDT toxicity;
- Transverse myelitis;
- Guillain-Barré syndrome;
- Provocation of limb paralysis by intramuscular injections of many types, including a variety of vaccines;
- Hand, foot, and mouth disease; and
- Lead poisoning. (Humphries, 2012)

Many believe that the most famous “polio” case of all time, US president Franklin D Roosevelt, most likely was a victim of Guillain-Barré syndrome, and not polio at all. This conclusion is based, among other indicators, on the nature of the onset of the disease, and Roosevelt’s age at the time of onset 39 years. (Davis, 2003)

Susan Humphries says

“Only after the vaccine was widely accepted was there an effort to distinguish poliovirus from other types of paralytic disease.” (Humphries, 2012) (11). It is uncertain how many of the 600,000 cases of “polio” said to have occurred in the US before vaccination, were in fact polio. The diseases listed above were all “provoked” by causes similar or common to those provoking polio, and would also have declined when the provocation ceased. The claim that polio vaccines were responsible for the drop in the incidence of polio from 600,000, to 100,000 is therefore fatuous. The drop could have been entirely due to the removal from the records of, perhaps, 500,000 cases that were not polio in the first place. Humphries says that, after vaccination, the face of polio may have changed, but it was mostly due to the *power of the pen*, advances in diagnostic and life-support technology, removal of certain toxic influences, and advancements in physical therapy. (Humphries, 2013) (p. 11) In any case, medicine continues to ignore the role of this re-classification in polio’s demise, claiming credit rather for its vaccines.

Economics of polio vaccination

In 1957, the Atlantic Monthly reported that after vaccinating 30,000,000 children the previous year, the incidence of polio had dropped from 28,000 to 13,000, a reduction of 15,000 (Rulstein, 1957). At face value, this is an impressive reduction.

However, a simple mathematical calculation reveals an unexpected reality. If the numbers reported by the Atlantic

Monthly are correct, 2,000 children needed to be vaccinated to prevent just one case of polio. (30,000,000 vaccinated, divided by 15,000 cases prevented). Assume for the moment that the reduction was real, and not due to other factors such as the reclassification of paralytic disease into categories other than polio: given that only one case in a hundred would proceed to paralysis, this means that to prevent just one case of paralysis, 200,000 children must be vaccinated. Moreover, most cases of paralysis resolve within a few weeks to a few months. Only about 3% to 5% result in death. Continuing the calculation, to prevent one death from paralytic polio, between six and ten million children need to be vaccinated. In dollar terms, if the cost of vaccinating just one child was hypothetically set at \$1.00, the cost to the community of preventing just one death from paralytic polio by vaccination would be between six and ten million dollars. If vaccination cost *ten* dollars per patient, it would cost ten times the above amounts. In the light of this calculation, vaccination must be the most expensive public health measure ever devised.

Cost effective alternatives nutritional therapy

In 2018, the US *Centers for Disease Control* asserted that “The poliovirus is rapidly inactivated by heat, formaldehyde, chlorine, and ultraviolet light”. (CDC, 2018) (297). Yet to our knowledge none of these simple inexpensive measures have ever been seriously researched with a view to incorporating them into medical practice. However, as long ago as the 1930s, a *nutritional* approach to both preventing and treating polio and other paralytic diseases was the subject of extensive investigation and published research. We acknowledge that mainstream medicine claims to have debunked this research. These contrary findings will be considered below, but first, it is necessary to familiarize ourselves with the research that was the target of those attacks. Between 1930 and 1950, many researchers, including Holden, *et. al.*, Kligler and Bernkopf; Langonbusch and Enderling; Amato Lowski; and Logkin and Martin, explored the use of various vitamins and minerals, not only against the polio virus, but against a wide range of other viruses, including rabies, herpes, and others, as well as the toxins from, for instance, diphtheria, tetanus, and poisonous snake and spider bites. (Helms, 1941), (Stone, 1972) (72-73). Frederick Klenner demonstrated that in a number of paralytic diseases, such as multiple sclerosis, myasthenia gravis and polio, B vitamins, especially B1, seemed to be preventative (Helms, 1941), (Saul, 2013). Those who ate wholemeal bread for instance, although they may have contracted polio, never experienced paralysis. (The fortification of refined white bread with B vitamins since the Second World War may have played an important role in elimination at least the paralytic aspect of polio.)

Both Jungeblut (1937) and later Klenner (1949), working independently, had shown that, in patients treated promptly with *large doses* of vitamin C, polio resolved within three days, and *never proceeded to paralysis* at enormous savings to the public and private purse. (Smith, 1988), (Jungeblut, 1937), (Klenner, 1949). This vitamin C treatment was effective even in children whose immune systems had been compromised by tonsillectomy and/or the DPT vaccine. The cost of treating with vitamin C the few who would naturally contract polio would be vastly more economical than vaccination of entire populations. As noted earlier, the above research has been largely ignored or debunked by the medical industrial complex, but it is our contention that every effort to

do so has been seriously flawed. Albert Sabin was among those who rejected the above paradigm, and, for two reasons, is here considered as representative of the sceptics. Firstly, Sabin enjoyed a high profile in scientific circles, and secondly, his “negative results virtually ended experiments with vitamin C and polio.” (Landwehr, 1991)

Sabin: Challenge to nutritional approach to polio

In 1939, Albert Sabin addressed the challenge presented by Jungeblut’s research. But a careful review of his study reveals that Sabin purposefully distorted Jungeblut’s experimental method in such a way as to guarantee the trial failed. (Sabin, 1939). Sabin consulted with Jungeblut, but for reasons unknown, he ignored key elements in Jungeblut’s methodology. Sabin inoculated his experimental animals with a far *higher* dose of the virus than Jungeblut up to twenty times the human equivalent of a reasonable dose. Then he dosed the animals with a greatly *lesser* dose of vitamin C, virtually ensuring the treatment would not succeed. Furthermore, while Jungeblut and Klenner gave *repeated* large doses of vitamin C, Sabin administered a single *small* dose. (Sabin, 1939). From a scientific point of view, there is no way Sabin’s methodology could be considered a serious attempt to duplicate (or discredit) Jungeblut’s work. Yet he reported that he had demonstrated conclusively that vitamin C had no effect on the course of normal polio infection. This kind of “scientific” behaviour is inexcusable, yet for some inexplicable reason, Sabin’s negative findings have become conventional medical wisdom. Meanwhile, Jungeblut’s and Klenner’s work has been consigned to an un-identified place in the archives of history. Why would a respected researcher do such a thing? Perhaps Sabin was astute enough to perceive that validation of Jungeblut’s and Klenner’s vitamin C cure, if widely accepted, would derail his own work on a polio vaccine. A vaccine, *even if it worked*, would be seen for what it was an expensive, inefficient approach to controlling the fall-out of an “epidemic” that threatened only a small proportion of the population, and which could easily be prevented by B vitamins or treated with vitamin C. Sabin’s dream of being the “hero” to solve the polio epidemic already had competition from Jonas Salk; he could do without competition from Jungeblut’s and Klenner’s vitamin C. To our knowledge, no researcher has ever invalidated the benefits of vitamin C using the protocols developed and recommended by Jungeblut and Klenner. Until this is done in a fair and honest trial, the claim that vitamin C has no effect on the course of polio has no place in “scientific” literature or in medical practice.

Polio on the Indian sub-Continent

It was noted above that in the United States, the OPV created a paralysis that is now classified as *Non-Polio Acute Flaccid Paralysis* (NPAFP). The same situation applies in India where the Bill and Melinda Gates Foundation is spear-heading a drive to eliminate polio from the Indian sub-continent. Vashisht, *et. al.*, found that “NPAFP increased with the number of oral polio vaccine (OPV) doses used When the effect of cumulative doses over the previous years was examined, the NPAFP rate in 2013 best correlated with the cumulative doses received in the previous 7 years. ($P < .001$). . . . the number of OPV doses was the only factor that showed a positive correlation with the NPAFP rate. The average increase in the NPAFP rate was *1.31 per 100 000 population . . . with each dose of OPV*”. (Vashisht, Puliyl, & Sreenivas, 2015) (emphasis ours). Further, The

NPAFP rate in UP and Bihar, which had consistently increased each year until 2011, decreased in the 2 states in 2012, coinciding with a reduction in doses of OPV administered. (Vashisht, Puliyeel, & Sreenivas, 2015) A dose-response relationship with cumulative doses over the years was also observed, which strengthens the hypothetical relationship between polio vaccine and NPAFP. The fall in the NPAFP rate in Bihar and UP for the first time in 2012, with a decrease in the number of OPV doses delivered, is evidence of a causative association between OPV doses and the NPAFP rate. (Vashisht, Puliyeel, & Sreenivas, 2015) Re-naming the vaccine-provoked polio as *Non-Polio Acute Flaccid Paralysis* (NPAFP), maintains the illusion that polio is being controlled by vaccination even though it lives on under another name! Further, to supposedly banish one disease using protocols that simultaneously create another cannot lead to confidence in medical assertions or claims.

Many doctors did not (or do not) accept the 'polio provocation' argument, clinging rather to the belief that vaccines are virtually solely responsible for the demise of polio. This means little. Historically, the medical establishment has often ignored mounting evidence, especially when it has been in its interests to do so. In Semmelweis' day, in the face of mounting evidence that their dirty hands caused puerperal fever in birthing women, many doctors refused to wash their hands. (Porter, 1999) (pp 369-370). In the 20th century many, perhaps most, doctors doggedly turned a blind eye to the dangers of smoking, which dangers had been obvious to others for more than a century. (Porter, 1999) (p 713-14). It is not possible to determine, at this late stage, what pecuniary motivations might have led researchers to reject polio provocation as a valid cause of polio. (Mawdsley., 2014)

A perennial question

"Even though the incidence of polio is not naturally high, is it not better to vaccinate everyone and so spare the suffering of the few?"

This appears a reasonable question, but raises several problems. As Salk pointed out, virtually all cases of polio in the United States since the 1970s have actually been caused by the vaccine. If vaccination were to be suspended, there would be little if any polio to protect against. Of more relevance is the question: 'Shall we continue vaccinating people against a disease that is caused by vaccinating against it?'- especially considering the huge financial cost.

DISCUSSION

The 'herd immunity' claim

The importance of "herd immunity" is said to be the overriding justification for the drive for universal vaccination. But historically, herd immunity against polio was strongest before medical procedures (tonsillectomies and DPT vaccines) were promoted, and pesticides were sprayed, and foods refined. Today, vaccination against all manner of diseases is increasingly being imposed upon all, including the 95% of people who will never succumb to those diseases anyway. The primary justification for this imposition is that unvaccinated people, even though they may not suffer the disease themselves, may still carry and shed the virus putting others at risk. But this is a hypocritical and devious argument. Firstly

those who are vaccinated are *necessarily* infected, and therefore at least temporary carriers of the disease. They are as capable of 'shedding' the virus among their contacts as are those who are unvaccinated. Secondly, *if the vaccine actually confers immunity*, as claimed, the few who are not vaccinated cannot constitute a threat to those who are. High natural herd immunity also protects the very old, and the very young. For those few who are not so protected, there is vitamin therapy which is far more cost effective.

Education for Health

The matrix of factors which "provoke" infectious diseases are now well known. So are the non-medical factors that create natural personal immunity. Natural herd immunity is acquired through healthy, immune-boosting living and sanitary public health measures. *Natural herd immunity* is no less valid than the herd immunity achieved by vaccination at great financial cost to society, great risk to the patient, and great profit to the medical industry. We suggest that a public educational effort promoting public awareness as to the true (not 'revisionist') nature of infectious disease would be more effective and cost-effective in controlling infectious disease than resorting to universal vaccination. For the few who "slip through the net" and contract polio (or other infectious disease,) vitamin therapy has been shown to be an effective treatment.

Conclusion

Philosophical Reflections

It has been our purpose here to question the wisdom of persisting with medical procedures based on time-worn and jaded paradigms that are no longer valid or relevant regardless of how financially lucrative they might be. While polio is not now a serious threat to health in developed countries, a review of its real history contains lessons for our approach to all infectious disease. In the case of polio, we have seen that the epidemics of the 20th century were largely, though not exclusively, *iatrogenically* provoked by the indiscriminate practice of routine tonsillectomies, and DPT vaccines. When doctors ceased performing the medical and surgical procedures that provoked it; when industry began enriching refined foods with vital vitamins and minerals; when a return to breast-feeding was encouraged, and when DDT was banned from the environment, natural herd immunity was recovered, and polio declined. Yet huge health budgets are still devoted to vaccinating entire populations against diseases to which most people are naturally immune, and/or for which other simpler, less expensive treatments are available.

This present study of the course of polio in the 20th century provides a classic demonstration of the wisdom of addressing the root causes of disease. We suggest that, rather than propping up severely compromised population immunity, at great financial cost (or profit, depending on which side of the fence one sits), a far more effective and profitable approach would be to address the causes of diminished population immunity and increased susceptibility to disease, and remedy them. This does not necessarily mean that vaccines do not work. It means, simply, that vaccines were not responsible for the decline in polio, as a serious threat to public health. It means and that other more effective and cost-effective measures should be sought and developed. And it means that a public health education program would facilitate such advances.

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