

Alfred Russel Wallace Notes 37.

What About Wallace on Vaccination...?

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Summary: Best known for his natural history studies on evolution and biogeography, Alfred Russel Wallace (1823–1913) had a significant second career as a social critic. One of his most controversial stances was his position on (smallpox) vaccination. Anti-vaxxers of the present frequently bring up his name as a resource for their side, but the situation is not so easily reducible to that. *Key words:* smallpox, Alfred Russel Wallace, vaccination, antivaccination.

From time to time I receive enquiries from members of the present-day antivaccination community; they are interested in my transcriptions of Wallace's dozens of publications concerning smallpox epidemiology. They are usually confused by my response, especially if I perceive they are attempting to use Wallace's position to support their own. The situation is somewhat complicated, as follows.

I personally am not very interested in the various attempts of today's critics to vilify vaccination, so my concern for the subject is largely restricted to Wallace's interest in it, and how it should be contextualized. Wallace was in fact one of the early antivaccination movement's loudest voices, but it should also be pointed out that he had given no attention to the matter until perhaps the late 1870s, when he was about fifty-five. In 1883 he wrote:

Like so many other people, till a few years back I had not a doubt as to the efficacy of vaccination. I accepted it blindly as one of the established facts of science. Having been led to look into the evidence on the subject, I was first startled by the discrepancy of the statistics of small-pox mortality with the vaccination theory, and on further inquiry I was amazed to find that the evidence in favour of vaccination was of the most shadowy kind, while there was good reason to believe that it was itself a *cause* of disease of the most serious nature. I have also been struck by the (apparent) want of honesty in the defenders of vaccination, in repeating over and over again statements which are not true, and in actually falsifying the records of small-pox mortality by entering all doubtful cases as "unvaccinated." I have no doubt whatever that any unprejudiced person who will investigate the evidence on both sides for himself will arrive at the same conclusion as I have done, that to enforce on unwilling parents a surgical operation which they honestly believe to be injurious and as to the efficacy of which there is so great a diversity of opinion even among medical men, is a gross infraction of personal liberty entirely unjustified by any proved beneficial results. (Wallace 1883)

The key phrase in the above quotation is "gross infraction of personal liberty": Wallace felt that "to enforce on unwilling parents" the procedure was at best an imposition, and at

worst immoral, a direct infringement on personal rights. Later, in 1890, he summarized his reason for appearing as a witness before a Royal Commission on Vaccination with the following words:

During the course of my examination, I have been asked questions which implied that I had taken up this subject and written on it without the full and accurate information befitting a man of science. I admit that this is, to some extent, true; but my answer is that I did not take it up as a question of pure science. If it had remained a question of medical science and practice, I should not have troubled myself about it, and certainly not have written on it. But from the moment when, through the great influence of the medical profession, a medical dogma was enforced by penal law, it became a question of politics, a question of personal liberty. When almost every week I read of men fined or imprisoned for refusing to subject their children to a surgical operation which they (and I) believed to be, not only useless, but injurious and dangerous, I felt impelled to aid, if ever so little, in obtaining the repeal of a cruel and tyrannical law. I could not wait years to study the question in all its intricacies and obscurities while men were being daily punished, as I believed, unjustly. Liberty is in my mind a far greater and more important thing than science. (Wallace 1890, p. 127)

This is 'libertarian Wallace' speaking. Once he had taken the time to investigate both the epidemiological statistics involved, and a number of individual cases, he became convinced that an injustice was being committed, and sought to make this known. This probably was not a difficult shift of position for him, since as a young man he had successfully dabbled in mesmerism, and subsequently adopted Swedenborgian views concerning the natural integrity of the human body, and how its health should be maintained more naturopathically (Fichman 2004, pp. 112-117).

Wallace was not a trained medical man, or even that knowledgeable about animal physiology, so his investigation of the subject, beyond his reading up on case studies, focused on the epidemiological statistics on disease incidence and death that had been collected throughout the previous century. On the basis of these he came to the conclusion that, whatever successes of vaccination there might have been in the earlier years, it was entirely debatable as to whether the program was doing more good than harm by the late nineteenth century. His appraisal was based on several lines of thought.

First, the collected statistics on disease incidence themselves. Wallace was a first-rate descriptive statistician who had attacked matters of number not only in his evolution, physical geography and biogeography studies, but in his social criticism campaigns as well (including ventures into land planning, sociology and economics – regarding the last, his efforts were good enough to impress leading Chicago School economist Irving Fisher, who in 1920 even dedicated one of his books, *Stabilizing the Dollar*, to him). He soon reached the conclusion that the numbers were telling a different story from the one preached by the government.

Wallace explained the pattern of decreasing smallpox-related deaths through the nineteenth century by identifying what he felt were some extenuating considerations. Most importantly, it seemed likely that much of the reduction in mortality rates was due not to vaccination efficacy at all, but instead to ambient improvements in the nation's public health systems infrastructure: simply, poor drainage and other conditions possibly

encouraging smallpox spread had been reduced dramatically over the course of the nineteenth century. He pointed out that it was likely not a coincidence that most other zymotic diseases had also witnessed plummeting incidence rates over the same period. Meanwhile, his attention to case studies suggested that there was something odious going on at the level of collection of statistics: in particular, that some doctors appeared to be cooking the books when it came time to recording cause of death after inoculations-gone-wrong. It seemed that in a nontrivial number of instances doctors were protecting themselves from inquiry by failing to state that an immediate cause of death was relatable to a vaccination. He was also fearful that the production and administration of vaccines under unsanitary conditions was encouraging fatal infections (and considering the general lack of microbiological knowledge in those days, he was almost certainly correct in so thinking). Further (and as a correspondent recently reminded me), he objected to the apparent dearth of prior staged research that might either have confirmed or condemned vaccination's efficacy.

But the final cruncher was that, given all these uncertainties, people were still being statutorily forced into vaccinations – and further, that there was an exorbitant fee being imposed for receiving them, and the threat of imprisonment for noncompliance. All in all, he felt that an injustice was being perpetrated, so he dove into battle. Further details on the matter are not necessary here; I invite the interested reader to consult Wallace's several summaries of his investigations (Wallace 1885, 1890, 1898, 1904), all available at my Wallace website, and the secondary literature analyses of the matter published by Fichman (2008), Fichman and Keelan (2007), Flannery (2015), Greydanus (2012), Kanduc (2012), Scarpelli (1992), and Weber (2010).

Wallace's appraisal of the situation should not be taken to indicate that he felt vaccination had *never* had any positive effect on reduction of deaths by smallpox. Anyone doubting this statement should read *carefully* his own words, offered in an 1895 letter to the Editor of the magazine *The Vaccination Inquirer and Health Review*:

Forty-five Years' Registration Statistics. A Correction.

Sir, – While thanking my friend Mr. Alex. Wheeler for his too complimentary references to the little I have done for the cause of freedom as regards the tyranny of the Vaccination laws, I wish to make a remark as to one portion of his article which conveys an erroneous impression. Mr. Wheeler says that he could not agree with my conclusion that "Vaccination may have caused more deaths than smallpox itself." This I am not surprised at, because I do not myself accept such a statement, which is certainly not mine. My words, carefully chosen, are – "an operation which has admittedly caused many deaths, which is probably the cause of greater mortality than smallpox itself" – and I call attention to the change from the past tense in the first part of the passage to the present tense – "is probably the cause" – in the latter part. This clearly means, not that "Vaccination may have caused more deaths than smallpox" – as Mr. Wheeler states it, without any limitation of time, which would of course be an absurdity – but that, at the *present time*, as the result of general Vaccination for about fifty years, it may *now* be the cause of more deaths than smallpox. This conclusion is drawn from the table of the steadily-increasing mortality from certain inoculable diseases (page 24 of my pamphlet), which *increase*, in thirty years (1850-1880), was 357 per million (an increase which has continued since), while the deaths from smallpox have not, for many years, averaged more than *one-fifth* of this amount. If,

therefore, only *one-fourth part* of the large and steady increase of these diseases is due to Vaccination, then my belief that Vaccination *is now* the cause of greater mortality than smallpox itself is fully justified; and in the contention that this is “probably” the case I do not think that I shall find myself in the minority among the readers of the *Inquirer*. This indirect effect of Vaccination is further increased by its direct effects, which are now known to be far more terrible, and to produce far greater mortality than was formerly suspected or admitted.

I wish to take the opportunity of requesting such of your readers as may have copies of my pamphlet to erase from line 11 on page 21, to line 9 on page 22, 2nd edition (or, in the first edition, from line 8 on page 20 to line 4 on page 21 – Ed. V. I.), as the figures and conclusions therein are erroneous. (Wallace 1895, pp. 159-160).

Accordingly, Wallace has sometimes been accused, and probably justly, of ‘lawyerly’ defenses of his position; for example the great logician Charles Peirce once commented:

We repeat that Wallace is a great scientific reasoner; and of course this implies that he is perfectly fair-minded, and sincerely anxious to do full justice to that side of each question which he combats. We may add that, where he differs most from received opinions, his arguments are in general the most carefully considered and consequently the strongest. Certainly, his argument against vaccination, as it is presented in his ‘Studies,’ is extremely strong. The presentation of it in his ‘Wonderful Century’ has been more admired by lawyers, but its force is too much directed against refuting his opponents rather than to studying the facts of the case. (Peirce 1906, p. 161)

It is undoubtedly true that Wallace sometimes stooped to diatribic statements in his various attacks on vaccination, but then his ultimate goal in the campaign was a political, rather than scientific, one, as is apparent from the fine-print quotation given earlier (on page 2): “But from the moment when, through the great influence of the medical profession, a medical dogma was enforced by penal law, it became a question of politics, a question of personal liberty.”

Discussion

The antivaccination campaign that Wallace helped spearhead effectively ended some few years after he died in 1913, when the government-imposed smallpox vaccination program was terminated. Smallpox incidence had continued to decrease, and there seemed to be no point in continuing to pressure the public. Meanwhile, public sanitation systems had in fact continued to improve, and more attention was being paid to delivering a germ-free product to the consumer.

In short, the main issues raised in the original fuss had largely been answered. This state-of-affairs figures centrally in just how the history of Wallace’s involvement in the movement should be – and should not be – used by current-day anti-vaxxers.

First, it must be admitted that it is still very difficult to say whether Wallace’s epidemiological assessment of the situation was a wholly accurate one. To my knowledge, no one has ever put in the large amount of time it would take to come up with a confident verdict: although Wallace’s skills as a descriptive statistician were considerable, he was facing a highly complex problem complicated by imperfect and likely biased record-

keeping. Wallace himself was aware he sometimes fell short, as can be seen from the second paragraph in the passage quoted at the top of the last page.

Nevertheless, there seems to be a very good chance that some or most of his suspicions were on target. But in the end, does it matter? Perhaps not, and for two distinct reasons.

In the first instance, I would argue that today's anti-vaxxers are usually being disingenuous when they bring up Wallace's name in connection with the present-day situation. Even when they are not explicitly using his celebrity as an argument for taking current concerns seriously, there is an implicit association being made due to Wallace's historical fame. This is disingenuous, because Wallace's criticisms were entirely period-specific, and indeed were largely resolved. Thus, his scientific stature is meaningless in the face of the nearly entirely new context. Ask yourself, should Wallace be considered an idiot on this matter were new findings to suddenly prove outright that present-day concerns about vaccination hold no water? Hardly: the problems of his day were different. But the same thing is true were new findings to reach exactly the opposite conclusion! And note further that the Wallace-days discussion concerned smallpox vaccination only, whereas today's dialog extends much further.

But this is only one side of the matter. Today's anti-vaxxers should nevertheless be able to draw inspiration from Wallace's role as a contrarian: especially, in his efforts to expose government bullying of its citizens. I have sometimes referred to Wallace as a 'socialist libertarian,' and here we see him shining in this double role. For him, the imposition of fees backed by threat of imprisonment seemed outrageous in this instance; by contrast, the government-produced and supported free vaccines of today – and even intelligently mandated restrictions on gatherings – would very likely have met with his approval.

Ironically, it therefore seems unlikely that, were Wallace alive today, he would take the side of our own anti-vaxxers. Wallace was a realist, and he would see that for many years the weight of evidence concerning the 'doing more harm than good / doing more good than harm' split has fallen squarely on the second relation (and again, across many diseases, not just smallpox). It is, at the same time, unrealistic to accept this good, while assuming a foolhardy stance that we have identified all extenuating circumstances that might render the practice ineffective, or even dangerous, in more restricted contexts (for example, concerning people with particular medical preconditions). But Wallace deserves to be left out of discussions regarding this latter field of battle, altogether.

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