

**Vaccination:  
Loose Ends in a Scientific Puzzle**  
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Recently there was an article in the *New York Times* that discussed how more and more parents are balking at getting their children vaccinated for various diseases, even as public health authorities recommend a wider variety of immunizations for kids and adults.<sup>1</sup> This year, my office has been busy with flu cases—it seems that Nature tricked the scientists at the CDC. They advised vaccine manufacturers on what three strains of the flu would most affect the U.S. this season. Unfortunately, the strains they selected are not the strains that are causing so much illness this winter.<sup>2</sup> That sort of thing happens, though; it's not that scientists are stupid. It's that Nature can play tricks with weather, with bodies, with germs. This is because all natural systems are essentially chaotic. It isn't that we can't attempt to understand such systems better, nor is it that we shouldn't try to do so, but we need to understand the limitations of current scientific models. Put more simply, we need to be more respectful of our ignorance.

Thomas Kuhn notes that every so often, Science (here discussed as a social force) evinces a kind of hubris—it becomes too bold, too sure of itself. We begin to believe that we have solved everything. We begin to believe so much in our Science that we forget that Nature, too, adapts. It's not because Nature is out to get us. It simply is the way of things. Kuhn offers that *real* science is a method which goes through *revolutions*. Scientific revolutions occur because, over time, "Science" as a social force runs into reality, as more and more "untidy" loose ends crop up, that cannot be explained by the current scientific model.<sup>3</sup>

I believe that the collective social reaction among parents actually reflects a growing, shared unease that Science isn't willing to open up to the possibility that the current model of health and disease is fundamentally wrong.

**"Should I Vaccinate?"**

Parents often ask me this question, and it's not a simple one to answer. On the one hand, vaccines *do* work—that is, they reduce the occurrence of specific infections in society. Indeed, there are compelling reasons to continue to vaccinate, since vaccines do deny many germs the hosts they require in order to maintain their viability in the population. Smallpox is a good example of a disease that responded so thoroughly to immunization programs that it no longer exists in the world, except in a few laboratories. Meningitis caused by *Hemophilus influenza* B is now rare for the same reason. Polio is unheard of in countries in which vaccination rates are high.<sup>4</sup> Immunization programs have created *herd immunity* where large populations have been immunized, and so even the *unimmunized* gain benefits, because

<sup>1</sup> Silverman. "More families are shunning inoculations." *New York Times*, March 2, 2008 from [http://www.nytimes.com/2008/03/02/nyregion/nyregionspecial2/02Rvaccine.html?\\_r=2&pagewanted=1&oref=slogi](http://www.nytimes.com/2008/03/02/nyregion/nyregionspecial2/02Rvaccine.html?_r=2&pagewanted=1&oref=slogi)

<sup>2</sup> Shiniring. "CDC says influenza strain B doesn't match vaccine." Center for Infectious Disease Research and Policy. University of Minnesota. February 8, 2008 from <http://www.cidrap.umn.edu/cidrap/content/influenza/general/news/feb0808flu.html>.

<sup>3</sup> Kuhn. *The Structure Of Scientific Revolutions*. 1962. Chicago Press. Chicago.

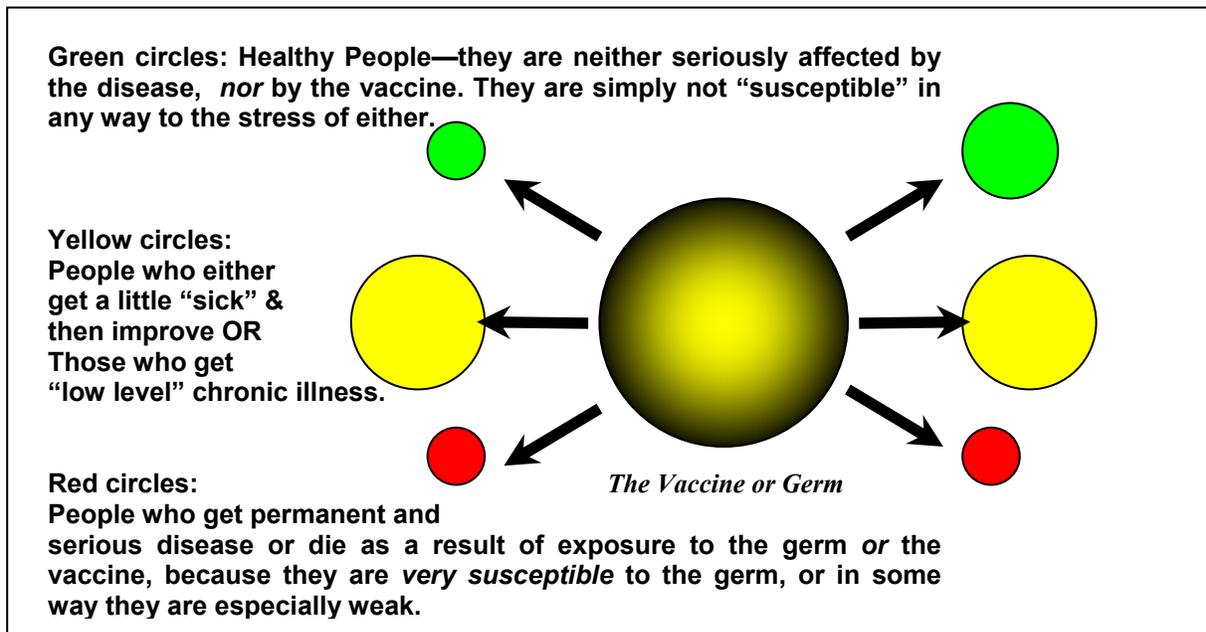
<sup>4</sup> Keusch. Bart. Immunization principles and vaccine use. In *Harrison's Internal Medicine*. 15<sup>th</sup> Ed. 2001. McGraw-Hill. New York.

certain infectious agents can no longer gain access to a given population as so few potential hosts now exist.

Yet even many of the diseases we vaccinate again still travel among us, both because not everyone is vaccinated and because some vaccinated persons do not become immune, or their immunity wanes over time.<sup>4</sup> Examples of such diseases include pertussis (whooping cough), hepatitis B, mumps, chicken pox, and others. Public health authorities routinely remind us to survey our patients for unusual coughs, risk factors for infection, and other potential sources of epidemic disease. The fact is, some infectious agents are very good models for eradication-through-immunization, and others are not. Why? There are various reasons speculated, but genetic or other sorts of variations in people's immune systems would likely be the main reasons.<sup>5</sup> "Other sorts" of variations? What could I mean by that?

### ***How Susceptibility Drives Disease***

Dr. Paul Herscu, writing in the book *Proving*, suggests that the homeopathic theory offers an answer.<sup>6</sup> Traditional medicine tends to view people in terms of their similarities. Homeopathy, and other systems of alternative medicine tends to view them in terms of their differences. It is uniqueness that forms the framework for understanding *susceptibility*, whether to social stressors, physical traumas, germs, or drugs and vaccinations. Thus, in homeopathy we tend to view the problem with vaccination as a problem of trying to fit one suit to everyone. In fact, the problem with vaccination—if homeopathic theory is correct—may lie with an individual's susceptibility. Herscu argues that immunization of a community may actually work as shown in the figure below.



**Figure:** The different sizes of the circles in this figure represent relative numbers of people in a given population who may experience such outcomes.

<sup>5</sup> It is true that sometimes vaccine quality may be lacking, and there are other reasons as well, but I do not believe these are the main reasons some people fail to develop immunity after vaccination.

<sup>6</sup> Herscu. *Proving: With a Proving of Alcoholus*. 2002. New England School of Homeopathy. Amherst MA.

Thus some people who get vaccinated *will* get really sick, but that sickness will come in various forms—because of unique susceptibility (genetic and otherwise). Therefore some may get seizures, others asthma, still others autism, and so on. Yet the actual *numbers* of people with each particular disease may be small enough to escape notice in statistical tests. As I've told patients, medical scientists haven't connected vaccines to autism<sup>7</sup> because they are asking the *wrong questions* about it. To those scientists, the increasing occurrence of autism has been attributed to better diagnosis. In other words, they say there's more autism because we're looking for it! I agree that is partly true. Yet it is foolhardy to simply accept that as the answer, unless one is only willing to look through one lens to understand the world. If the problem is viewed as I have depicted above, then we have to ask the question: to what extent have diseases such as autism paralleled the burgeoning of vaccination?

I'd like to append a quick note to this discussion, as concerns the Figure. I want to explain what is meant by the phrase "low level chronic illness." Such illnesses seem very common in our society, and these include those chronic, nagging problems like mild to moderate asthma, most food allergies, frequent infections, mild to moderate mood disorders, and similar things. Of course, they may not seem very "mild to moderate" to you, the sufferer! But on the scale of things, they tend to manifest without life-threatening consequences, cause some debility and inconvenience, and lead to a lower quality of physical health. Existing evidence certainly accounts for some features argued in the model above.

### **"I Don't Get Vaccinated for Non-fatal Diseases"**

That's my answer to "Did you get your flu shot?"

There are plenty of points upon which to suspect that vaccines could cause health problems, beyond speculative discussions, such as that above. Most vaccines are

administered in ways nature didn't intend. Few of the diseases we are asked to be vaccinated for are acquired by injection under the skin! Excepting tetanus, most of the diseases we vaccinate for are acquired by contact, inhalation, or ingested by mouth. Injection happens to be a convenient way to get the vaccine *into* people.<sup>8</sup> It may be that some of the problems associated with vaccination, are related to the way they are given.

The *number* of insults to the system may also be an issue. In the Table presented here, infants whose immune systems are still forming are presented with the challenges of 12 immunologically active agents in the first 15 months of life, sometimes as many as *six at a time*. Some of these are weakened live viruses (which is why some are not given to people with weakened immune systems). "MMR" contains measles, mumps and rubella ("German measles");

2007		Recommended Immunizations for Babies	
at birth	HepB		
2 months	HepB + DTaP + PCV + Hib + Polio + Rota	1-2 mos	
4 months	DTaP + PCV + Hib + Polio + Rota		
6 months	HepB + DTaP + PCV + Hib + Polio + Rota	6-18 mos*	(Influenza) 6-59 mos/seasonal**
12 months	MMR + PCV + Hib + Varicella + HepA	12-15 mos* 12-15 mos* 12-15 mos* 12-15 mos* 12-23 mos*	(Influenza) 6-59 mos/seasonal**
15 months	DTaP	15-18 mos*	(Influenza) 6-59 mos/seasonal**

**Recommended Vaccination Schedule for Babies** [emphasis mine]. From Centers for Disease Control. 2007.  
<http://www.cdc.gov/vaccines/recs/schedules/child-schedule.htm>.

<sup>7</sup> Madsen. A population-based study of measles, mumps, and rubella vaccination and autism. *NEJM*. 2002. 347:1477-1482.

<sup>8</sup> Although polio, which is acquired through oral ingestion was originally developed as an oral vaccine, it was later withdrawn and replaced by an injectable version, when it was reported that the oral version caused *more* health problems.

“DTaP” contains the antigenic products<sup>9</sup> of *Corynebacterium diphtheriae*, *Clostridium tetani*, and *Bordetella pertussis*. That’s a lot to process for a baby.

That just doesn’t make any sense to me. It may not be wrong, and indeed, we may be adapted to it. But that doesn’t mean it’s the best choice for health for *you* or your children.

This is why I advise that people and parents consider their immunizations carefully. We are so afraid of the catastrophic disease that will leap up and kill us—while we quietly moan about the low-level, chronic sufferings of ourselves and our children. Did we make a bad trade? Is one case of suicidal depression in a 16-year old worth one case of fatal *Hemophilus* meningitis in a different 16-year old? I have told patients: Everything you introduce into a system changes the system. Most scientists understand this, so one must ask whether there are other forces at work here.

Immunization programs are, arguably, born out of humanitarian values, but I would counter that “humanitarian values” come in several varieties. Perhaps there is another way to view the issue. Perhaps immunization programs arise out of an *unconsidered* humanitarian impulse, communitarian utility, and commercial opportunity. Put another way, we haven’t really talked about immunization as a society, we just go along with it because we’re told to. It is done, we are told, because it’s best for the “largest number of people,” because it is “what’s best” for *public* health, and because people are making money from it. Those are certainly three of the best reasons to inject a genetically-engineered substance into your 5-year old daughter!

I know there are health professionals, scientists, and policymakers who scream, “Can we just move on from this already?” They might view these sorts of arguments as navel-contemplation, as distraction, needless. Yet as Kuhn noted, after a while, one is compelled to try to understand why things aren’t getting as “better” as they were supposed to. It may be that Science is incremental, slowly piling up discoveries, and life gets a little better, a little at a time. Or perhaps Kuhn is right. The inconsistencies start to pile up, until the existing model breaks. People start asking more and more questions.

They are asking questions now.



Photo: Scott Nadeau

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<sup>9</sup> Antigenic products are laboratory-modified, germ-like substances that are designed to trick the immune system into generating an immune response that will lead to immunity later. They are mostly made from deactivated germs, or genetically-engineered germ proteins.