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Needle Points

Why so many are hesitant to get the COVID vaccines, and what we can do about it.

BY NORMAN DOIDGE

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'Needle Points,' Tablet's exploration into the sources and nature of vaccine hesitancy, is presented in four parts. Chapter I begins below. Continue to Chapter II, III, or IV . To download a free, printer-friendly version of the complete article, click here.

SINCE MY DAYS IN MEDICAL SCHOOL, I HAVE HAD A FASCINATION WITH the kernel insight behind vaccination: that one could successfully expose a person to an attenuated version of a microbe that would prepare and protect them for a potentially lethal encounter with the actual microbe. I marveled at how it tutors an immune system that, like the brain, has memory and a kind of intelligence, and even something akin to "foresight." But I loved it for a broader reason too. At times modern science and modern medicine seem based on a fantasy that imagines the role of medicine is to conquer nature, as though we can wage a war against all microbes with "antimicrobials" to create a world where we will no longer suffer from infectious disease. Vaccination is not based on that sterile vision but its opposite; it works *with* our educable immune system, which evolved millions of years ago to deal with the fact that we must always coexist with microbes; it helps us to use our own resources to protect ourselves. Doing so is in accord with the essential insight of Hippocrates, who

understood that the major part of healing comes from within, that it is best to work *with* nature and not against it.

And yet, ever since they were made available, vaccines have been controversial, and it has almost always been difficult to have a nonemotionally charged discussion about them. One reason is that in humans (and other animals), any infection can trigger an archaic brain circuit in most of us called the behavioral immune system (BIS). It's a circuit that is triggered when we sense we may be near a *potential* carrier of disease, causing disgust, fear, and avoidance. It is involuntary, and not easy to shut off once it's been turned on.

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The BIS is best understood in contrast to the regular immune system. The "regular immune system" consists of antibodies and T-cells and so on, and it evolved to protect us *once a problematic microbe gets inside us*. The BIS is different; it evolved to prevent us *from getting infected in the first place*, by making us hypersensitive to hygiene, hints of disease in other people, even signs that they are from another tribe—since, in ancient times, encounters with different tribes could wipe out one's own tribe with an infectious disease they carried. Often the "foreign" tribe had its own long history of exposure to pathogens, some of which it still carried, but to which it had developed immunity in some way. Members of the tribe were

themselves healthy, but dangerous to others. And so we developed a system whereby anything or anyone that seems like it might bear significant illness can trigger an ancient brain circuit of fear, disgust, and avoidance.

It can also trigger rage, but rage is complex, because it is normally expressed by getting close to the object, and attacking it. But with contagion, one fears getting too close, so generally the anger is expressed by isolating the plague-bearer. The BIS is thus an alarm system specific to contagion (and, I should add, to the fear of being poisoned, which before the development of modern chemistry often came from exposure to living things and their dangerous byproducts, such as venoms). Thus it can also be triggered by nonanimate things, like body fluids of some kinds, surfaces others may have touched, or even more abstract ideas like "going to the grocery store." There is one exception: The BIS doesn't get or stay activated in people who don't feel vulnerable, perhaps because they have good PPE, or because their youth gives them strong innate immunity, or because they know they're already immune, or because they're seriously misled or delusional about the reality of the disease. For everyone else, though, what might trigger the system is rather plastic; but once triggered, the system is involuntary.

The BIS is, I would argue, one of the instinctual reactions that missed appearing in medical textbooks perhaps because we've not had a pandemic on this scale for 100 years. Because it focuses on *potential* bearers of disease, the BIS triggers many false alarms, since an infected person may at first show only the mildest and nonspecific symptoms, such as a cough or sniffle, before they become deathly ill; that's why even a small exhalation or a surface touched by a stranger could trigger the BIS. Were it a medical test of danger, we would say this system tends to err on the "false positive" side. We see it firing every day now, when someone drives alone wearing a mask, or goes for a walk by themselves in an empty forest masked, or when someone—say with good health and no previous known adverse reactions to vaccines—hears that a vaccine can in one in 500,000 cases cause death, but can't take any comfort that they have a 99.999% chance of it not happening because it *potentially* can. Before advanced brain areas are turned on and probabilities are factored in, the BIS is off and running.

One of the reasons our discussions of vaccination are so emotionally radioactive, inconsistent, and harsh, is that the BIS is turned on in people on both sides of the debate. Those who favor vaccination are focused on the danger of the virus, and that triggers their system. Those who don't are focused on the fact that the vaccines inject into them a virus or a virus surrogate or even a chemical they think may be poisonous, and that turns on *their* system. Thus both sides are firing alarms (including many false-positive alarms) that put them in a state of panic, fear, loathing, and disgust of the other.

And now these two sides of the vaccination debate are tearing America apart, at many levels: families, friendships, states, and the federal government. It's even affecting the country's ability to deal with the pandemic, splitting hospital staffs and sundering relations between the scientists studying it.

As of this writing, in the United States about 85% of people over 65—the age group most at risk—are fully vaccinated against COVID (more if you include those who had one shot). Fifty-seven percent of the overall population is fully vaccinated. But around June, the rate of vaccination slowed drastically—down to less than 1 million a day from 3.4 million daily in April, even though many more people (age 12 and up) were now eligible. Five million people who got the first shot had not gone to their follow-up appointment. States started sending vaccines back, while some vaccination sites were empty. In response, U.S. public health officials appeared to believe that the number of people who would voluntarily take the vaccine had reached a ceiling. The change could be seen from the top of the messaging system, with President Joe Biden switching from persuasion to coercion—of the armed services, federal employees, and, as of Sept. 9, of everyone working for companies with 100 employees or more, a category that includes about 100 million Americans.

In a way, this should be the least likely time in history for vaccine hesitancy. For years, vaccinologists explained vaccine skepticism by noting that it largely existed because few had lived through a large-scale pandemic, and because vaccines had already eradicated so many serious diseases that it gave rise to complacency about

the threat. But today's vaccine hesitancy is happening in the midst of a pandemic, in which over 700,000 Americans have died. And a recent Rasmussen poll found that a staggering one-third of Americans "believe officials are lying about vaccine safety."

It seems to me especially vital that we broaden our understanding of the history and current state of vaccines because, over the summer, many who chose vaccination for themselves concluded that it is acceptable to mandate vaccines for others, including those who are reluctant to get them. That majority entered a state of "crystallization"—a term I borrow from the French novelist Stendhal, who applied it to the moment when a person first falls in love: Feelings that may have been fluid become solid, clear, and absolute, leading to all-or-nothing thinking, such that even the beloved's blemishes become signs of their perfection.

Crystallization, as I'm using it here, happens within a group that has been involved in a major dispute. For a while there is an awareness that some disagreement is in play, and people are free to have different opinions. But at a certain point—often hard to predict and impossible to measure because it is happening in the wider culture and not necessarily at the ballot box—both sides of the dispute become aware that, within this mass of human beings, there is now a winner. One might say that *a consensus arises that there is now a majority consensus.* Suddenly, certain ideas and actions must be applauded, voiced, obeyed, and acted on, while others are off limits.

One person who understood how this works intuitively was Alexis de Tocqueville. In democracies, as long as there is not yet a majority opinion, a range of views can be expressed, and it appears there is a great "liberty of opinion," to use his phrase. But once a majority opinion forms, it acquires a sudden social power, and it brings with it pressure to end dissent. A powerful new kind of censorship and coercion begins in everyday life (at work, school, choir, church, hospitals, in all institutions) as the majority turns on the minority, demanding it comply. Tocqueville, like James Madison, was concerned about this "the tyranny of the majority," which he saw as the Achilles' heel of democracy. It isn't only because divisiveness created a

minority faction steeped in lingering resentment; it's also because minorities can sometimes be more right than majorities (indeed, emerging ideas are, by definition, minority ideas to start with). The majority overtaking the minority could mean stamping out thoughts and actions that would otherwise generate progress and forward movement.

It is a fascinating moment when this sort of crystallization happens in a mass culture like America's, because seemingly overnight even the definition of legitimate speech (or thought or action) also changes. Tocqueville observed that quite abruptly a person can no longer express opinions or raise questions that only days before were acceptable, even though no facts of the matter have changed. At an individual level, people who were within the bounds can be surprised to find themselves "tormented by the slights and persecutions of daily obloquy." Once this occurs, he wrote, "your fellow-creatures will shun you like an impure being, and those who are most persuaded of your innocence will abandon you too, lest they should be shunned in their turn."

In the midst of a pandemic, seeing the unvaccinated as "impure" is no surprise, because of course they could carry contagion. But as Tocqueville pointed out, this *also* occurs when there is no contagion, and we begin to experience those who are on the wrong side as "impure"—as in failing the purity test—and react to them as though they are dangerous. That we do this even when there is no pandemic suggests that there is, along with realistic fear of infection, something else going on here—a sense that those with whom we may disagree are impurities in the body politic, bad people who need to be taught a lesson, even punished.

A June 2021 Gallup poll found that, among the vaccinated, 53% now worry most about those choosing not to get vaccinated, "surpassing concerns about lack of social distancing in their area (27%), availability of local hospital resources and supplies (11%), and availability of coronavirus tests in their area (5%)." True to the BIS's impulses, this fear is metastasizing into disgust, even hatred, of those who—because they believe or act differently—are now perceived as threats: On Aug. 26, in a front-page story in the *Toronto Star*, my local newspaper, a resident was

quoted as saying: “I have no empathy left for the willfully unvaccinated. Let them die.”

In the midst of such a death wish for fellow human beings, even the person quoted understood that an important mental capacity has been lost: empathy, or the ability to model other people’s minds. When we lose that en masse, the results can be tragic, not least because getting through this must be a group effort.

As I understand it, there are two main approaches to public health in liberal democracies, and both have been tried historically in different places. One begins voluntarily, out of respect for civil liberties, but switches to coercion when some voluntary ceiling, deemed insufficient, is reached. Ideally, this intervention is based on the principle of least-necessary coercion. The benefit to this is that it may work to get more people vaccinated in shorter order. But it also conveys that the government does not trust its citizens to make good decisions on their own, a condescension that in turn—this is human nature 101—eventually generates resentment, even revolt, and the disengagement of significant segments of the population. The other approach, participatory public health, sees the need for coercion as a sign that something in the public health outreach itself has failed; if a ceiling is reached, society’s leaders should not simply resort to force but rather confront the flaws in their own leadership—that they should double-down on their responsibility to generate trust in the public. The goal of participatory public health is not to crush, but to better engage.

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In that spirit, what follows is an attempt by a physician and neuroscience writer and someone who got vaccinated, early and voluntarily, to understand those who have not made this choice. This essay is not about COVID-deniers or anti-vaxxers, who oppose vaccines on ideological grounds. Nor is it about the activists or political figures who feed off and benefit from the corrosive discourse around vaccines. It is instead about the vaccine hesitant—those who are concerned and anxious about COVID but *also* anxious about these new vaccines. These are the people who are not yet vaccinated for reasons that the majority may not understand—and which are often more anchored in history and experience than the majority would suspect. They are the Tocquevillian minority that the majority is threatening with job loss and other restrictions.

One needn't agree with the decisions or actions of the vaccine hesitant in order to learn something from them and about them, and about society as a whole. They pay attention to, and are vigilant about, different issues than the vaccinated, and have strong feelings about the people and institutions involved in our public health—particularly politicians, the drug regulatory process, and pharmaceutical companies. For many, vaccine hesitancy is not simply about the vaccines; it's about the absence of faith in the wider systems that brought us the vaccines. "Public health moves at the speed of trust," notes physician and author Rishi Manchanda. If we want our public health system to function better—safer, swifter, in ways that more effectively safeguard the lives and livelihoods of all citizens—it must be rooted not in coercion but in confidence, and not only among the majority.

Continue to Chapter II. *To download a free, printer-friendly version of the complete article, click here.*

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