

May 31, 2020 Blog entry, by Mark Chambers, midBit Technologies

There is an important fact about the COVID-19 pandemic that I suspect is generally overlooked: The only cure for this virus outbreak is the human immune system. When exposed to a virus, we develop antibodies which are eventually able to neutralize the virus particles. Treatments, such as hydroxychloroquine, only lessen symptoms, giving the patient support while he develops antibodies. A vaccine causes the body to develop antibodies without having “live” virus particles that can reproduce and make you ill. But only our immune system can make the final interruption of the viral chain reaction.

I’m oversimplifying, probably more than I realize, but the basic point remains – a virulent virus outbreak only ends when enough people have immunity, enough that the spread of the virus is reduced to essentially zero. So managing the overall arc of a pandemic is a low tech operation, and a brute force one. It’s a sobering thought to see how vulnerable we still are, even in the 21<sup>st</sup> century. Science has much less than we wish to offer us, but on the other hand, the cure is already within us.

I want to pursue a couple of perspectives on this pandemic, from a Christian viewpoint, and an engineer’s perspective. I’ll start with the engineering perspective.

As an engineer, I am struck by the fact that a virus pandemic is a *system*. A virus questions the biological definition of what a life form *is*. A virus is exceedingly small, and cannot reproduce on its own. A virus hijacks a cell in a host, and causes that cell to make multiple copies of its self, which then proceed to hijack other cells in the body. So there is an exponential growth of virus particles in the body. A virus would thus quickly gum up the works and destroy its host, except for the immune system. The host has means to slow the actions of the virus, and eventually to neutralize the virus with antibodies. So this is quite extraordinary – it is remarkable that the human body can be hijacked in this way AND extraordinary that it has the ability to eventually neutralize the invaders. Why are both things true at once?

I see intelligent design in this. We frequently hear of the mutation of viruses. Novel viruses arise because reproduction is imperfect, and small changes do accumulate, occasionally producing a particularly nasty new variety. But from a wider angle view – why should the information exchange mechanism of viral infection exist at all? I could only offer the wildest of speculations myself. But I think there are hints of purpose in the system. There is a field of study known as “horizontal gene transfer” and scientists know this is one means by which bacteria acquire immunity. We may perceive this as yet another problem – resistance to antibiotics - but bacteria play an absolutely critical role in human life. Bacteria digest the food in our gut, for example. So we need the bacteria, and we need them to adapt to changing conditions. They are both good and bad for us. And there are exciting developments in “gene therapy”, where viruses are deliberately used for their ability to deliver DNA to cells. It seems likely to me that, like bacteria, viruses play a necessary role in the overall functioning of the ecosystem. They can kill us, but they probably also keep us alive.

And finally, the Christian perspective. At a time like this we naturally ask a metaphysical “Why?” We are reminded of the ‘problem of evil’. Why must there be so much suffering and death? Either God is

not all powerful, or not all loving, we think. I don't propose to be able to answer this paradox that has puzzled great minds for millenniums, but we can note how our ecosystem is built on constant death, yet thrives as a whole. It is the normal thing for us to live a while and then be recycled. That's how it all works. The curious thing is that we should rage against such an elegant system. Where would we ever have gotten the idea that things should be different? We could not have gotten this idea from nature itself, obviously. The Bible story correlates, doesn't it? It tells us we are made from the dust of the earth, yet explains why we clearly don't quite fit. The Bible says we're made in the image of the creator, someone transcendent. And then it tells us we're fallen – ejected from the garden and condemned to die. We're all going to die, and none of us wants to embrace that reality. When death comes, we act as if we're shocked, as if we haven't known all along that this was inevitable. So the Bible explains why death is unacceptable – we were created in the image of the eternal God. We are not just physically alive, but something else - spirit. And that spirit wants to live forever and never die. And that is just what the Bible offers. From the book of Romans – “The wages of sin is death, but the gift of God is eternal life in Christ Jesus our Lord”

So this is surely a great time to think about it, as the whole planet faces a sobering reminder of our frailty. As always, feel free to email me with your thoughts! [markc@midbittech.com](mailto:markc@midbittech.com)

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