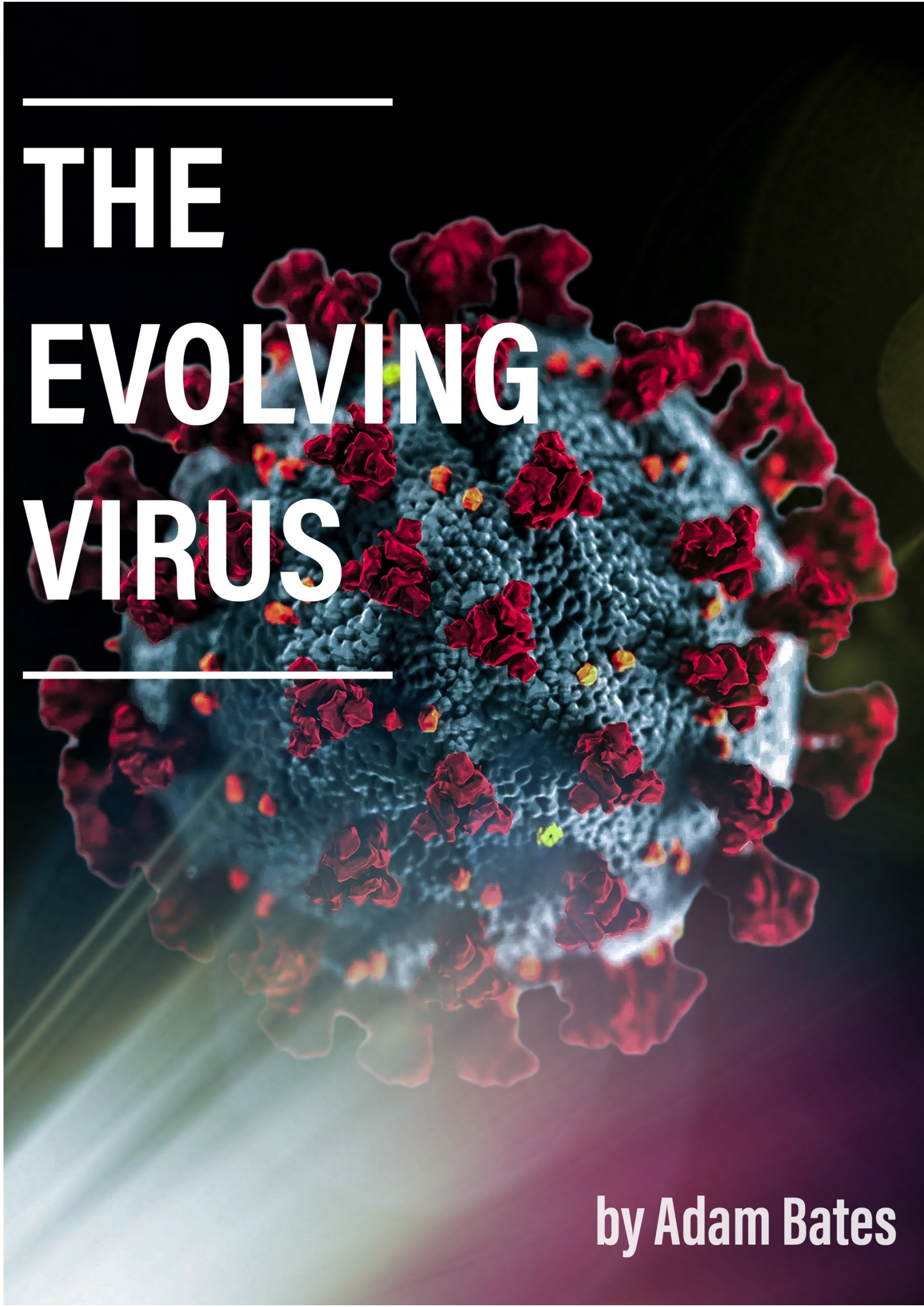
THE EVOLVING VIRUS



by Adam Bates

“The plant raises its manifestation from the seed through the stem and the leaf to the blossom and the fruit, which again is the beginning of a new seed, a new individual, that runs through the old course, and so on through endless time. Such also is the life of the animal; procreation is its highest point, and after attaining to it, the life of the first individual quickly or slowly sinks, while a new life ensures to nature the endurance of the species and repeats the same phenomena” – Arthur Schopenhauer (The World As Will And Idea)

A Discourse into the Evolution of a Virus: How vaccines create variants

The following quotes are taken from an article titled: "Triple jabbed but still off sick: welcome to living with Covid"[1], which was published in The Sunday Times Newspaper on 20th March 2022:

"With restrictions lifted and free tests ending, a new sub-variant is spreading fast. Like it or not, this is likely to be the new normal."

"Few experts are surprised at the rise in cases, even if it is happening sooner than expected. New variants are an inevitability, just as new flu strains circulate each year. The latest menace is Omicron "subvariant" BA.2. It is not distinct enough to warrant a new letter, but it does have 20 mutations that set it apart from the original Omicron (BA.1). These mutations make it even more infectious, which is why it is outcompeting its brother and becoming the dominant strain in Europe."

"More variants will follow. The successful ones will probably be even better at dodging vaccines, and immunity from prior infection."

What is the difference between a virus and bacteria?

It is imperative that I first provide some context by way of a fundamental, and prerequisite, understanding of what a virus actually is; for it is debated as to whether or not a virus should be classified as a living organism, in the same way we would classify bacteria as such. There is, however, a crucial difference between a virus and all known living organisms, including bacteria, that highlights a grey area in our depicted means for classification as such; a grey area that is, in our definition of the term "living".

[1] Triple jabbed but still off sick: welcome to living with Covid: https://www.thetimes.co.uk/article/9b587110-a795-11ec-a0e9-23fd932feb90?shareToken=bceb437ff22f742a6ea97c8dbe5a8a17

Bacterial organisms are able to replicate, that is, they can create new members of the species, without the dependence upon a living host in order to do so. It is true that bacteria does require a host in order for it to survive by means of the resources that a host can provide that are essential to such, but the metabolic machinery to utilise those resources as well as the biological machinery required for it to reproduce are all contained within its own cells. This trait is consistent through all other living organisms and would be akin to the way the Earth itself provides a human with food and oxygen, yet all elements of the metabolic machinery required for us to utilise those resources, as well as the biological machinery that is required in order for us to reproduce, are all contained within the human body itself. When we consider that a virus is dependent on the host not only for its resources, but also for specific elements of the required machinery for its reproductive processes, we may be inclined to classify a virus as non-living and yet, if we were to do so based on this premise alone, then a virus would be the only non-living creation of nature that contains genetic material which it seeks to replicate in order to ensure that genetic materials survival. Perhaps more poignantly, we should say that it would be the only non-living creation of nature that's objective is to reproduce and to ensure the survival of its species.

What is important though, for this context, is not the debate as to whether or not a virus should be considered to be *living*, but the aforementioned fact that a virus does contain genetic material that is replicated, that is to say, it creates new members of the species to which it passes on its DNA. It is indeed this fact which, brings a virus, as it does to bacteria, under the umbrella to which the laws of evolutionary science must be applied. Those laws stipulate, that it is those deemed best suited to survive in a particular environment that will be those most likely to pass on their genetic material to future generations. This is a process that must be considered through every level of a species' biological makeup; be it an anatomical advantage, or a biochemical one, any genetic variation that increases an organisms chance `of survival and thus, means that organism is more likely to be able to reproduce, increases the chances of those genetic elements becoming more dominant as the species evolves. This is a topic of which I have covered in great detail, when relating to human evolution in particular, elsewhere and I would advise

reading my essay titled “Rewriting Fat Loss” which, despite the texts title and overall objective, gives a great deal of background information on how various elements of the human body, such as brain structure, structures involved in metabolic processes and such, evolve on a far more micro level than as we would currently tend to consider based on the basic concepts of evolution that are in the mainstream literature.[2]

In considering evolution itself, it is perhaps of incidental value, but I was interested to note, another discovery, in that there exists some genetic material that can be found in both bacteria and viruses. A discovery, of an importance which, greatly increases the likelihood of our current hypothesis to be correct; that which is to believe that both have evolved from common ancestors[3].

Vaccines and Variants

Whether we are considering the neck length and shell shape of tortoises on the Galapagos Islands, the evolution of the structural components of the human brain, or that of any other human or animal organs, wherever a genetic variation increases the chances of the organisms survival, it increases the chances of it being successful in reproduction and thus, passing on those same genetic variations to future generations.

If a particular genetic variation does not provide an increased chance of survival as would be the case amongst those tortoises with longer necks on an island that’s conditions and low lying vegetation do not dictate that a longer neck length provides the animal with any advantages over those with shorter necks, then there is no greater likelihood of that genetic material being that which is passed on to future generations. It is, when a particular trait provides the species with a survival advantage that the trait will begin to dictate the evolutionary path of that species.

[2] Bates, A. Rewriting Fatloss (2022). https://www.ab-fit.com/rewriting-fat-loss

[3] Mughal, F., Nasir, A. & Caetano-Anollés, G. The origin and evolution of viruses inferred from fold family structure. *Arch Virol* **165,** 2177–2191 (2020). https://doi.org/10.1007/s00705-020-04724-1

Using this analogy as a means to understand the adherence of a species to evolutionary laws, we can see how these laws would dictate the evolution of a specific virus too and, as a result of a sustained evolutionary path, create what we term variants. These variants of a virus would be akin to the various species of tortoise that thrived in different environments specific to a particular island of the Galapagos whereby, the animal is still clearly a tortoise, but with variations to other species of tortoise which can be found elsewhere. If there is a genetic variation within a virus that increases the chances of the virus's survival then there is a greater likelihood of that genetic material being that which is replicated and thus, dictates the evolutionary path of the virus.

Once a vaccination is introduced into the host environment that inhibits the chances of replication, that is, it inhibits the ability of the virus to survive and thus to reproduce, then any genetic variations to the virus which provide it with an advantage to negate this attack on its survival chances will dictate the evolutionary path of the virus. It is those genetic variations that provide it with an advantage to its chances of survival within that vaccinated environment that will dictate the evolutionary path of the virus and this is what leads to a new strain of the virus.

It follows therefore, that it was not prior to, but following the creation of, and worldwide rollouts of, the COVID virus vaccines that we began to see the new and increasing number of different variations to the original strain of the virus. The first of such notable variants to appear was that of the Delta variant, one that was first detected in India and following the variants introduction into the UK, there was witnessed an increase in the number of positive COVID cases once more, cases of which, had previously fallen quite substantially. In such a population, whereby the majority had now received a similar vaccination, the host environment, as a result of this alteration, had become hostile to the original strains, offered a far more welcoming hospitality to the new variant. We must also consider now, another important point. That is, that whilst there may be around 25 years between generations of our own species, for a virus, this timeframe would be closer to 10 hours and thus, evolution through the species can take place at a far

more rapid pace. A transitional adaption that would require approximately 25,000 years of time for a larger animal species, could take place within 500 days. Perhaps, this is not long enough for a completely new virus to evolve, but it is long enough for a subtle variation to one or more aspects of that virus to take place; long enough for a new variant to form.

With this considered, note that India contains almost 1 billion vaccinated people[4], a fact that should not be ignored when considering why the Delta variant was first detected in that country; one whose total population, and the density of that population, offer the most suitable conditions to be found anywhere on the planet with respect to encouraging the dominance of genetic traits which can survive in spite of this new defence.

As a variant that is more likely to survive in a vaccinated population spreads and in turn, by way of further vaccine boosters, we introduce new vaccine technologies into its hosts to mitigate its chances of survival, it will follow new evolutionary paths, paths which allow it to best negate the latest threat to its survival. An advantage will now be provided by genetic variations within the virus which, allow it a greater chance of surviving in a host with the latest vaccine and boosters, with that becoming a common alteration to its environment, these variations will thrive and be the genetic material that is most likely to be replicated. Therefore, each time we introduce a new defence in response to a thriving variant, that is to say; each time we alter the virus's environment by means of making it harder for the virus to survive, we will encourage it to evolve along a pathway that makes it best suited to survive in that new environment. In much the same way that we could stimulate an evolutionary path of increasing neck length in a species of tortoise by removing all of the lowest lying vegetation and thus creating an environment that provides a survival advantage to those with longer necks, we will witness a virus evolve too as a result of the changes we make to its environment, an environment of course that is the human body, by way of introducing a new type of vaccination.

[4] https://ourworldindata.org/covid-vaccinations

A Final Thought – The Village

Like the evolution of any other species, as genetic variations become more dominant and a number of evolutionary paths run their course, with increasing time, eventually resulting in a completely new species, viruses too will continue to evolve. The new variants of a particular virus are the result of those initial stages of its evolution, stages of which eventually may, with adequate time and circumstance, evolve into a completely new virus, or if you like a new species of virus.

Perhaps it is time to look at virus's in a new way and whilst the answers will take much time, research and discussion, let me give a final analogy.

The village, far off in the north, glistening from the hill top, a false optimism that fails to hide its inner hostility. For, other than it, there is no other animal life as far as the eye can see or foot dare travel but us, a small collection of villagers, farmers, thriving mainly on the resources confined within our village walls. Walls that are built with the purpose of our own defence, confinement - yes, but protection too, as far as our latest technology allows, protection that is, from the terror that lurks outside. A terror of the greatest magnitude, a terror which poses by far the most predominant threat to our own survival, that which comes from the forest, that forest which stretches eerily all around. Jaws that can bite through human bone, eyes that can strike fear even in the strongest of people, stomachs growling, signifying their constant fight against hunger. For this beast, breaching the village walls is becoming essential to their survival. The more extreme that hunger becomes, the greater that need becomes, the greater their ferocity, the greater lengths they will attempt to go to in order to survive.

Sometimes, though fortunately, very infrequent times, a beast may
manage to push one of the wooden panels through! On other occasions they have been able to jump the fences and obtain their prey by that means instead.

Those traits became so key to its survival, that soon there were more beasts capable of achieving this! We created bigger stronger walls, stone walls, unbreachable walls!

Occasionally, we might have to send a small group for specific resources into the woodland, armed with spears and high in number they would suffer little loss to lone beasts. But, slowly the beasts began to work together, to set traps themselves, the more we developed ways to reduce our risk, the more advanced their hunting tactics would become.

The smarter or more resourceful we become with our defences, the more we create a beast that is of increasing suitability to meet its only objective – hunting us. If only we could find a way to destroy it completely.