Presently, three vaccines are approved for use in the United States. They are commonly referred to by the names of their manufacturer: Pfizer, Moderna, and Johnson & Johnson. The first two vaccines use messenger RNA (mRNA), while the later uses a harmless adenovirus to deliver genetic protein-manufacturing instructions to our cells. All three vaccines appear to be highly effective, and their widespread adoption will help move our community past the restrictions that have limited our religious and personal lives for the last year.

The mRNA vaccines teach our cells how to make a piece of protein identical to the spike protein found on the SARS-COV2 virus. This in turn triggers an immune response creating antibodies against these proteins. After a short period of time, our cells break down and get rid of these mRNA instructions. mRNA vaccines do not use the live virus that causes COVID-19. This mechanism is new, but not unknown. It has been studied before for flu, Zika and other illnesses.

The Johnson & Johnson vaccine (and the AstraZeneca vaccine that is widely used in Europe, as well as the Sputnik-V vaccine used in Russia) uses a specific type of virus, called an adenovirus, as a vector to deliver genetic information to the body's cells, which then manufacture the distinctive spike protein for the immune system to recognize and learn.

In the past, cell lines which were originally derived from fetal tissue had been used to produce live attenuated DNA viruses such as those used for the MMR vaccine. The current approach for mRNA-based vaccines is to synthesize a messenger RNA strand using standard reverse transcription techniques that do not even rely on cell lines. Some have questioned whether the use of these vaccines is ethical because human cells originally derived from a fetus were used in either their development (Pfizer and Moderna) or their production (Johnson & Johnson). The Pfizer and Moderna vaccines used cells from a cultivated line called HEK 293 only during certain stages of testing, and not during production. HEK 293 is a line of fetal kidney cells that were cultivated in the Netherlands in 1973. The biologist who started the line says he does not know whether they came from a voluntary abortion or whether there was a medical reason. The original cells died decades ago, and the cultivated cells have replaced innumerable times, to the point that there are now variants of HEK 293 with different mutations and biological properties. The Johnson & Johnson vaccine uses a similar line of cells called PER.C6, which were cultivated in the 1980s from the retinal cells of an aborted fetus. In both cases, the biologist who developed the cells for scientific research was not the doctor who performed the abortion, and conducted his work “after-the-fact”.

The two possible voluntary abortions that happened in 70's and 80's are tragedies that should be mourned, but we don't consider those bad acts to irrevocably taint everything that involves HEK293 or PER.C6. The starting cells were harvested after the fact, the individuals involved in their production and use were not party to the abortion, and cells used today have been cloned and grown in labs for decades since. We view the use of these cell lines as analogous to a medical student who learns anatomy from a body donated after a murder – while the deceased was the victim of a tragic and immoral death, the evil is not imputed to the student through study.

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