

Salk, Sabin, and the Crown of Health

“Wait, what does taj (تاج) mean again?” I interrupt. “Oh. It means crown... so, health is a crown worn by the healthy only the ill can see,” my dad explains over the phone. As I digest this axiom lazily on my couch in self-isolation, the word *crown* bounces through my subconscious to its Latin root, *corona*, which plunges me back into a stream of fleeting, anxious thoughts about COVID-19. This perpetual anxiety is furthered by the fact that I cannot seem to scroll any social media timeline without being inundated with puzzlingly colorful 3D representations of this invisible, not-dead-yet-not-quite-alive enemy, superimposed above unnerving headlines. Yet, in these hours of cheerless screen time, when the present hangs suspended in animation and the future sits uncertain, I have found much inspiration in looking to the past.

In the 1940s, public pools in America stood empty despite the late summer heat¹. That same eerie silence that overtook lakes, oceans, and pools is becoming deafeningly familiar in 2020. The virus responsible for the silence almost 80 years ago — poliovirus — has been known to humanity since before recorded history², leaving its young victims paralyzed and in dire need of critical care. Iron lungs for respiratory support were often in shortage locally, another daunting parallel to our current pandemics³.

It is not hard to imagine the feelings of uncertainty and fear that permeated during the polio outbreak years ago. These same anxious feelings seep from our phones and TVs, finding their ways into every conversation, spreading from person to person, replicating in each of us quietly, only effervescing at each cough, headache, or door handle. While polio still conjures up horrifying images of children in iron lungs to some, it undoubtedly does not present the same existential threat to society as it once did, despite its horrifying resurgence in places like Syria—where my dad spent his own childhood. To thank for this, we have the work of two Lasker laureates, Jonas Salk and Albert Sabin. Jonas Salk, the 1956 Lasker laureate, was the first to create and administer the vaccine globally. Soon after, Sabin created an oral version that brought our world to the current 99% vaccination rates and received the Lasker clinical research prize in 1965. Their diligent and incredibly timely work saved immeasurable humans lives and forever changed the world.

Yet, I have left out the most crucial detail of the story of the polio vaccine. The near complete global cure of a disease alone is a timeless brilliance, but what these two Lasker laureates did *not* do remains more noteworthy. They both chose not to patent their vaccines, allowing them to be manufactured and used freely across the world. They did not garnish a single dollar from ostensibly the most lucrative inventions of our time. They did so in a way that didn't involve proselytizing, but merely acknowledging it was morally right. To the question of who owned the patent for his vaccine, Salk famously responded⁴, “the people I would say—there is no patent. Could you patent the sun?” It is with these simple words that Salk was able to set a precedent for how during times of crisis, scientists could not only disseminate truth and knowledge, but remind us of our shared humanity.

As we fight to mitigate the effects of this pandemic, we are all reminded how infinitely connected our world is today. The burden of COVID-19 is not one to be held alone by scientists and clinicians, but one we all must take our turn in bearing. Each person across our communities can make a difference in stopping the spread by socially distancing and following guidelines set by public health experts. And just as this disease and its burden belong to all of us, so too should the eventual vaccines we hope to develop.

In biomedical research, the pursuit of scientific success itself often becomes the *why*, regardless of how noble one's original motives are. Because of the seemingly stolen time this pandemic has given me, I have been able to look back and be reminded that my research endeavors are a conduit for the penultimate goal — improving the health of those around us, just as Salk and Sabin did. They chose to supplant the crown of others, and I will be forever inspired by their story to do the same.

References

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4. Spier, R. (1995). Jonas Salk. *Vaccine*, 13(16), 1487.