

**Pandemic Science, Public Health, and Eucharistic Theology:  
Seeking Grounds for Dialogue**

Christopher Mathews, M.D., MSPH

As an Orthodox Christian, I understand my faith to be supralogical, but it cannot be illogical. In that spirit, I propose three epistemological axioms as common ground for dialogue between science and theology. The first axiom I would propose is that “truth is one.” We should be able to agree to a formulation of the Aristotelian *principle of noncontradiction* that it cannot be both true and false that through reception of the Holy Gifts a biological harm could be communicated to the recipient. The second axiom is that absence of evidence of a causal association is not evidence of absence of such an association. Because a transmission event of Ebola virus or coronavirus or hepatitis A through contamination of the Holy Gifts has not been proven does not mean that such transmission is impossible. To believe otherwise is an example of the *appeal to ignorance fallacy*. The third axiom is related to the first two: demonstration of a validated exception to an absolute assertion disproves the absolute nature of the assertion. Two such empirical demonstrations of communication of disease, defined as biological harm, through reception of the Eucharist are: (1) gluten sensitive enteropathy and consumption of Eucharistic bread containing wheat gluten; and (2) serious toxic reactions to the consumption of Eucharistic wine by clergy who are concurrently taking disulfiram (Antabuse) or the antibiotic metronidazole.

The remainder of my comments address the concept of disease as understood in medicine and philosophy of medicine, the probabilistic nature of disease occurrence, the spectrum of public health intervention during pandemics from the perspective of coerciveness, relevant models of health behavior, and commonalities between HIV disease and SARS CoV-2 disease.

## **Science and The Church: How to Minimize Transmission of SARS-CoV2**

Hermina Nedelescu, Ph.D.

In the space of only eight months, SARS-CoV2 (Severe Acute Respiratory Syndrome Coronavirus-2) has ravaged the world. With respect to the Orthodox Church, a debate about whether the Coronavirus can be transmitted via the distribution of the Eucharist has dominated the discussion. In order to settle this debate, we must first understand the transmission routes for the present Coronavirus and take the necessary measures to reduce the risk of spreading the infection. There are three transmission routes for SARS-CoV2: (1) droplets produced by sneezing, coughing, singing, talking or exhaling, (2) touching surfaces where contaminated droplets were deposited such as a door knob; however, this extends to other man-made objects including shared communion spoons or icons where such surfaces are shared by people in Orthodox churches, (3) small aerosolized droplets which travel far beyond the 6-foot mark. There are several measures proven to reduce the risk of infection. Some of these measures include wearing a mask, physical distancing, improving indoor ventilation, and enhancing hygiene. The current Covid-19 Pandemic presents an opportunity for both science and the Orthodox Church to serve the greater community by cooperating to concretely address problems that are the source of both spiritual and physical disease or symptoms to both believers and the secular population.

## **Reducing Risk of COVID-19: Ministering to the Body Along with the Soul**

Catherin Creticos, M. D.

On January 7, 2020, a novel coronavirus, SARS-CoV-2, was first discovered as the cause of a respiratory infection that was spreading in China, and since then the scientific world has worked furiously to establish how this infection is spread and why it is different than previous infections. We now know that people become infected when the virus enters the mouth, nose, or eyes. The spike structure on the outside of the virus fits like a lock in a key into the ACE-2 structure (protein) on the surface of cells that line the throat, nose and eyes, and once the spike locks into the ACE-2 protein, this allows the virus to enter. We also know that the virus is present in significant amounts in saliva – so much so that we now use saliva to diagnose infection, and the virus is also easy to culture from saliva. Regarding the communion cup, Holy Communion itself is not altered or contaminated in any way by the virus, but the virus can be introduced onto the cup or spoon when a common spoon is used and an infected individual comes into direct or close contact with these liturgical items, depositing contaminated saliva or small droplets; the virus is present even though not visible. CDC guidance clearly states not to share cups or utensils, and some countries have specifically banned Holy Communion in the form that it is given to Orthodox Christians due to concerns that it is conducive to the spread of coronavirus and endangers public health. Orthodox parishes in Ontario have been instructed to use separate stainless-steel spoons for each individual receiving communion in an effort to reduce risk of infection. Some ask: why have there not been outbreaks in the past attributed to the common cup or spoon? In response: it is very difficult to separate out using the common cup or spoon from other at-risk activities that occur when participating in the Liturgy or during Holy

Communion, prior research has looked at bacterial not viral infections, and with what we know about Sars-Cov-2 it would unethical to knowingly expose individuals to infected saliva in a common cup or spoon to test if transmission can occur this way. Churches have been “ground zero” for numerous outbreaks due to many factors, including the gathering of many households for a long period of time, the acts of singing, sharing the communion cup or spoon, and touching common items, and the indoor location. Churches have already made many changes to address these transmission concerns. We know the risks are real and we can do better to reduce infection risk using the common cup or spoon. We have a duty to our fellow man, especially to the vulnerable, to do better.

## Questions to Science Panel

**(Questions in bold were not answered by the panel; there was not time for everything)**

It would be interesting to know why the method of dropping Eucharist in the mouth became popular in some places BEFORE the issue of COVID, whether there are multiple reasons or one primary one.

Do we have evidence that deacons, who typically consume the remaining Holy Gifts from the chalice, using the spoon, or the priests who do so in the absence of a deacon, have ever gotten sick from any virus or disease therein?

I didn't really understand why is it unethical to do a controlled study? We don't have to do an actual liturgy, can't we just test the conditions? Using common utensils etc...?

Would receiving Communion by intinction be advisable for the Clergy? This would eliminate the contact of mouth to chalice.

Have any Orthodox parishes reported outbreaks/cases related to liturgical gatherings, and more interestingly, are they required to report outbreaks/cases to their hierarchy? Or, are outbreaks/cases simply reported to public health officials?

**The original study about the survival of virus on different surfaces from Seattle has been refuted. It was done in a highly artificial environment and it was the equivalent of having a 100 people sneezing on the same spot. So it would be a rare event to cause transmission. Washing hands often is still recommended**

Anonymous \_ I served as a deacon for years, being sent to the hospital many Sunday afternoons with acute crippling migraines with stroke symptoms in some case. Cause \_ communion wine to which I am severely sensitive.

During this contagion, are rates of infection among clergy different than what would be expected when comparing to other segments of population?

**Also we know that over the hundreds of years the clergy has consumed the remains of the chalice. Considering the poor hygiene and lack of healthcare over the centuries, the priests would have a very short lifespan. However we know that the opposite happens. The church itself would change practice (other denominations have done so). As an infectious diseases specialist I think this is as good a study we can get for the safety of Communion.**

Is the six-foot number based on modern research? Several months ago, one article going around noted that this distance was based on 1930's era science.

As far as I can discover, there have never been any reports of Covid spread through eating/drinking. Can you comment of how this would apply to communion.

**Is it risky to kiss icons, the priest's hand, and the cross?**

**The University of CT did a study using providine-iodine gargle of infected individuals, and subsequently dentists started to use it on patients to limit possibly existing virus in patients' oral cavities. Is there any application for this re: the current discussion? Or is it simply a time-limited precaution to be used during dental procedures (or hairdressers, barbers, etc., to protect themselves)?**

**Have there been any animal studies investigating whether ingesting virus can cause illness (or anecdotal reports about human transmission in this manner)? This seems to be the crux of the worries about taking communion with utensils possibly contaminated by virus-laden saliva.**

**(Gayle's comment: There are no really good animal models of COVID that mimic human disease. This is a large drawback to research on COVID in general.)**

just a comment. I'm a Coptic Orthodox priest, we still preserve the reception of both elements seperately (we only offer them together to the sick-body intincted with the blood). Only now with the outbreak are we discussing offering the body intincted with the blood. I meant now, offering the body and blood "together" to all the laity.

One of the survey questions focuses on "fear of transmission". In much recent discourse, the tendency has been to think in terms of fear for oneself. It seems important that we extend what we mean to include fear of transmitting the virus to others, e.g. to those behind oneself in the communion line. Fear of infecting others is a kind of fear that is a form of care for others. Why do you think the conversation has pivoted so much on the faith vs. fear binary but left out the notion of care – care for others?

Since the transmission of the virus is higher in prolonged indoor exposure. Is there a possibility to relook the historical development of the Liturgy of the word, and drop the processional antiphons?

The tension between form and Spirit. From the Spirit's activity an organization grows to give form and substance to the Spirit. And form then becomes opposed to the spirit. Tension rises and we set about again to pay attention to keeping form and Spirit in balance.

Could the "science panel" members comment on how effective would having the priests offering communion by hand (body intincted by blood) then disinfecting their hands with alcohol between communicants be vis a vis disinfecting multiple communion spoons? (In our Coptic Orthodox community, this is one of the methods some parishes are using...)