Your Majesties,
Your Royal Highnesses,
Excellences,
Dear Laureates,
Ladies and gentlemen.

On behalf of Prof Joachim Frank, Prof Richard Henderson and myself we wish to thank the Royal Swedish Academy of Sciences and the Nobel Foundation.

The world is large, very large. My head is small, quite small. There is no way I can put the world in my head. Nevertheless, I have been trying to elaborate some kind of representation. When it is about the living world, it is called biology. When it looks for the basic laws of space and forces, we call it physics. We are three bio-physicists, namely three scientists who work in biology with the spirit of a physicist.

Chemistry is the science of atoms. Elaborating on Democritus’ idea, chemists learn how atoms stick or don't stick together, thus forming molecules.

We three have never been very good chemists but we are gratified with a Nobel Prize in chemistry.

The Peter Principle says that everyone is promoted until they reach their level of incompetence. We are worried that we may have reached this remarkable point. But I would rather believe that this prize is a testimony of the unity of science.

Thirty years ago, my group presented a model of a virus floating in immobilized water showing details as small as 35 Å. Nowadays, cryo-electron microscopists are nearly routinely achieving 3.5 Å. Thirty years later, a resolution 10 times better, a volume one thousand times smaller, this is truly an impressive achievement. It came about thanks to the contribution of many scientists, and mostly thanks to the continuous and admirable effort of Richard Henderson and Joachim Frank, who have charted the path. The recent revolution in cryo-electron microscopy is simply the consequence that, at 3.5 Å resolution, atoms are visible. We see chemistry, how the atoms are arranged in the molecules, how the disease changes the arrangement. Perhaps we will find which drug disentangles the aggregates that make a brain senile. Many of us are interested in such things.

Colleagues cryo-electron microscopists, you have a good tool at your disposal; make the best of it!

Thank you.