



WHAT WAS CAUSING THE
DISEASE?



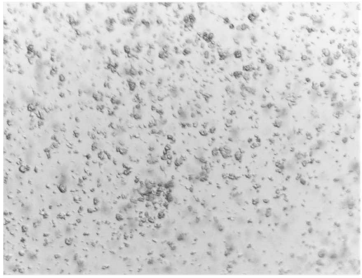
Dmitri Ivanovski 1892



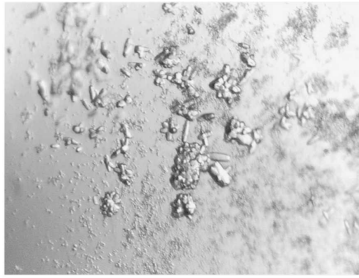
Virus = poison (Latin)

19.2 VIRUSES

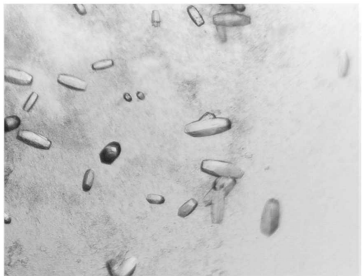
1935 Wendell Stanley was able to obtain crystals of the tobacco mosaic virus... *...living things do not crystalize.*



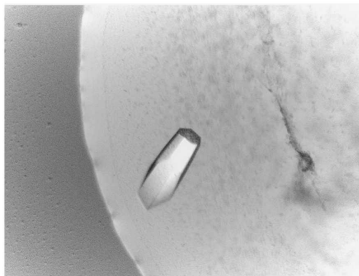
(a)



(b)



(c)



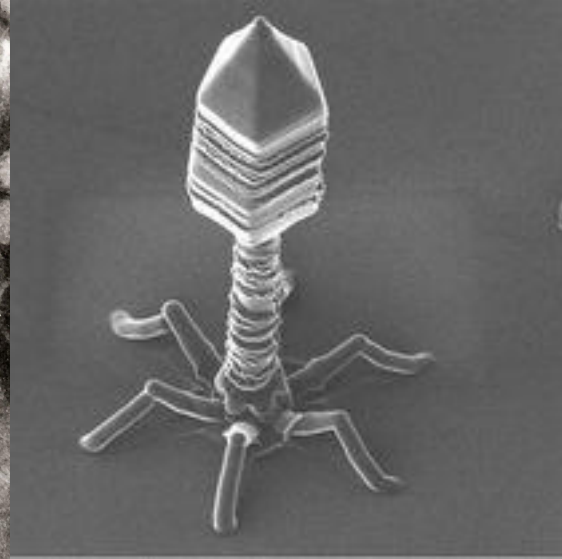
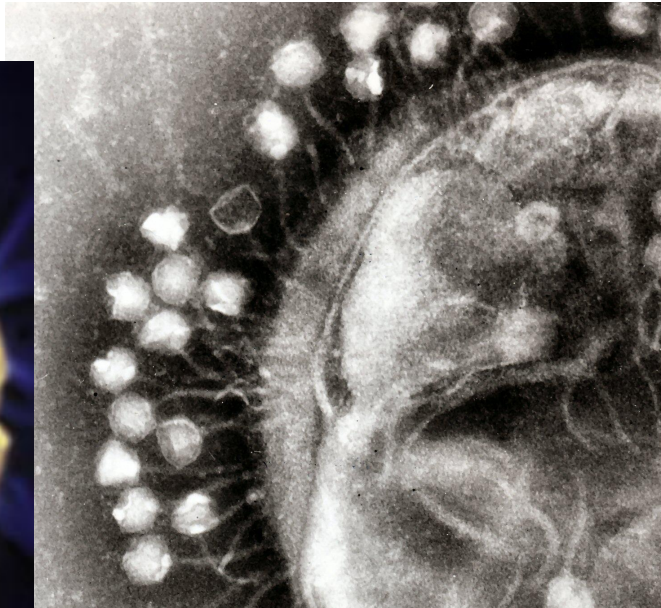
(d)



WHAT IS A VIRUS?

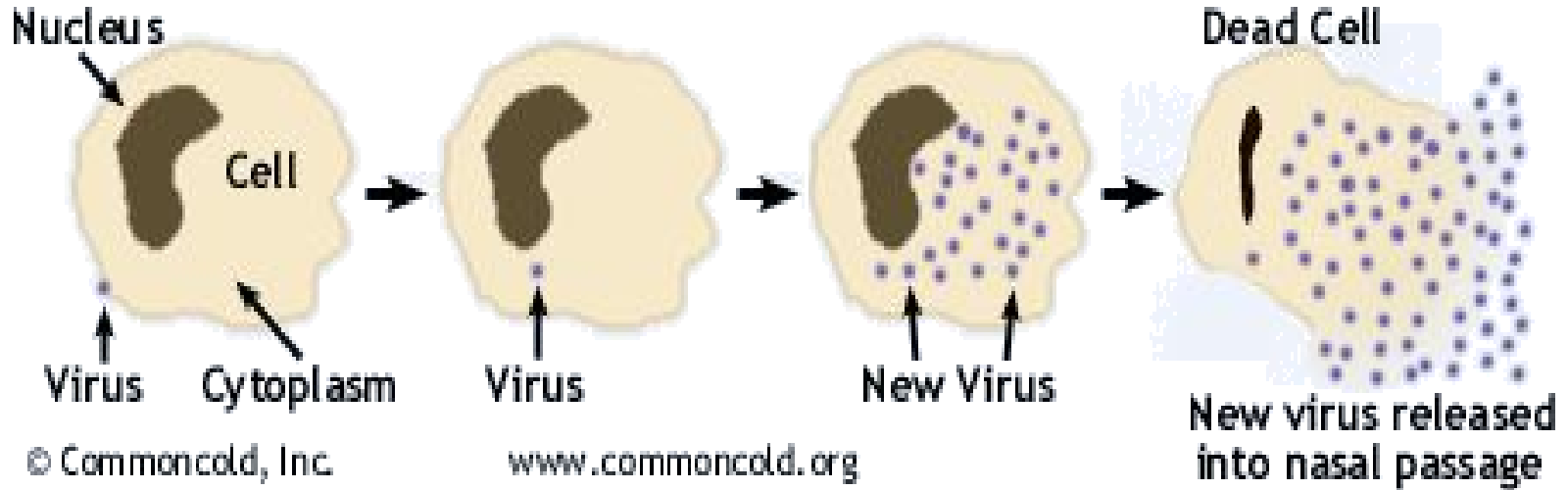
Viruses are not “alive”
They do contain particles
of nucleic acid, protein,
and in some cases lipids.

“Viruses are complex,
tiny, encapsulated agents
that penetrate living
cells”



Viruses can be very different structures and sizes

Viruses can only reproduce by infecting a living cell.



Once inside the cell they use the machinery of the cell to produce more viruses.

Viruses are composed of a core of DNA or RNA surrounded by a protein coat.

The simplest viruses contain only a few genes, more complex viruses can have more than a hundred.

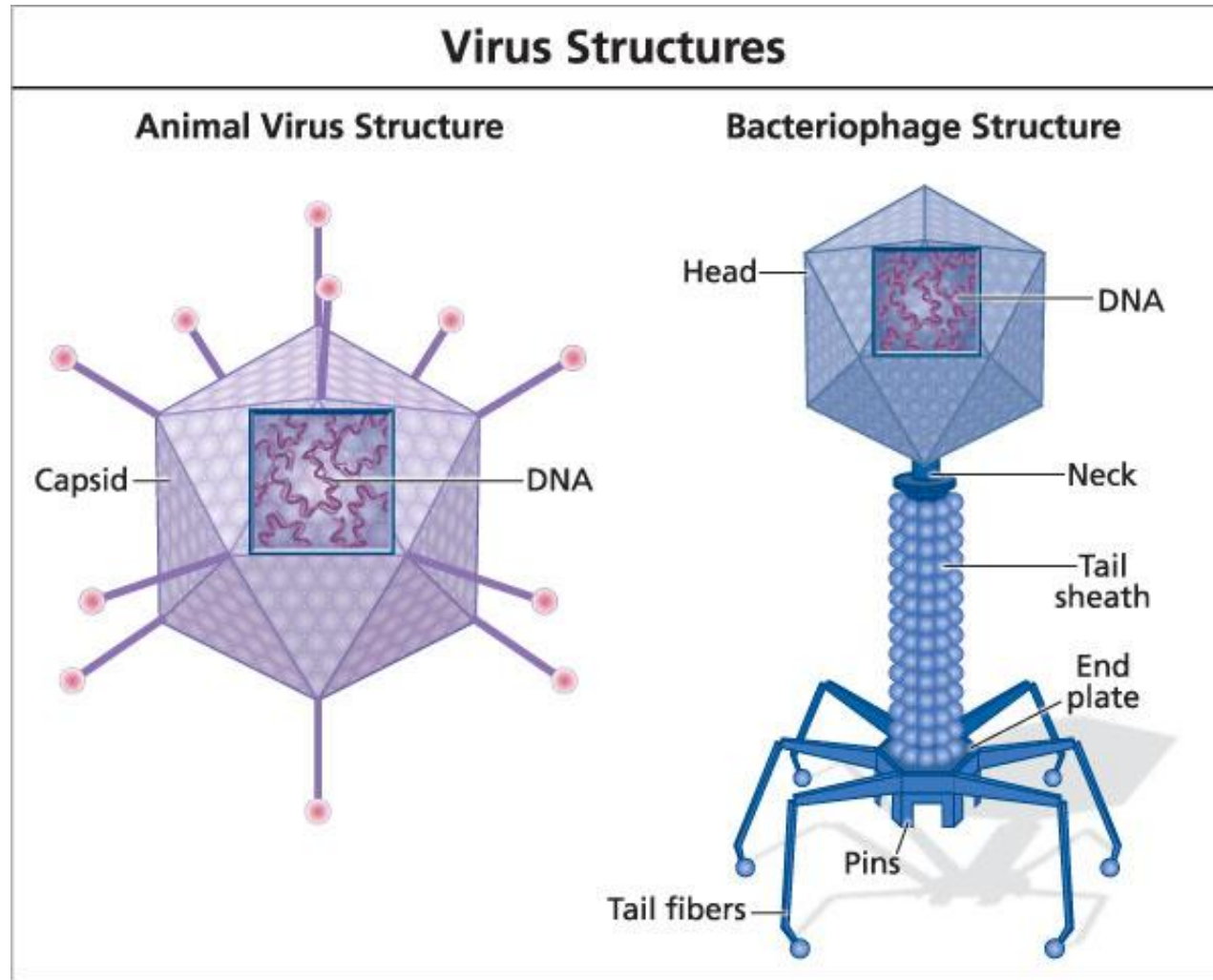
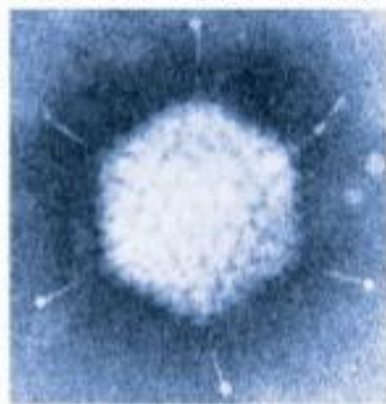
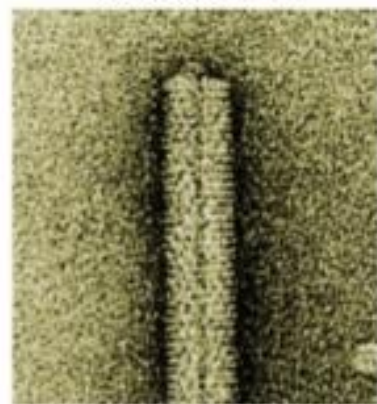
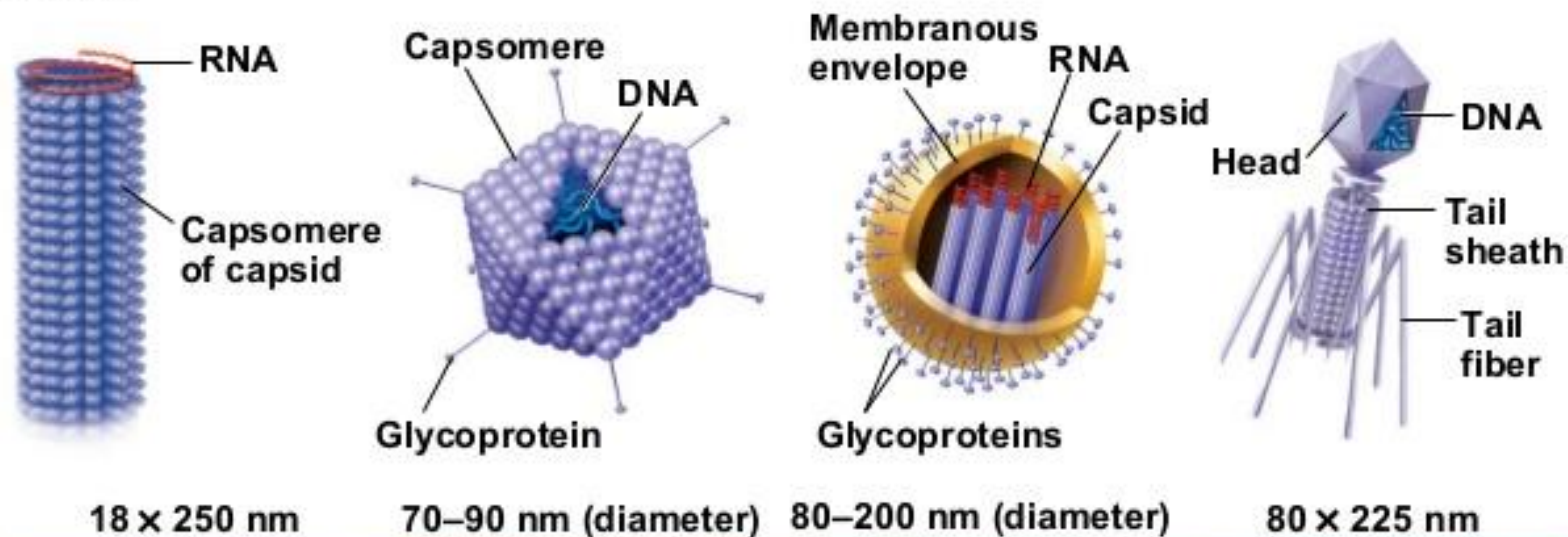
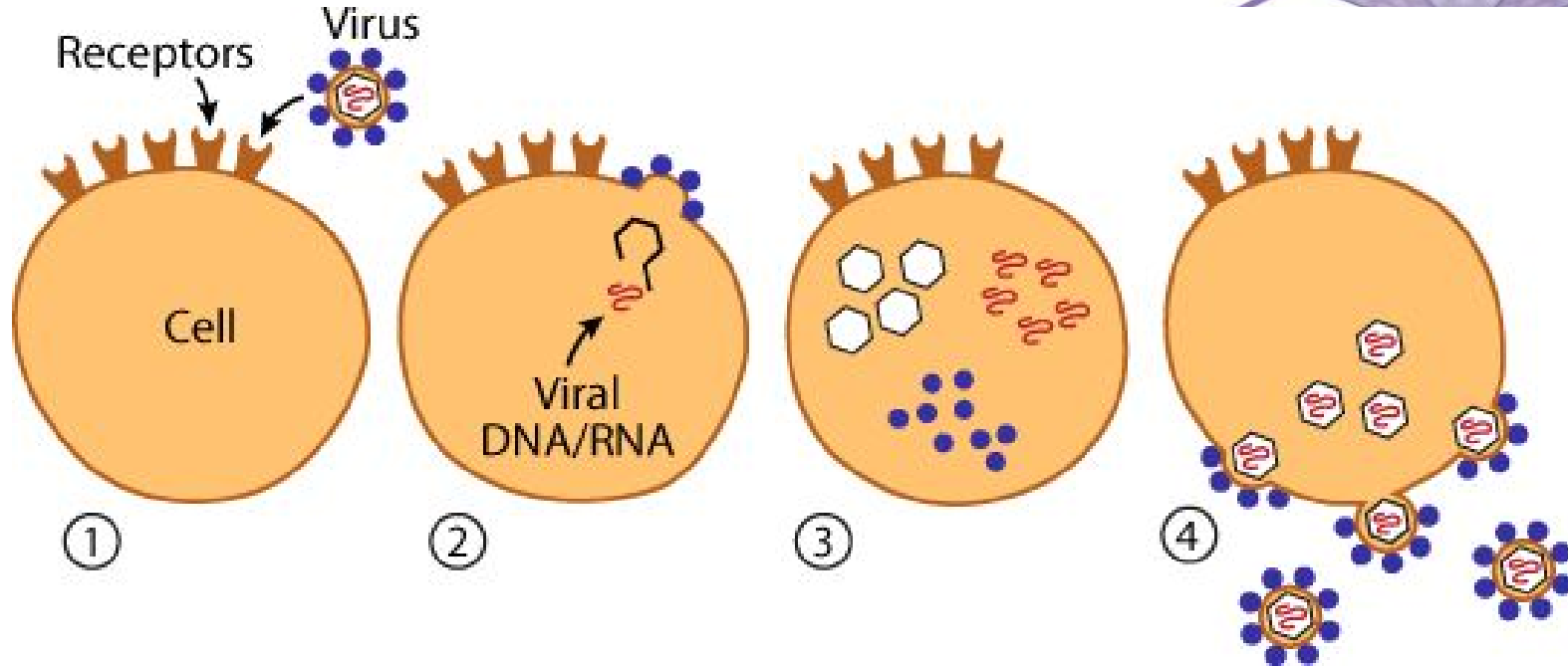
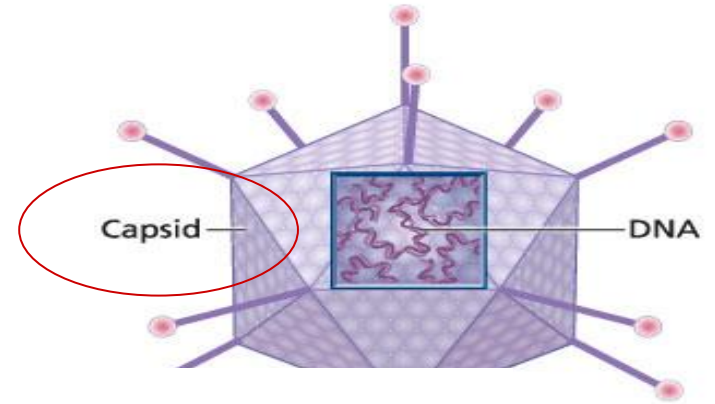


Figure 19.3



The protein coat is called a **capsid**

The capsid allows the virus to enter a cell



Viruses are specific to the cells they infect.

Plant viruses infect
plant cells



Bacteria viruses infect
bacterial cells called
bacteriophages

<https://www.youtube.com/watch?v=3Ms04x6MvMY>

Animal viruses
infect animal
cells

