

## ***Living with viruses***

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Pathogenic microorganisms in this day of age are not only submitted to high selective pressure by the immune defences of their hosts, but also have to survive under highly active antiviral or antibiotic treatments. Not surprisingly, they have evolved in finding many ways to escape these hostile conditions, such as mutation of resistance, hypervariability of surface antigens, protective biofilms, latency inside cells and tissues.

Often, as with plague or cholera, epidemics have spread as a result of transportation. Today, although global surveillance systems and hygiene precautions could efficiently decrease these risks, we cannot exclude, as we have seen recently, outbreaks of new infections, difficult to put under control.

Moreover, germs have found new ways to silently invade our organisms whose immune system is not always fully operational, due to environmental factors.

In addition, our genome is full of ancient retroviruses whose unregulated expression could be harmful and lead to cancer or neurodegenerative diseases.

New molecular tools makes it now possible to detect these viral agents at an early stage in order to treat or prevent their harmful effects.

They should be made available to all human populations, whatever their economical situation.