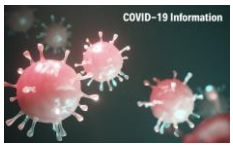

News Flash 13

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"No, farming is not responsible for the Covid-19!"
By Bernard Vallat, April 27, 2020

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"We recommend the investments needed to strengthen the biosecurity of our livestock and wildlife be largely eligible for Community grants stemming from the Green Deal". Bernard Vallat is a veterinarian and Honorary General Director of the World Organisation for Animal Health (formerly the Office International des Epizooties, or "OIE").

The origins of the pandemic that is affecting our entire planet are the subject of heated debates that even include conspiracy theorists. Political decision-makers and their opponents are already taking a stand linking the supposed causes of the virus' emergence to the content of the post-crisis policy proposals that they are preparing.

For example, I recall a recent statement by the President of the European Commission that the content of the Common Agricultural Policy currently being prepared, which has the "Green deal" as its guiding principle, will be a barrier to protect Europe from similar crises in the future. Is there a link therefore between current agricultural production methods and the appearance of the virus?

Living organisms. Viruses are living organisms whose basic instinct is to survive by multiplying in living beings. They have the particularity of being able to multiply only by penetrating the cell of a living organism, animal or plant, and they require that this cell replicate them by synthesizing them identically, each cell being able, before dying, to make hundreds of them, while thousands of cells in an organism can be attacked at the same time. The organism infected with the virus dies if too many of its cells are destroyed in this way.

Living organisms most often defend themselves in two ways against viruses to which they are vulnerable, since viruses are highly specialized in the living targets they attack: 1) when an organism has been in contact with a virus in the past, it makes substances called antibodies that can neutralize viruses; 2) white blood cells circulating in the bloodstream attack foreign bodies, but only when they have learned to recognize them.

Thus, strategies to prevent microbial diseases in humans and animals through the use of vaccination consist in creating learning in the organism without triggering the disease, for example by using viruses that have been weakened in the laboratory. But viruses have several tricks up their sleeve to mislead the vigilance of white blood cells; they know how to change their appearance continuously so as not to be recognized.

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Thus, as they replicate in the cells they infect, the proteins that make up the building blocks of their genes are continually changing and reassembling: this is called mutation.

Viruses also know how to cooperate with each other by exchanging their genes, for example when two different viruses manage to enter the same cell at the same time. This is called reassortment.

Viruses have no interest in killing their target too quickly because a dead organism no longer allows them to reproduce. Their mutations, which are always random, and their reassortments sometimes lead to the appearance of new, highly aggressive individuals that are candidates for generating pandemics. Millions of species of viruses circulate in nature. The most dangerous for man are those with which they

have never been in contact, and which possess the code that allows them to enter a human cell that they manage to approach, for example through the nose, throat or lung. They acquire this code through various mechanisms, some of which are based on passage between several different successive animals.

Bat and pangolin. Several serious and concordant scientific sources indicate that the origin of Covid-19 would be a species of bat living in an ecosystem located in China, which harboured the initial virus without dying from it, and which transmitted it to the pangolin (both species are insectivores).

The virus transformed in the pangolin without killing it either, but became, through random mutations or reassortments, capable of penetrating certain human cells, while having acquired the dreaded characteristic of allowing a high degree of contagiousness from person to person.

It has been more than a century since we have had such a “case”, the latest being the Spanish flu, which is believed to have originated in a bird and killed more than 50 million people worldwide.

Many species of bats live in symbiosis with a considerable amount of viruses that are candidates for pandemics, especially when these bats are not in frequent contact with humans, who have never learned to defend themselves against them. However, if their environment is disturbed, and if they come into contact with other animals or humans, these viruses have opportunities to attack new organisms and create particular genetic heritages that may become dangerous, particularly for domestic animals or humans.

Several daunting diseases linked to this context have thus appeared in the last twenty years: the Nipah virus in Malaysia, transmitted to pigs by bats driven out of their environment by deforestation, resulting in the death of 300 people and the virtual disappearance of pigs in that country at the time; SARS, which has killed more than 800 people worldwide and which probably stems from a modification of the virus of a Chinese bat by passing through the civet; the MERS virus, suspected of coming from camels infected by a bat and which has killed hundreds of people in the Middle East. Finally, let us not forget the recent terrible epidemic of Ebola in West Africa, also linked to bats via great apes.

The initial transmission of Covid-19 to humans probably did not occur through food as the virus is destroyed by stomach acids, but through the handling of wild animals.

Biosecurity of farms. It is known that the initial transmission of Covid-19 to humans probably did not occur through food as the virus is destroyed by stomach acids, but through the handling of infected wild animals in incubation or healthy carriers, most often in markets where these exotic animals are on sale. Those who handle them certainly become infected by bringing their hands to their faces. It is also known that farm animals have played no role in the emergence of these killer viruses.

It is therefore absurd to try to make a link between livestock farming and the disease, or to justify the content of the future Green Deal Community as a tool for preventing future health disasters. It would however be recommended that all investments necessary to reinforce the biosecurity of our farms and wildlife be largely eligible for Community grants stemming from the Green Deal.

This would be much more concrete than talking about the concept of biodiversity without giving details on the priority actions to be taken to preserve it. I would also recommend better control of the commercialisation of certain exotic species, as China and several African countries have apparently just decided to do, and systematic research into bat viruses wherever they are found in the world.

For example, when I was head of the OIE, I proposed and obtained significant funding from the European Union to map the possible presence of the Ebola virus in bats in countries at risk in Africa. It is this type of research that will help protect us from further pandemics, not the trials against domestic animals and their breeding.

In conclusion, let us beware of fake scientists who convey untruths in order to sell their ideology or remain popular.