Actuals limits of nanotechs (7 minutes pour lire)

(now i try to talk of limits of nanotechs)

We are exposed since always because there are the natural ones (ultra-fine particles in the atmosphere by example)

But since the industrial air, that has drastically to increase =

carbon nanotubes, particles of copper, and other metallic oxides (et ceteara)

we know the risk of the Microparticles but for nanoparticles it's more difficult has to evaluate.

Having said that, it appears that the breathing of an air charged with nanofibres would damage our lungs, and can also damage external tissue and cause irritations or allergies.

The possible hazards relate to especially the nanotubes of carbon and the fullerenes which are already produced massively in the industrialized countries. One already observed in the rat the appearance in the inflammatory lungs of lesions and a fibrosis.

More generally, the nanoparticules can deposit in all the zones of the breathing apparatus, in the digestive system, and locally, caused an inflammatory reaction.

Among the results most outstanding of the scientific studies, one notes that: "the nanoparticules could cross the barrier of the pulmonary epithelium to reach the lymphatic blood circulation and ganglia and to be distributed then in the body, to cross the placental barrier (et cetearea).

their effects, may be are comparable with asbestos.

In France, current products use nanotechnologies. It's the case of certain soaps or sun oils. Labellings does not specify the presence of elements resulting from the nanotechnologies.

Some of the great names of the cosmetics, like L'Oréal, continue to sell products containing of these ingredients.

Still today, one very badly measures the toxic effect of the nanoparticules use, but it's known already that one of the largest risks is related on their very weak degradability and thus to the risk of accumulation ; like with their very high power penetrating and it quasi

absence of natural regulators to slow down or limit the effects of them: known processes of destruction of the nanoparticules being even more toxic or incompatible with the safeguarding of the life of the infected cells.

The excretion of the nanoparticules by the kidney or the liver was minimal studied. It's probable that few nanoparticules can be eliminated by the emunctories.

For this reason it's necessary to resort to biodegradable materials for the design of nano-medecine.

Classes of nanoparticules showed their power toxic or cancerogenic potential, the body does not manage to eliminate without a considerable expenditure from energy.

The simply mechanical effect is also badly known but could also be harmful in itself, perhaps even more than the chemical effects.

Only true natural protections are the subcutaneous adipose tissues , usable like traps, but they are not eliminated then any more.

The other remaining lipids are those of the blood-vessels and the nervous connections. Accumulation in these vital fabrics can then weaken them and to form necrose dispersed also producing many toxins during their degradation and the body pains to replace these cells.

The recent example of dioxide-titanium (in micro and nanometric form), dye of chewing gum and candies, would be a potential scandal of public health and starts to be found everywhere diluted in the environment.

the nanotechnologies have also limits whose principal one is that of the price. Indeed, the phase of search of new particles and new drugs proves rather expensive, because it requires equipment.

less than eleven percent of the budgets are devoted to the evaluation of the risks.

With regard to the environment, we should absolutely analyze the life cycle of these materials: as for any other material, it should be made sure that at the end of their use, the products nonwhich can be recycled will not be harmful. If it's not the case, they will have to be made inoffensive.

The use of the nanotechnologies in the medical field also asks many éthics questions =

the hopes to increase the lifetime of patients or their physical performances raise philosophical questions and ethics related to the creation of "stronger" men, able to resist all the diseases. Debates then would be raised on the question of the human identity, through the probable coexistence the human ones "increased" and the human normal ones, not having had access to the nanotechnologies.

Another possible drift = the eugenics (together of the techniques aiming at making tighten human genetic inheritance towards a given ideal). Nanotechnologies being able to be used to modify the DNA of the cells (by withdrawing sick genes thanks to the chips with DNA)

Is necessary it to prevent the development of these techniques, which could allow, in the long run, the development of the eugenics, in totalitarian regime for example, which would have been given for objective to standardize their population.

Out of this field, the possibilities of traceability by the states or the commercial sectors could reach individual freedoms and the respect of the private life.

The development of the nanotechnologies is thus confronted with many limits, which are at the same time financial, ethical and legal, like those of the possible hazards for the health and the environment, which are still badly known.