**Interview with Paola Manduca, professor of Genetics at the University of Genoa, and coordinator of the New Weapons Committee, a group of researchers who deal with the study long-term effects of the use of non-conventional weapons on populations.**

**How to recognize a chemical attack compared to a conventional one ?**

Chemical weapons being talked about these days, which the press referred to as Sarin, but may also be other compounds with similar effects, are neurotoxic. They leave traces in the victims that can be shown with analytical tests that measure the serum level of a product of the hydrolysis for Sarin. There are portable laboratories capable of doing the essential analysis and it would have been expected that the UN mission had them, but it was not so. Anyhow, is still possible to prove the use of neurotoxic in the last accident in Syria. The neurotoxic compounds do not cause obvious injuries, but immediately produce a range of symptoms that are recognizable. Many die, while the people that absorb a non-lethal dose and are not treated immediately, may have permanent neurological damage.

The nature of the volatile neurotoxic liquid makes difficult its permanence if not for a short term (hours), but in the body of the victims they are traceable for a few weeks. How long is dependent also from what is the agent, which mixtures of neurotoxic have been used, the outside temperature, how long it took for the victim to die.

**What are the main studies of chemical agents you did? and what you can say with certainty?**

We investigated the use of white phosphorus munitions in 2009 in Gaza and found that they contain and diffuse from the place they explode in the air into the environment fetotoxic and carcinogenic metals . We have also shown, and published scientifically, that couples who have been attacked with these ammunition are more likely to have children with congenital birth defects showing a correlation between exposure and effect on the fetus that occurs 2 years after exposure. This is a long-term effect of the use of this particular chemical weapon on the reproductive health of the population exposed, and therefore its use falls within the definition of crime war and against humanity, as referred in the international right.

**What says the international law?**

The neurotoxic and chemical weapons are classified as weapons of mass destruction by the UN resolution 687 of 1991, used to impose sanctions Iraq. The Convention for the Prohibition of development , production and stockpiling of weapons of mass destruction is of 1993 and its implementation is monitored by the Organization for the Prohibition of Chemical Weapons, based in The Hague, Netherlands , and all signatories to the Convention are part of it. Use of neurotoxic chemical weapons as well as other chemical weapons, including white phosphorus munitions, was banned because their range is indiscriminate and unpredictable.

Strictly speaking, Syria, which has not signed the Convention , should not respond of its violation because he has not made the commitments not to manufacture, use and destroy chemical weapons. More realistically, to declare Syria guilty of having violated the Convention serves to create a reason for intervention. This is also seen in the fact that the mandate of the UN supervisors was a limited one, and the retaliation or full attacks on Syria may well start before their work is finished. The mandate was limited to verifying whether the Sarin was used and not by who although it is probably possible also to identify the manufacturer of the neurotoxic used, as various additives products within the neurotoxic could be traced back to the source of production (if the states that are still in their possession, not only Syria, but also U.S., Israel, Russia, Saudi Arabia and other, would assist in the investigation and did not all got them from the same producer as Syria). This would be a path to follow if one seeks the truth, and also one could compare the containers used by various producers/owners of neurotoxic ammunitions and those photographed on the spot. These information could identify who has produced the neurotoxic used and make possible to figure out who has used it, but simply there is no interest even to talk about.

Maybe the problem is that the manufacturer could also be one of the countries that are now considering military action against the regime of Bashar Assad, and something like this would prove to be the case, it would produce quite a lot of embarrassment.