

WAR AT HOME

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Back in 2002, the European Community financed a project called Nanopathology, a neologism that contained in itself the discussion of a not-yet perceived, perhaps altogether ignored, problem: that is to say the impact such dust as small as few tens of a millionth of a millimetre can exert on human health. One of the results that project yielded was the development of a novel electron-microscopy technique that allowed to spot that dust inside pathological samples taken from patients, and determine their shape, size and elemental chemistry. Thanks to that method, we could analyze a comparatively large quantity of samples from subjects suffering from illnesses like some forms of cancer, particularly leukaemia and lymphoma, all diseases whose origin is unknown but which seem to share the presence of inorganic dust, at least according to our observations. In 2002 in Italy, as well as in other countries, the news broke out with a tremendous outcry that veterans from what had been Yugoslavia were suffering from the so-called "Balkans Syndrome", a collection of symptoms as severe as difficult to correlate. Then, mass media started to blame depleted uranium, certainly a toxic and mildly radioactive metal, as the possible culprit. So, associations were founded, loudly asking then, and still doing now, its ban as a mass destruction means.

In that period, many questions could be asked, questions, though, that nobody thought of asking. If it is depleted uranium the cause of illness, why don't people who spend their day working it to make bomb tips grow sick as well? Then, how can a mildly radioactive material induce pathologies in organs that can't be reached by such a radioactivity? And why does the same material give rise sometimes to thyroiditis, some other times to leukaemia and in other circumstances to other forms of cancer? And why do soldiers who work in firing grounds where depleted uranium is not used grow ill as well? And, continuing, why do similar pathologies exist among civilians who never went to war? Why should we recur to hypotheses of different origins for identical illnesses like, for example, cancer?

While wondering about those never proposed questions, I thought that if it was depleted uranium and its radioactivity the cause of the problem, it was only reasonable that the metal should be found in the pathological tissues. So, I started to analyze some samples routinely taken from either ill or dead soldiers because of the disease that had affected them back from their missions. In the then 42 specimens examined of those soldiers, a few of them even recovered, I never came across depleted uranium, but found, instead, something which in my opinion was more dangerous: war pollution.

What does that mean? When depleted-uranium or tungsten bombs explode against a target, they develop very high temperatures, in excess of 3,000 °C in the case of uranium, a datum I found in a report written by the US base of Eglin (Fla) in 1978. That temperature is much higher for tungsten, and, with the heat developed, everything is located in the close neighbourhood of the burst is melted and vaporized, forming an aerosol that gets finely dispersed in the atmosphere virtually in all directions. That very thin dust contains all chemical elements present in the materials involved in the explosion, but those elements turn up recombined in a way that can be entirely different from the original. If, for example, a tank is hit, all the elements composing it and the projectile are melted and reduced to fine dust. And soldiers are present in territories thus devastated, where that dust stays suspended for a very long time without even ever being measured. Once that form of pollution has been created, a pollution chemically and physically impossible to get rid of, we have no instruments to anticipate when and where it will deposit to the soil but, as soon as it touches ground carried by rain or snow, the least gust of wind is enough to lift and suspend it again. Practically speaking, that dust behaves much like a gas and, therefore, like a gas it gets inhaled, enters the lungs, gets out of them in a few tens of seconds and enters the blood. No physiological barriers, including the blood-brain, can stop it and, at the moment, no elimination mechanisms have been identified. So, carried by the blood, those particles end up in any organ or tissue, where they are treated as foreign bodies and where, for that reason, they give rise to chronic inflammations that can, without any mathematical certitude but within a certain likelihood, transform into a tumour. Then, as those particles contain a number of different chemical elements, it is only obvious that some of them like, for example, arsenic, mercury or lead are toxic because of their

own nature and that toxicity will be manifested in the tissue where they are housed and, perhaps, in the whole organism. Such small foreign bodies can even contaminate the seminal fluid, some of whose specimens came also from dead soldiers we checked, and exert their local toxicity on spermatozoa. But what is more surprising is that the carrier of that condition passes his semen to his partner who is thus contaminated and develops very painful, bleeding vaginal sores that do not respond to any pharmacological or surgical treatment. That new pathology is called "burning semen disease". Therefore, it is unquestionable that the pollution created by sophisticated bombs, besides being inhaled with the air or ingested with the vegetables dust has fallen on, can be brought back home and transferred to a partner and contaminate her. The illness briefly described may be explained if one considers that essentially metallic debris (e.g. cobalt, antimony, lead, steel) whose size is below one micron get in touch with the vaginal and uterine mucosae and, because of their non biocompatibility, induce soreness, inflammation and, in more serious cases, cell necrosis. In addition to that, it must be considered that while in males particle concentration in their seminal fluid is reduced at every ejaculation, that concentration gets higher and higher in females that accumulate it and grow thus more and more contaminated. The US military authorities advised their soldiers not to procreate for a year (now it seems that the advice is extended to three years) after returning from a war mission, a precautionary measure, though, that does not solve the problem: If that fluid stays in situ, it can contaminate both spermatozoa and the neighbouring tissues. If that fluid is donated, the patient gets slowly rid of it but his partner is contaminated and a possible fertilization would occur in a site where nobody can assure that the embryo will come out sound. The most advisable thing to do, then, is avoid any contact with such seminal fluid by using a condom, and that precautionary measure should be suggested immediately, because it should not be permitted that the war be brought home without the master being aware of that.

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