

Intervention at Egmont Fondation

5 December 2019 – Brussels

**Academics as soldiers? Is defence related research a scandal or a duty**

I will order my comments around the three questions proposed.

**I.- The first one is about the task of universities in military research: do they need to engage in this kind of research? Or should they instead turn down the offer of more funding, as being incompatible with their ethical ideal of producing knowledge for mankind as a whole?**

To answer this question I retain important to make a difference between Social sciences and

“Exact sciences”, such as physics and mathematics, optics, astronomy.

With regards social sciences there is no doubt in my opinion in the fact that Universities should engage in War studies. And as matter of fact a lot of them do, between them King’s college in London and La Sorbonne in Paris. It is of the utmost importance to understand polemology, which is the study of the causes of war, if only we want to avoid it.

The question of course is totally different for Exact sciences, because for those academics and scientists it is not about understanding war, but potentially participating to it. So, of course it is for these academecs that the shoe pinches.

Let me observe first of all that for the low level of technological readiness, let's say from one to three, there is no difference at all between civilian and military research. Einstein's equations of general relativity are exactly the same if you want to understand the Universe, build a civilian nuclear reactor or construct a nuclear deterrent.

So, in this case, there is no problem, because there is no question. The question arises between TRL 4 and 5, when you start military R&T and even more after those level of technological readiness, from TRL 6 to 9, when you start military R&D up to the development of prototypes in combat conditions. In all these cases the question is: should Universities engage in military research and benefit from defence

funding. My answer is that this question is largely theoretical? Why?

For two reasons: the first is that military research is by nature very secretive, on the contrary civilian research is almost always public, because the goal of a researcher and a university is to publish the result of its own researches. So military research cannot be, by nature, conducted in normal universities. Even in a country like Germany, where military research was until now, and is still regarded as evil, and where you have a powerful network of Institute of Scientific Research Organisation (SROs) – the Fraunhofer institutes – not all of those institutes participate in military research and it is still badly regarded.

The second reason is that military R&T, conversely to civilian R&T, is oriented. In most of the cases, you don't make military research for the sake of making military research. You do it to develop the weapons you need to face the threats you are confronted with. Some researches are for Military only. Let's take for instance the missile defence or hypersonic missiles. There is no chance that the technologies you need to propel a missile would be used in civilians' technologies, unless you get it by Serendipity, like in the case of radar, microwaves, the internet, jet airplanes and even smartphones. In all these cases the flow of innovation goes from the military to the civilian sector.

However, there is one case in which the problem arises very much: it is dual uses researches. But in this case I would argue that the problem lies more in the big tech companies such as the GAFA, then in universities, as we saw with Google and its subsidiary Boston dynamics. No need to say that the research budgets of those companies is far more impressive than their military budgets and even public budget. Amazon spends every year 18 billion dollars on research, which represents twice the total of public research in France, and five time the military R&D.

The problem for the military is to attract and to keep young researchers, particularly for cyber, computing and artificial intelligence.

## **II.- Are academic objectives compatible with academic military research?**

I do not see any reasons why academic objectives could not be compatible with academic military research.

At the core of the military research is the quest for innovation. Innovation in itself is nor good or bad. What is good or bad is the use you make of it. Some civilians' innovations, which seem very pacific, like for instance the plastic, can proof disastrous for the planet and therefore for the human race.

But on the other hand, I can see the point when military research is not intended to give one's army the technological advantage but to destroy

populations; like in the case of chemicals weapons, or nuclear weapons.

This is the reason why the use of these weapons are subject to special treaties that forbid or limit strictly their use. It is a very contentious matter.

With regards to the Chemical weapons the answer in my mind is very clear. It is incompatible and those types of researches shouldn't be done. Obviously, that is not the case, and we have all heard about the Russian nerve agent –the Novichok – used in the Skripal thing.

With regards to Nuclear, I would say that all researches have already been done, at least in the Members States that already have nuclear weapons. But in this case, the answer to the



question posed depends upon the position you have on nuclear weapons: if you look at them as sheer evil, or as peacemaker.

Although, there one field, where it is very difficult to give a clear answer, and it is the field of the Cyber, Information System. There you can see that innovations that started in a pure civilian field, like the social network “Facebook” which is originated to ease recognition between *alumni* of the same University in California ended up being one of the most disruptive weapon of political and electoral disruption, in America and in the UK at least, with the so called Cambridge Analytica scandal and used by foreign powers such as Russia, setting up so called “troll factories” to influence public opinions in Western

democracies. In this new domain of war, the domain of perceptions there is nothing such as a distinction between military research and civilian research, but a perfect dual research that can be used for the good, and also for bad reasons. In this field, I have no answer to the question posed.

**III.- What will be the relation between academics involved in military research and researchers who stay out of such projects?**

I think that it is important that researchers talk to each other; especially that civilian researchers don't let military researchers isolate themselves from the scientific community.

I think it is of the utmost importance not to stigmatise, blame and shame researchers involved in military research. I strongly believe that defence is important, and there is no shame, but pride in defending our populations.

Thank you for your attention.