

The WFSW Newsletter 5 (2012-1)

Resolution on military robots

This letter n° 5 of WFSW presents some of the questions dealt with during the annual session of our Executive Council and public seminar in May 2011. It particularly contains the abridged versions of three of the introductions to the debates of the seminar « *Science, progress and growth* ». (The 4th intervention - heartbreaking - was delivered by our colleague Yuasa of the University of Osaka, dealing with the situation after the catastrophe of Fukushima, and his comments and recommendation: it will be included in our next letter). Besides, you will find the resolution « *military robots* » prepared by our commission « *disarmament* », as well as the one dealing with the problem of brain drain, debated by the commission « *the condition of researchers and research* ». The worsening of the economic, social and environmental crisis shows the necessity of making the concepts... and missions clearer and redefining the vocabulary. Science, the concept of progress and the contents of growth are at the heart of the debates. The interest of having an approach from three points of view is first, in the proceedings: reminding the first and foremost principle of any responsibility and liberty: the multiplicity of sources and the controversy. These abridged versions will, undoubtedly, give you the desire to consult the articles on our website. Words and aims having thus been clarified, there remains for men and women to get hold of them in order to stir things; this is our ambition in relation to science and scientific workers.

Jean-Paul Lainé
President

Migration without borders Brain drain

The WFSW believes that the brain drain must be thoroughly examined and updated in the context of the scientific and technological development of different states and in particular in developing countries. This theme, moreover, received much attention at the Science and Democracy World Forum (SDWF) in Dakar in February 2011. The brain drain is a scar which seriously harms development in the poorest countries while benefiting the richest ones. Although the richest countries claim to have a selective immigration policy they continue to draw the best brains. Even India witnesses the emigration to the United States of one half of the developers that it trains. This also holds true for the countries of North Africa, where large foreign companies encourage the brain drain. Although poor countries can benefit from higher education acquired in developed countries, the rich countries still gain more from this situation. Consequently, it would only be fair to *compensate* for the losses of the poor countries

Robotics, both theoretical and applied is today a thriving field of Science and Engineering. As is the case with most areas of men's endeavour, achievements in this field can be the source of unquestionable benefits to society in numerous aspects of daily life but at the same time pose serious threats to people in different parts of the world by jeopardizing human rights, living conditions and even lives. Robots, namely in the form of unmanned aerial vehicles (UAV) are extensively being used and their performance increasingly enhanced for military use both in battle fields and for spotting and killing selected human targets. This is an unacceptable and, indeed, perverse use that opens dangerous new territory for warfare. Military robots and UAVs may be commanded or "*piloted*" from a desk placed thousands of kilometers away, thanks to possibilities opened by highly efficient communication lines. There are reasons to say that robots on and above the battlefield are bringing about the most profound transformation of warfare since the advent of the atom bomb. In recent years, the use of military robots has grown at an extraordinary rate; the U.S. military forces that invaded Iraq in 2003, did not dispose of any military robot; in 2010 the U.S. Army possessed globally around 12 000 military robots, of which around 7 000 were UAVs. This trend raises new and serious ethical and legal issues. As far as the classification of agents involved in the utilization of military robots is concerned it can be argued that there is no longer a clear distinction between the "*soldier*" and a non-combatant person, in particular those long distance "*pilots*" and desk table decision-maker civilian technicians that go home for dinner with their wives and kids at the end of a "*work day*". It is appropriate to remember that the laws of war enshrined in the Geneva and Hague Conventions and the various protocols legislate soldiers' behaviour in armed conflicts and deal with the use and prohibition of weapons. However, military robots are a special case unlike any weapons before them; they are not under control of the chain of command, they can not reliably discriminate between combatants and non-combatants; and there is no quantitative measure that a robot could use to objectively determine needless, superfluous or disproportionate suffering. Additionally it is difficult, if not impossible, to allocate responsibility for fatal mishaps. The robot might absurdly get blamed or it might be tricked by the enemy into wrongful killing. Whereas the above considerations strongly justify international action on the military robots, the WFSW, henceforth, steadfastly demands a ban on the use of robots in any military or civilian conflict.

by promoting and funding significant projects: training-development-integration. Development projects, moreover, benefit first of all citizens of rich countries, whose salaries are incomparably higher than those accepted by local managers and technicians. "*Development aid*" is thus misused to an intolerable degree. It is urgent to create and strengthen scientific and technological resources and structures in countries suffering from the brain drain through a policy of *compensation for development*. The condition of researchers and technicians in developing countries must be made more attractive. In addition, the WFSW recommends the extension of resolution 2417 of the United Nations (1968) concerning the field of health to scientific and technical training as a whole.

Jean-Pierre Bazin, Cheikhou Sylla

Science, progress, economic growth: three points of view

Every human being seeks satisfaction of those needs he or she considers indispensable to ensure a happy existence, in other words, an enjoyable living standard. Part of those needs may be quantified in numbers; others are not quantifiable. Our planet Earth is subjected to three main stresses that are interconnected: climate modifications; energy supply and food production. We witness a growing number of alarm calls from a variety of circles aimed at spreading the conscience of the limitations of available natural resources as well as of their unsustainable utilization. It should be recognized that economic growth has limits: efforts to set up a steady state economy have to be made. In our days the view of the necessity of slowing down economic growth is not welcome in either the formal or effective ruling circles. Such a view is felt as a kind of heresy. However, the fate of the world is dependent on our ability to set up policy mechanisms leading to an equitable distribution of the wealth created by human labor that is compatible with a growing per capita consumption of goods and services in the numerous countries of the world afflicted by a unjust destitution of wealth. Such an objective requires the effective engagement of citizens and co-ordination at the political level by leaderships that are not subjected to the selfish interests of big corporations. The indispensable social transformations will end up by being imposed by the large masses. Intellectual elites will be expected to develop a pedagogy that contribute to develop people's consciousness and stimulate its ability to exercise a critical analysis of the hurdles that stand on the way of the right of future generations to a sustainable life on planet Earth, our common home.

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The objective as well as the subjective meanings of these three words are constantly changing, but they are not changing synchronously. If we examine their history we can better understand their *ambiguity*. During the period of postwar prosperity, "*the 30 glorious years*" in France, science was perceived as developing according to its own standards and questions. This *autonomy of science* opening up new prospects in an *unpredictable* manner, prospects used by society through *technical choices and research*, was believed to guarantee further successes and progress. The implementation of the results of discoveries belonged to the sphere of industry (whether public or private), in which research was not highly developed. A radical change in conceptions was introduced by the neoliberal economy, a change which culminated with the term "*the knowledge economy*". In the economic war waged by multinational companies through the states of the major powers to increase their profit rates, *innovation* has become the driver of *competitiveness*, as measured by *growth*. When scientific and technological research are brought closer together and combined, it becomes possible to involve public research in efforts toward innovation. This entails a thorough change in scientific practices and objectives and requires the sacrifice of entire areas of research (basic research or even "*useful*" research that does not generate profit). But the perception of the term "*innovation*" had to be enhanced in the eyes of public opinion, and this was done by exploiting the former positive connotation of science and progress. This is why we constantly hear the syntagma *research and innovation* in official speeches.

Janine Guespin
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One basic fact about modern economy is unbridled competition on a world scale. The only possible strategy for a company is to innovate constantly in order to increase one's market share so as not to perish. In the eyes of public opinion, economic growth is necessary if only to fight unemployment. Growth and social progress are viewed as identical. It is not enough to invent new products or services. The need to buy these products and services must be created. This economic reality weighs upon scientific research policies. Two contradictory aspirations exist in public opinion. On the one hand economic growth is identified with progress. But on the other hand there is the conviction that negative growth is inevitable because if we continue to behave as we do now we will run straight up against the wall by creating illusory needs, by wasting raw materials and energy the reserves of which will soon be exhausted, and by causing all types of pollution, greenhouse gas emissions to start, etc. As it is rather difficult to argue openly that we must move toward negative economic growth, we can imagine that if we ceased to «*produce*» new knowledge, we would reduce possibilities for innovation and therefore consumption (or at the least consumption would progress more slowly). Let us not wait for new disasters which make science look guilty, and for the rise of a new irrational conservatism opposed to all innovation. The problem is not a lack of scientific culture. We must accept, with no taboos, the «*growth or negative growth*» debate, and we must ask the following question: how can we produce without the sword of Damocles threatening us if we are not competitive enough?

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