

Comment

A Global Rebellion of Scientists or Uninhabitable Earth, that Is the Question

Dragan S Hajdukovic^a, Ivan Hajdukovic^{b,a}, Anja Milica Hajdukovic^a

^aInstitute for a Sustainable Society on Earth (ISSE), Cetinje, Montenegro

^bEuro-Mediterranean Economists Association (EMEA), Barcelona, Spain

Abstract

This Opinion is an invitation for a scientific (but also public) reflection and action. A technologically advanced society can become sustainable only if the scientific knowledge is the cornerstone in the process of decision making. Hence, we propose to enrich the present democratic system with a fourth power, “the power of knowledge” (or “scientific power”). Decisions of the scientific power (strictly based on the scientific knowledge) must assure the lasting equilibrium between humankind and Nature. A new decision making system with four separated powers (legislative, executive, judicial and scientific power) is a necessary step for the survival of humankind; such a system cannot be achieved without a worldwide rebellion of scientists who should consider all democratic ways of fight including the right to strike on a planetary level. Of course, we know that all this may seem like a utopia, and presumably it is, yet this is the first time in human history that our survival depends on our ability to realise such utopias.

Climate perturbation and pollution – our way to collective suicide

Already 32 years have passed from the first (1990) to the current [1, 2, 3] Sixth Assessment Report (AR6) published by the Intergovernmental Panel on Climate Change (IPCC). Despite the excellent work of IPCC scientists (and many other scientists), this was a period of the alarming increase of the environmental pollution and the level of carbon dioxide in the atmosphere. The present situation is much worse than 3 decades ago and well described [4, 5] by the words of the UN Secretary General, António Guterres that humanity is on a “fast track” to disaster and faces a “collective suicide”. Unfortunately UN Secretary General is as powerless as scientists are.

In parallel with the climate perturbation we produce a terrifying pollution of water, soil and air with alarming impact on biosphere and in particular on food quality and human health. One good example is phytoplankton; producer of about one half of oxygen we breathe and the base of virtually every ocean food web. Without phytoplankton Ocean would be a biological (and also economic) desert. Among other menaces to these life-supporting microorganisms, microplastics within the phytoplankton is already a fact of life [6] with a negative impact on phytoplankton photosynthesis, reproduction and growth; in the worst case, if we don't slow down our destructive activities, the extinction of phytoplankton, may become a reality.

In brief, humanity is in a war with Nature. If the war is not stopped before the end of this decade (the third decade of the 21st century) we risk an uninhabitable planet and mass extinction of plants and animals including humankind.

The fact that we are on the brink of self-extinction, shows that our “civilization” is organised in a non-sustainable manner. *The most important and the most urgent task in the history of humankind is a fast transition from the current non-sustainable society to a society organized in a sustainable way, with a new economic model consistent with the planet’s biocapacity.*

The accumulated experience strongly suggests that a successful transition to a sustainable society is impossible without a global rebellion of scientists. In fact, the last few decades were marked by completely useless scientific warnings, from the IPCC reports [1, 2, 3] to the warnings of bioscientists (see for instance the scientific Consensus Statement in Nature Review [7]). The masters of the world (mainly elected in a democratic way) remained deaf and blind for all warnings. Once for ever scientists must learn the lesson that scientific work and warnings are absolutely insufficient; in fight for survival we must act in different way.

A new global decision making system

A technologically advanced society can become sustainable only if *the scientific knowledge is the cornerstone in the process of decision making*. Consequently, we propose to add a fourth power, “the power of knowledge” (or “scientific power”), to the already existing executive, legislative and judicial power. In simple words, the reason for the existence of “scientific power” is to end war and maintain the lasting peace with Nature, a peace which is decisive for sustainability of our society.

In our opinion, this is the simplest way for a necessary radical improvement of the present democratic system of decision making; a system that is based on the separation of legislative, executive and judicial power, which are significantly (if not decisively) influenced by non-formal centres of power too much focused on their own interests and not interests of citizens and humankind.

Decision making system cannot be fixed once forever but must evolve with society. The old system of three powers (legislative, executive and judicial) was relatively appropriate in the time when we were not able to produce a significant perturbation of the life-support systems on Earth. In a radically new situation of a technologically advanced society that can produce (and produces) an apocalyptic impact on the environment, we need a new decision making system, we cannot survive with the old one.

In the face of the ongoing mass extinction, for the first time in human history, scientists have *unavoidable responsibility (a duty towards humankind) to insist on a new global system of decision making*; the new system must give them the appropriate power to prevent activities that menace survival of humankind and the life on Earth.

Scientific power must assure a sustainable relation (a kind of the lasting equilibrium) between humankind and Nature. Decisions of Scientific power (strictly based on the scientific knowledge) must be respected by society. However, the scientific power must avoid topics which are not directly relevant to the equilibrium with Nature; for instance ideological and social issues must remain subject of the other powers (in full respect of the principle of separation of powers). Let us give a clarifying example. The present authors (and perhaps majority of scientists in the world) think that there is an extreme and dangerous concentration of power in hands of a small number of people and states. For instance, can we have a sustainable society if world's 100 (in fact less than 100) richest people own as much as poorest 50% [8]. While such inequality and concentration of power is (in our opinion) inadmissible and incompatible with democracy, in our complex society, this topic unfortunately shouldn't be in the domain of scientific power.

More precisely than can be understood from the above example, there are two (relatively separated) sources of non-sustainability of a human society on Earth. The obvious source is a systematic destruction of life-support systems on Earth, or simply speaking a war with nature; the scientific power must neutralize this source and keep a lasting equilibrium between humankind and Earth. However, even in the case of harmony with Nature, human society on Earth can be non-sustainable because of international relations and social and political structures within the countries (which are the units of planetary society); the scientific power shouldn't be decision maker in this second group of problems.

Scientists involved in IPCC, scientists from different Universities and research centres, scientists from emerging organisations as for instance The Alliance of World Scientists [9] and Scientists Warning Foundation [10]...; everyone must raise the voice and ask the fundamental (and for survival decisive) human right: *a society and decision making system based on the knowledge*. Scientists must organize, ask for support of citizens and celebrities and consider all democratic ways of fight including the right to strike on a planetary level. If the rebellion of scientists awakens the hope and support of citizens, we still can save the life and beauty on Earth.

Of course, scientists must think, discuss and find the best way to implement the idea of the scientific knowledge as a fourth power. At planetary level (take this just as a rough working proposal) we may form (as a body of the UN) a scientific group for sustainable society on Earth; a group similar to IPCC but internationally accepted as a decision maker. Similar model can be used in member states of the UN.

We should declare the planetary state of emergency during a transition period

Transition to a society organized in a sustainable way, must take a few decades but the fact of life is that we are just about to cross a number of tipping points and very close to the "Point of No Return". Hence, in order to give transition a chance, we must declare a planetary state of emergency, agreed by the United Nations within the next 3 years (so little time has left). Scientists should initiate a state of emergency in parallel with the fight for a new decision making system.

Of course, in order to minimize the inevitable perturbations in economy, a planetary state of emergency must be carefully defined and prepared within the UN, by a multidisciplinary team of outstanding scientists. Unfortunately, we must choose between a controllable perturbation of economy and a dramatic and irreversible climate perturbation.

Outlook

Without any doubt, scientists will face a resistance to changes. In our "civilisation" the scientific knowledge is highly respected only as a tool for making much bigger profit. However, virtually in all other cases, the scientific knowledge is neglected and scientists are kept in a completely powerless position by the present democratic power, which (at least in the case of the environmental destruction) already half a century demonstrates a complete incompetence and irresponsibility.

During the long history, human society was organised in different ways. All political and economic systems (from slave society and feudalism to socialism and capitalism) were a result of power of mighty groups to impose and maintain their interests. Human society was never organised on the basis of the scientific reflection and knowledge; but in our time, which is the time of powerful technologies that must be used with wisdom, the achievement of such an organisation of society is absolutely urgent and necessary step for the survival.

Responsibility of scientists is directly proportional to their knowledge. In face of our enormous responsibility for humankind destiny, we have two choices. The first choice is a rebellion (of course rebellion in a democratic way) in order to get a decision making power corresponding to our knowledge; such a power is necessary to prevent self-extinction of humanity. The second choice is to continue a conformist life in service of centres of power; in other words, the second choice is to betray humankind and become accomplice in the genocide against our children and grandchildren. The time to decide is now or never. Let's make the right choice; our duty is to be in the service of humankind. The alternative is uninhabitable Earth and mass extinction.

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