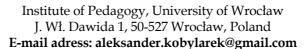
#### **PREFACE**

# **DIVIDED SCIENCE**

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#### **ABSTRACT**

This article analyses the causes of a dissonance between significant collective civilizational progress and injudicious individual choice. To show these causes, five basic hypotheses are presented, based on inter-disciplinary analyses: viz. political manipulation, media manipulation, ineffective education system, inadequate scientific communication, and misunderstanding. The possibility of constructing social consensus and harmony can be perceived in the general education of knowledgeable and responsible teachers on all levels and spheres of education, who will be able to explain the complexity of the world and transform the educational system.

**Key words:** citizen, science, education, scientific communication, education system, media, manipulation, science education

We are witness to immense technological progress as a result of intense scientific development. On the other hand, we are surprised at the painful ignorance and stupidity of our citizens. Superficially, this disparity is difficult to explain. It would seem that progress in education and increase in our knowledge should protect us from believing in witchcraft, superstition, and urban legends, as well as a whole range of 'scientific' nonsense propagated by charlatans and pseudo academics.

The twentieth century brought us modern technologies, based on the microchip and the Internet, as well as the conviction that the Western civilization had reached its zenith, because its social priorities had been defined in the form of values such as liberty, tolerance, justice, development, knowledge, security, and unity. It appeared that the course was set and the plan made, and that before us lay only the methodical realization of our precisely defined goals. This, however, has not happened.

Western civilization, in which science and progress have always been a kind of ideology, has shown a completely different aspect in the form of radical nationalist and anti-science movements. Those who had previously been an ignored minority became the dominating majority. The election results in many developed countries, together with the actions taken by the resulting governments, have revealed that the aforementioned priorities are nothing but empty words. The values embodied in election slogans were nothing but hot air, designed to placate the masses following their new leaders, who had other priorities.

What appeared to be the great embodiment of Western civilization - democracy and the Internet - also mercilessly revealed the dark side and stupidity of human nature. It is as if the humanities and social sciences did not sufficiently prepare us for what the technical and natural sciences were offering. Much has been written on the significance of the humanities in the development of mankind, but we should not delude ourselves - ethically and culturally, we have failed the humanity exam.

Intellectuals, academics, artists, and the majority of thinking people brought up on democratic and liberal values, rub their eyes in amazement and reflect on how it could have come to this - a return to alienation and aggression towards others. Perhaps, from a cultural aspect, it is the next stage in human development, which we need to overcome in order to attain some kind of moral cleansing, just as suffering can be the path to nobility, and acts of stupidity a cause for self-reflection. Perhaps this decadent stage is a natural consequence of post-modernism. From the moral point of view, however, it appears that here and now we are moving towards a complete breakdown of the existing order, in which science has hitherto had a fairly strong role.

It is difficult to resist the opinion that a society which has succumbed to radical ideologies consists for the most part of people educated beyond their capabilities, who, although having attained higher education, are totally ignorant of the basic proprieties which govern their lives and the society in which they live. Political scientists concentrate on the bitterness of the middle class, pointing to their lack of prospects and stability, their hunger for changes which never bring the hoped-for satisfaction, and a general disappointment in successive governments which never fulfil their promises. For the lower classes, who lack awareness of social processes, the election of radicals, who shout loudly and deal in calumny, is a form of revenge, resulting from a hope for real change in their fortunes. Of course, the question of scientific ignorance also concerns the middle class, who ought to be aware of the dangers of disregard, neglect and indolence, as the basic knowledge of how the state, economy, and society work is not available only to the privileged few. It should be obvious for anybody with basic education.

In the context of scientific practice, several hypotheses present themselves, which may go some way to explain mass stupidity. Unfortunately, in my opinion, it is the academics themselves who play a large part in this process.

#### Hypothesis 1 - Stupidity as a result of political ill will

It arises from a limited understanding of party and individual interests. The aim of politicians acting in bad faith is the taking and holding of political power at all costs. Among them we find both idealists, with a blind faith in leading others along the one true path, and career politicians, for whom politics is their reason for existence and the source of their income. Such people have no scruples - they invent nonsensical drivel, twist the facts, openly lie, propagate conspiracy theories, and blame every disaster and setback on others. They do it without blinking an eye, as though they lived in some kind of alternative reality in which only they are privy to the one and only truth. Some people believe them, just as others believe

that Elvis lives, and so magnify their reality while becoming acolytes of stupidity, lies and chutzpah.

A section of the political class (such as voters) is seduced by false prophets, dogged belief, and the devil incarnate, and then protest that they knew nothing about the nature of evil. However, other politicians of a Machiavellian character brazenly use the tools of manipulation to occupy the position of the fat cats which they had hitherto despised. Here the good of the state is deprived of meaning. The cost of such actions is always portrayed as a necessary loss in order to overturn the existing order and create a better world in which the electorate will be happy.

It is amazing how people who are usually cautious about the declarations of politicians, of whom they never had a good opinion, are seduced by their manipulations. To them it seems that he/she who shouts loudest and rants about injustices and humiliations (real or imagined) must be right. Opinions based on resentment find an outlet not in voting for somebody, but against somebody else. Then the party of protest appears to be the best solution, despite going in the face of logic, knowledge and facts. Voters do not listen to experts, because their actions are ruled by emotion rather than intellect.

### Hypothesis 2 - Stupidity is an effect of media manipulation

It is completely normal that the media should create their own reality, because behind each of them is a publisher or broadcaster with their own world view. Even if a journalist declares his/her own impartiality, the mere way in which a given subject or agenda is presented betrays an inclination to one or another political camp. This does not mean, however, that journalistic standards should be thrown overboard, so that the journalist becomes a mere propaganda megaphone for one particular party.

Independent media are an essential part of a free society, through which it becomes possible to control the law makers and enforcers. If a broadcaster or publisher is just as Machiavellian as politicians acting in bad faith or under political pressure (e.g. in the party interest), it will be easy for him/her to forget about ethical obligations. In such a situation the medium becomes a tool for manipulation and brainwashing.

## Hypothesis 3 - Brainwashing is an effect of over-education

Education systems have improved in the past one hundred years. This is a significant period of time, but on the other hand, these improvements have been accompanied by ever more layers of information. Many teachers and psychologists point out that too much attention is paid to the digestion of material and the acquisition of knowledge at the cost of ability to use and adapt such knowledge. The continual rise in demands made on students leads to a situation in which neither the students themselves nor even the teachers are able to indicate which specific part of the material would be useful to them in their everyday life. In extreme cases thinking itself is no longer required, only the retention of information, rules, and definitions. In effect, the student's knowledge is fragmented and associated only with a "scholastic theatre." Such students are unable to make

a connection between what they learn at school and what is happening outside it. Students under pressure from the syllabus and teachers who treat academic life and the world outside as two separate environments are unable to solve everyday problems, including an objective assessment of the veracity of statements made by politicians of bad faith, essential when taking part in the election process.

# Hypothesis 4 - Hermetic science is a fundamental cause of the misunderstanding of reality

In science, discovery and invention are just as important as their application and dissemination of their results. Unfortunately, the feudalized world of academics, often living in ivory towers, is unable to communicate effectively with the world for which it creates that science. To a certain extent this is the result an acquired habit of communicating hermetic content exclusively to other specialists, but also of a lack of time and inclination to become a 'popular' scientist. Additionally, in the case of the humanities and social sciences, complicated communication is very frequently used to mask shallowness or lack of deeper understanding of the subject. As a result of this, there is an increasing role for "interpreters," who translate scientific language into something which the average person can understand and, thanks to suitable media outlets, become educators themselves. Ideally, the academics themselves should be able to communicate their own research results in an understandable language and have some influence on the academic curriculum in accordance with the changing state of their knowledge.

To summarize, there are two types of knowledge, between which there is a chasm. One is the scientific knowledge, circulated within the world of specialists, and the other is its reflection in the minds of the population. The greater the disparity between the two, the greater the danger of manipulation and the immunity of politicians of bad faith. Finally, one more hypothesis may be presented:

# Hypothesis 5 - In societies which have fallen prey to nationalists, extremists, manipulation and phobia, the former education system has failed.

The values of a developed society, which have already been mentioned, were understood only by the elite. They were not generally inculcated because successive crises meant that only lip service was paid to them. They did not become sufficiently rooted in the general education system, and the media, through informal education, discouraged the homework necessary for a comprehensive and lifelong education.

Torn by political crises, we are facing the necessity of constructing an **education system based on science** (science education) and supporting a learning, meritocratic society, free from manipulation and pseudoscience. For this we need numerous knowledgeable teachers, experts, academics, and professors who will be able to communicate the effects of their research to others.