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SCIENCE, SCHOOL AND SOCIETY IN TIMES OF DENIALISM AND OBSCURANTISM

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Abstract: This article discusses the dissemination of scientific knowledge in order to face the complexity of the contemporary world marked by denialism and *fake news*. Denialism is in power and has been conquering minds and hearts as a state policy, combating science through the deliberate promotion of ignorance and disinformation, known as agnotology. In times of climate crisis and social, economic and political challenges, science, technology and innovation have become indispensable in improving the quality of education and social well-being for the population, especially with regard to man's relationship with the environment. Faced with the current scenario of criticism of the school, our formulation is quite simple in this respect: the school is a historical invention and can therefore disappear. But this also means that the school can be reinvented, and this is precisely what we see as our challenge and, as we hope to make clear, our responsibility at the present time.

Keywords: Science, School, Society.

INTRODUCTION

The object of this study is science education, problematizing its challenges in contemporary times marked by obscurantism. It aims to address the methodological and epistemological bases of modern science in the promotion of science education. Negationism is in power and has been conquering minds and hearts as a state policy, combating science through the deliberate promotion of ignorance and disinformation, known as agnotology.

Studies show that social networks in Brazil are becoming a means of spreading denialism. Terraplanism is an example of this, with a worldwide reach, in which religious convictions are taking precedence over scientific knowledge.

Science as salvation was perhaps the most significant myth produced by modernity. It was to it that the utopians, including Thomas

Morus, Tommaso Campanella and Francis Bacon, especially the latter, directed all their hopes, considering it to be the key capable of solving all the enigmas of human society.

It was in the context of the Renaissance, in the 14th century, that a movement of criticism and revision of the ideas present at that time was unleashed and spread throughout Europe. Above all, it was a new intellectual attitude towards life, a process of reflection on human problems and, at the same time, an indication of solutions.

This article discusses the historical aspects of science and the belief in its power to change society in times of obscurantism. It then points out the challenges to be faced by public schools and their professionals, taking science communication as an activity for the democratization of knowledge, with a view to improving the human condition.

METHODOLOGY

To achieve its objectives, this study is centered on bibliographical research, based on the classics and their theoretical contributions. We will start with the enunciations of science formulated by Francis Bacon in which he establishes his *Instauratio Magna* claiming the dignity of knowledge. The link between the dignity of science and human progress would be constant (BACON, 1947). In Adorno & Horkheimer, we will problematize the ideological element present in the idea of modern science. Through these elements, we will approach the doctrinal aspect of science and explain its realist critique.

The fanaticism for science, so present among moderns, ended up giving it the role of salvation from life's enigmas. As GRAMSCI (1981, p.71) puts it, "Scientific progress has given rise to the belief in and expectation of a new messiah, who will bring about on this earth the land of Happiness".

RESULTS AND DISCUSSIONS

On the one hand, the COVID-19 pandemic has caused social distancing and isolation, and on the other, it has launched society onto social networks and digital platforms like never before in human history. At the center of these events, public schools play a fundamental role as disseminators of scientific knowledge. The defense of public schools has become an issue of great relevance at the current juncture. In this scenario, social networks are spaces characterized by many controversies, places for entertainment, sharing ideas and worldviews, but they have also become a field for the dissemination of science denialism and ignorance.

Scientific denialism seeks to defend the indefensible: the blind valorization of ignorance and “guesswork” to the detriment of scientific knowledge, with the aim of confusing and manipulating public opinion, creating a breeding ground for *fake news* as an effective instrument of manipulation.

From this perspective, we are living through a challenging historical moment marked by the pandemic, human losses, the reversal of many social conquests, conservatism, total precariousness, cuts in resources, attacks on science, on scientific knowledge, especially in the human and social sciences. Denial of the vaccine, the use of masks, isolation and persecution of producers and defenders of science.

We are in an unparalleled struggle against negationism, against the dismantling of science and scientific production. This work is not the action of a government but of a project for society. The advent of modern science, under the aegis of Cartesian rationalism, brought about a real revolution in scientific ideas, especially in the field of physics, led by Galileo. The exaltation of a practical philosophy led to the formulation of a new model of knowledge, based on man's intervention in nature.

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of salvation from the enigmas present in life. The 16th century was a time of great complexity, in which modern science, religiosity, commerce and the dissolution of the feudal order were all developing at the same time, and it was a time when myths were created and recreated.

In the Renaissance context, *reform* was a key word, as the era was marked by a process of revolution in social relations. It was a struggle to redefine society on new foundations. The term *Reform* took on a radical meaning, to put society back on a new scientific and philosophical footing. The utopians, at the same time as showing a profound disenchantment with the past, affirmed a new enchantment with science, in line with modern times.

Science had the function of educating individuals in order to organize a society of excellence, which it considered to be the provider of social well-being. Bacon's educational proposal, therefore, was based on the search for total knowledge. Bacon did not attribute responsibility for social and economic prosperity to social and economic organization, but his secret consisted in the existence of a main institution called the *House of Solomon*, founded on the work of its members. It was a community of scientists, responsible for the control and application of science, a place where the wise men of *New Atlantis* lived and worked. It was a civilization open to new knowledge and to the world. They even valued trade, not just to appropriate goods, but “*to obtain light from the development of all parts of the world*”

In this sense, for an individual to become wise, it wasn't necessary to look in books. It was enough to study and interpret the great book that is nature, trying to unravel all its secrets. “Intensely aware that he must be a reformer, Francis Bacon's great purpose was to explore the limits and powers of human intelligence in its exercise, encouragement and capacity to provide new discoveries through commitment” (SPINELLI, 1990:181).

When we consider the religious component present in the ideals of the 15th and 16th centuries, we don't mean to say that modernity survived immersed only in theological-ecclesiastical events. As Engels (1981) points out, the great crusade undertaken by the bourgeoisie against feudalism basically took place on three major battlefronts: the first, known as the Protestant Reformation, led by Luther against the Church, the heart of feudalism; the Glorious Revolution of 1689 in England, when the bourgeoisie definitively lodged itself in the English State and, finally, the third great rebellion took place with the process of the French Revolution (1789), "the first to strip itself completely of the religious mantle, fighting the battle in the open political field." (ENGELS, 1981, p. 18)

The religious element was very present in pedagogical thinking in the 15th and 16th centuries. The world continued to be understood as a sacred work, in the words of Engels: "Science was still deeply immersed in theology" (Introduction to the dialectics of nature. p. 255).

Marx (2002) accuses political economy of being the science of wealth, of renunciation, of deprivation: of fresh air, eating, drinking, buying books, going to the theater, or to the ball, to the bar, let alone each one, thinking, loving, theorizing, singing, painting and poeticizing. Within bourgeois society, the class struggle is waged as a struggle that takes place in the economic field, in the economic structure, ideologically, in the ideological structure, and politically, in the political structure.

In the ideological dimension we have the struggle between the ideas of the bourgeois class and the proletarian class. In *The German Ideology*, MARX & ENGELS formulate that the ideas of the ruling class are the ideas of the ruling class. Therefore, the ideological struggle is characterized by the struggle of the classes to assert their ideas:

[...] The class that has the means of material production also has the means of intellectual production, so that the thoughts of those who are denied the means of intellectual production are also subject to the dominant class. The dominant thoughts are only the expression of the dominant material relations conceived in the form of ideas and, therefore, the expression of the relations that make a class the dominant class [...] (MARX & ENGELS, n.d., p.56).

The attempts to avoid the crisis and its deepening were a clear demonstration that the bourgeois order was falling victim to its own contradiction, i.e. the incompatibility between the relations between owners and non-owners of the means of production. From this point of view, were capitalism's days numbered, as Marx proclaimed

CONCLUSIONS

Faced with the current scenario of criticism of the school, our formulation is quite simple in this respect: the school is a historical invention and can therefore disappear. But this also means that the school can be reinvented, and this is precisely what we see as our challenge and, as we hope to make clear, our responsibility at the present time.

Within capitalist society, knowledge has become part of a bureaucratic structure, as an instrument of domination of the exploited classes, in which thinking and decision-making are the privilege of an elite. By controlling work and ways of thinking, the bureaucracy has turned knowledge into a secret, a mystery to be unraveled by a few. Idolizing authorities, it exalts rigid rules and preserves traditions. Open-mindedness or mentality towards the state therefore appears as a betrayal of this mystery, the circulation of which no one can escape.

In view of the analyses and the current scenario, three major battles are being fought against three narratives that are growing in society: 1. that school is not important, i.e. that it is not necessary; 2. that it should prepare for work; 3. fighting against the replacement of school by artificial intelligence/technology. Faced with the current scenario of criticism of the school, our formulation is quite simple in this respect: the school is a historical invention and can therefore disappear. But this also means that the school can be reinvented, and this is precisely what we see as our challenge and, as we hope to make clear, our responsibility at the present time.

The knowledge produced in universities needs to be strengthened and valued. However, this knowledge needs to be popularized or disseminated on digital platforms, places where the population actually seeks information today. In this sense, the dissemination and popularization of science should promote the circulation of ideas and results achieved in research, allowing its social and cultural impacts to be assessed. In the light of these

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