

The Application of Natural Dialectics

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Abstract

Natural dialectics is a general method for mankind to understand nature and transform nature. The development of the machinery industry, especially the modern machinery industry, plays a crucial role in promoting the development of dialectics of nature. Together with the progress in the field of science, it promotes the development of modern dialectics of nature. The traditional scientific way of thinking that breaks through systematic thinking provides mechanical workers with a new kind of scientific thinking. The level of development of machinery is a reflection of the level of human practice of nature. Today's machinery is very advanced. It is the people who have brought humanity into the high-tech era and brought it into modern society. The ethical concept of sustainable development follows the spiritual essence of the human and nature and scientific development concept. It is the realization of faster and better development of the economic society. The relationship between the mechanical industry and the ecological environment is that the design and production of modern machinery are increasingly considered and ecologically.

Keywords

Machinery, Natural Dialectics, Creative ideas, sustainable development.

1. Introduction

Since mankind entered the capitalist society, there have been three industrial revolutions. Along with the tremendous technological progress, mankind has also fully entered the industrial society. During this period of history, the machinery industry has also achieved unprecedented development and progress. The emergence of advanced research methods and technical equipment in the field of machinery has also affected the development of all walks of life. The characteristics and organizational forms of the machine industry's production process; the industrial revolution caused by industrial technology is different from the characteristics of the agricultural revolution; the use of machinery for the production of machinery is the technological basis of large industries; machine production requires the replacement of manpower with natural forces, and the conscious use of natural sciences. Instead of rules derived from experience, it has been universally promoted. The development of the modern machinery industry has provided rich and varied perceptual information for the development of natural dialectics. Its research methods and design concepts have greatly enriched the theoretical system of dialectics. The systematic natural view of Marxist dialectics of nature is a typical example. The modern mechanical system has developed the concept of system natural view. The classical ideas of the system's natural outlook are universal connections and interactions. The development of the mechanical industry has actually affected the natural world and human society. The rich material wealth it creates affects all aspects of human society. [1]

2. The Influence of Natural Dialectics on Technology Development

Technology plays an integral role in human development in human development. Without technology, human society will not progress! It is because of the tremendous development of technology that we have today's civilization and progress. Technology is a stepping stone for the progress of human civilization, and technological progress has made a qualitative leap in human life. From the point of view of origin, technology is the sum of all kinds of activities such as material methods, methods, and

knowledge that humans have mastered in the process of using and transforming natural labor. In the process of development, technology has become the “medium” for the transformation of material, energy, and information between man and nature, and between man and society. It is a means of changing natural nature into artificial nature, and realizing social adjustment and control [2]. The development of dialectics of nature is closely related to the progress of mankind in the production and practice of nature and the advancement of human science and technology.

From a technical perspective, the development of the machinery industry, especially the modern machinery industry, has a crucial role in promoting the development of dialectics of nature. It has, together with the progress in the field of science, promoted the development of modern dialectics of nature. At the same time, the development and progress of natural dialectics are counterproductive to the machinery industry. The two are interrelated and interact with each other and progress together. The classic ideas of the system's natural view are universal connections and interactions. The development of the mechanical industry has actually affected the natural world and human society. The rich material wealth it creates affects all aspects of human society. The systemic ideas of natural dialectics appear in every aspect of the mechanical field. The products of the machinery industry are divided into parts products and overall functional products. Parts are the basis of the overall system and part of the system. The individual parts do not have any function; large-scale mechanical products are assembled from hundreds of small parts. , is a whole, is an independent system, only this overall system has people's expectations. Because the machinery in the machinery industry has typical characteristics of system integrity, all parts of the whole machine are precisely designed, and the cooperation between the parts is also very accurate. It cannot be easily disassembled, otherwise it will be disrupted. The interrelationships between mechanical parts will, from a macro perspective, destroy the overall characteristics of the entire machine, and the overall performance of the machine will be greatly reduced. From the design perspective, the development of the machine has gone through the design mode from the research part to the overall design mode from the whole to the part. From the perspective of natural dialectics, the history of mechanical development is a manifestation of the universal application of systematic thinking in the design field. This way of thinking is a kind of theory that is both careful and meticulous and holistic. Its greatest feature is that the object of research is defined as an overall system. At this time, the characteristics shown by the whole are completely different from the characteristics of the part. The Institute's perspective and conclusions are also completely different. The traditional way of scientific thinking that breaks through systematic thinking provides mechanical workers with a new kind of scientific thinking. Today, we study machinery. We first study the function and behavior of the machinery based on the entire machine under study, and then consider the part. We examine the overall machinery from the relationship between the overall machinery, parts and environment, mutual restraint, and interdependence. Performance and movement patterns.

3. Advanced Technology and Development of Natural Dialectics

In the machinery industry, advanced design concepts and the development trend of modern machinery have directly affected the development and soundness of natural dialectics theory. In the history of mankind, it was only for the first time that large-scale industrial production of the machine served the natural sciences as a direct production process. At the same time, the development of the large-scale industrial production of the machines has provided the means for the theoretical conquest of nature. The main trends in the development of modern science and technology are the scientific technology and the scientization of technology, that is, the boundaries between science and technology have become increasingly blurred, and the links between them have become increasingly closer and more unified. Before the industrial revolution, technology determined science; after that, science took precedence in technology, decided the mode and direction of production, and formed a process of close integration of science, technology, and production methods.

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greatly enriched the theoretical system of dialectics. . The systemic ideas of natural dialectics appear in every aspect of the mechanical field. The products of the machinery industry are divided into parts products and overall functional products. Parts are the basis of the overall system and part of the system. The individual parts do not have any function; large-scale mechanical products are assembled from hundreds of small parts. , is a whole, is an independent system, only this overall system has people's expectations. Because the machinery in the machinery industry has typical characteristics of system integrity, all parts of the whole machine are precisely designed, and the cooperation between the parts is also very accurate. It cannot be easily disassembled, otherwise it will be disrupted. The interrelationships between mechanical parts will, from a macro perspective, destroy the overall characteristics of the entire machine, and the overall performance of the machine will be greatly reduced. From the design perspective, the development of the machine has gone through the design mode from the research part to the overall design mode from the whole to the part. From the perspective of natural dialectics, the history of mechanical development is a manifestation of the universal application of systematic thinking in the design field. This way of thinking is a kind of theory that is both careful and meticulous and holistic. Its greatest feature is that the object of research is defined as an overall system. At this time, the characteristics shown by the whole are completely different from the characteristics of the part. The research institute obtained a completely different perspective and conclusion. The traditional scientific way of thinking that breaks through systematic thinking provides mechanical workers with a brand-new scientific thinking [3].

Today, we study machinery. We first study the function and behavior of the machinery based on the entire machine under study, and then consider the part. We examine the overall machinery from the relationship between the overall machinery, parts and environment, mutual restraint, and interdependence. Performance and movement patterns. In machinery, the overall function of the machine is definitely not a simple superposition of the functions of each part, but a new function that can meet the needs of human production. A simple example is that in the machinery industry, people use a large number of standard parts such as nuts, screws, washers, bearings, etc. to save costs. These standard parts are mass-produced, general-purpose, and various mechanical devices. Various types of new machinery. From a systems perspective, the development of the machinery industry is not isolated and unconnected. It is subordinate to the larger system of human society and is closely related to the development of human society. Since the birth of machinery, it has established its own role in serving people. It plays the role that people use to conquer nature. Before the industrial revolution, machinery was mostly wood-based and was made by hand by woodworking. Metals are used only for the manufacture of small parts for instruments, locks, watches, pumps, and wooden structure machines. Metal processing is mainly depended on the exquisite craftsman's craftsmanship to achieve the required precision. With the development of social economy, the demand for mechanical products soared. The promotion of steam engine power plants and the development of large-scale machinery such as mines, metallurgy, ships, locomotives, etc., require more and more metal parts for forming and cutting, and more and more precise and precise requirements. high. The applied metal materials have evolved from copper and iron to steel. Machining, including forging, forging, sheet metalworking, welding, heat treatment and other technologies and equipment, as well as cutting technology and machine tools, knives, measuring tools, etc., have been rapidly developed to ensure the supply of machinery and equipment required for the development of production in various industries. The increase in production volumes and advances in precision machining technology have promoted the formation of mass production methods such as interchangeable parts production, professional division of labor and collaboration, flow processing lines and assembly lines. In this way, with the continuous deepening of human understanding and transformation of nature, the structure and function of the machinery are also becoming more and more powerful. From this aspect, the level of development of machinery is a manifestation of the level of human practice of nature. In terms of the form and structure of mechanical design, modern machinery is a dynamic open system that is inextricably linked with the outside world and constantly exchanges material, energy and information with the outside world. This feature is our mechanical worker. The factors that must be

taken into consideration when designing a machine, because this characteristic directly determines the quality of the designed machine and the required function. Based on this understanding, modern machinery is no longer a closed mechanical structure but an open mechanical structure compared with the old machinery of the past, and it is constantly evolving towards this trend. For example, the robot structure, a typical open, dynamic, self-organizing structure. In the research of the robot, it is mainly aimed at its openness to information, because the openness of information directly determines the degree of intelligence of the robot. In terms of the relationship between the development of machinery and human society, there are two trends in the development of modern machinery: simple machinery and complex machinery, which are somewhat similar to the development of science (towards unification and conciseness and toward change and complexity). Simple machinery is not to say that it is simple. The simplest structure, but the simplest structure to achieve as much as possible functions, that is, to the direction of integrated development; complex mechanical machinery such as modern high-precision machinery, such as various types of aircraft used in aerospace, military The various types of weapons within the field, whose structure is composed of thousands of parts and components, are extremely complex. Such machines can accomplish tasks that are difficult for humans to accomplish, and provide advanced tools for humans to continue to deepen the practice of nature.

4. Natural Dialectic Promotes Sustainable Development in Engineering

The concept of sustainable development is based on the philosophy of modern human-machine theory of nature, system values, and ecological ethics[4]. The concept of modern organic nature provides the theoretical basis for the formation of the concept of sustainable development. Sustainable development is based on the harmony between man and nature and reflects the humanist values of the system. From the perspective of the relationship between the mechanical industry and the ecological environment, the design and production of modern machinery increasingly consider the relationship with the ecology. Traditional mechanical designs are designed to satisfy human needs and maximize the creation of material wealth. They never consider the negative effects of machinery on the environment. Today, it seems that the negative impact of machinery on the environment cannot be ignored, and the development of modern large-scale industries makes it ecological. Problems have become increasingly prominent. Problems such as the greenhouse effect, the destruction of the ozone layer, and acid rain directly threaten the survival and development of humankind. We also have to face these problems. Thus, mechanical ecology came into being. It shows the universal connection of things in the universe. Now, when the mechanical design and processing personnel are working, besides realizing the proper function of the machine, the influence of the machine on the environment must also be considered to determine the specific mechanism of the machine so as to minimize the pollution to the environment.

5. Conclusion

We must combine learning and practice well and exercise our ability to conduct independent scientific research. Natural dialectics is a general method that systematically introduces how to carry out scientific research and how to apply the general principles of natural science in scientific research [5]. Through the study of natural dialectics, we no longer rigidly think and study rigidly. Instead, we use philosophy to guide our learning and practice. We effectively, reasonably, and subtly apply the general principles of natural science and engineering technology to In our learning and practice process.

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