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Chinese Art and Technology Industry Development

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Abstract

The research aims to investigate the development of the Chinese culture and technology sector via intelligence, descriptive, analytical and content analysis. As a result, cultural development and technological progress can be designed and accelerated to a certain extent. Large-scale restructuring of economic geography within and outside the country is becoming a decisive factor for the modern state. In conclusion, Huge investment in the scientific activities of domestic scientists and the popularization of culture contribute to China's leadership in the development of art and modern technology.

Keywords: Chinese, Art, Technology, Progress, Planning.

Desarrollo de la industria de arte y tecnología china

Resumen

La investigación tiene como objetivo investigar el desarrollo de la cultura china y el sector tecnológico a través de inteligencia, análisis descriptivo, analítico y de contenido. Como resultado, el desarrollo cultural y el progreso tecnológico pueden diseñarse y acelerarse en

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cierta medida. La reestructuración a gran escala de la geografía económica dentro y fuera del país se está convirtiendo en un factor decisivo para el estado moderno. En conclusión, la gran inversión en las actividades científicas de los científicos nacionales y la popularización de la cultura contribuyen al liderazgo de China en el desarrollo del arte y la tecnología moderna.

Palabras clave: Chino, Arte, Tecnología, Progreso, Planificación.

1. INTRODUCTION

Chinese cultural traditions are more than 10,000 years old. Chinese culture is one of the oldest and continuous cultures in the world. In China, high-quality artifacts made by local craftsmen and dating back to the Stone Age have been discovered. The evolution of Chinese culture and technology was influenced by the imperial, multicultural and religious world view.

In our research, we will study the influence of religion and the imperial system of government on the development of culture and technology in the early period. The causes of scientific and technological advances until the first years of the Ming Dynasty, the diminished interest in the development of science and technology in the 14th century, as well as the consequences of the transition from the imperial system to communism will be considered. Over the past twenty years, China has evolved from a closed and planned economy dominated by agriculture and heavy industry into an open economy based on information, knowledge, and skills. The techniques and

methods used by the Chinese government for the rapid development of technology will be discussed in our research. We will also describe how cultural traditions have been changed by modern technological, industrialization and sociological trends.

2. METHODOLOGY

The applied case study is used for data processing. The study consists of several parts: intelligence, descriptive, analytical and content analysis. The intelligence analysis was used to collect and analyze primary information, as well as to find reports and reviews on the research topic. The descriptive analysis was carried out before the study in order to select the direction and form the basis of the research in the form of a thesis. The analytical analysis was used to determine the factors affecting the object of the study. The object of our research is the evolution of Chinese cultural and technological development. The content analysis is a quantitative analysis of the published material on the research topic aimed at the reduction of existing findings and the search for new solutions.

3. DISCUSSION

Chinese traditions are the oldest cultural traditions in the world. In China, archeologists discovered Stone Age artifacts consisting of

simple ceramics and sculptures and dating back to 10,000 BC. The early period was followed by a number of imperial dynasties. Some dynasties ruled for centuries. The artistic traditions of ancient China were conserved by scholars, court nobility or monks and adapted by the succeeding dynasty due to the collapse of political unions, the frequent Mongol and Manchu invasions, civil wars, and famine, as well as due to the changes brought by the ruling dynasty. Each dynasty made a unique contribution to the development of art. Jade carving and bronze casting are some of the earliest techniques of Chinese art. Early Chinese music and poetry can be found in the Book of Songs, which contains verses written between 1000 BC and 600 BC. The examples of Chinese painting are fragments of silk and stone paintings dating back to the period of 481 - 221 BC. It is commonly known that in the first century AD, Chinese people invented paper; silk appeared later. Since the founding of the Eastern Jin Dynasty (265–420), painting and calligraphy were highly appreciated by the privileged circles and regarded as independent art forms. The earliest paintings depicted figures; landscapes paintings of birds and flowers appeared later. The style of the paintings relied heavily on religious traditions. Confucianism, Taoism, Buddhism, and other spiritual traditions contributed to the style of Chinese art (LIYU, 2010).

The Neolithic ceramics were not painted and the patterns were created by stamping ropes on the surface of pottery vessels. Jade culture includes hammers, axes, knives, household items, and ritual objects. Bronze casting foundries produced bronze utensils and ritual vessels. The patterns were life scenes, animals and plants. Early

Chinese music was based on bronze percussion instruments in the form of bells of various sizes and quantities. It included songs, poems, instrumental accompaniment of ceremonies and marching songs. Gradually, percussion instruments were replaced by string instruments. The religion of Confucianism believes that music is able to create harmony in people. When the ruling dynasty changed, the music sometimes fell into oblivion. Early Chinese poetry is represented by the famous Book of Songs (Shih-ching) and the Songs of Chu. The songbooks contain lyrical, romantic and traditional songs. The state of Chu, located in the Yangzi River Valley, had a very rich art history. The oldest silk painting was discovered in the Yangzi River Valley. A big number of paintings, sculptures, jade objects, as well as poems, prose, and songs came to China from the Yangzi River Valley.

The Terracotta Army. The Mausoleum of the First Qin Emperor. More than seven thousand soldiers and horses were buried with their emperor. The first mention of porcelain; then bronze mirrors carved with dragons appeared in successive dynasties. The lyrics evolved into fu (rhymed poems) during the Han dynasty. Songs were divided by styles. The invention of paper led to the development of the art of cutting paper and making paper figures, as well as packaging. Funerary art and burial rituals: attributes, costumes, cave paintings, and frescoes deserve special attention.

When Buddhism arrived in China, religious traditions changed for seven centuries. Traditionally, prose and poetry were changed. A new art known as calligraphy appeared. Calligraphy was regarded as

the highest form of painting. Skillfully depicted symbols, phrases or verses appeared on the well-known paintings of ancient China.

Buddhism was officially accepted by the imperial dynasty. The imperial family pursued an open policy, which led to the exchange and enrichment of Chinese culture with Indian cultural traditions. The Tang period is considered to be the golden age of Chinese literature and art. Toward the end of the dynasty, foreign religions were persecuted and the last emperor made Taoism his first choice. Most Buddhist sculptures were destroyed. The most famous statue, the wild goose pagoda was built in 652 AD. The golden age of Chinese poetry began to develop in the Shi style and musical grammar was created. A huge number of verses were written during this period. The most famous poets were Lee Po and Tu Fu. The artists of the Tang Southern Kingdom were famous for both figure paintings and landscapes, which were an example of an elegant style that became the standard for Chinese brush painting over the next 900 years.

The Chinese opera that appeared in the Tang Dynasty became popular and developed rapidly with the support of the emperor. In painting, there was a transition from sophisticated calligraphy to modern landscape painting. The artists started to use robust techniques and experiments.

This period can be considered the heyday of Chinese culture. The printing technique was improved; illustrated manuals on the art of painting began to be published. The Beijing Opera, the most famous form of Chinese opera, took its present form in 1790 during the rule of the Qing Dynasty. After the bloody Taiping Rebellion, many wealthy

people moved to Shanghai. This contributed to the prosperity of the region. The Shanghai School was formed (1850-1890). Artists and poets succeeded in their experiments during this period. Shanghai became the main entertainment center, where three new arts were created. Cinema, animation (comics) and popular music (including gramophone music) quickly grabbed the attention of Chinese people. In the first half of the 20th century, a systemic education system was formed on the basis of the Western methodology. In this regard, there were three directions: Gohua (traditional colors and techniques), the direction of Western traditions and the formation of early communist views.

Since the late 1970s, and especially in the 1990s, foreign direct investment significantly transformed China's industrial base and improved its industrial technologies (CAO, 2004). In 2001, China became the country with the largest number of mobile subscribers (145 million users), and its 179 million fixed telephone lines were the second highest after the United States. The Internet, which was not popular in China until the mid-1990s, has nearly 80 million users today. Chinese production has moved beyond toys, clothes, and sneakers. It includes consumer electronics products and high-tech gadgets. According to the recent United Nations report, China was the world's tenth-largest high-tech exporting country in 1998-1999 (KAMAL-CHAOUI, LEEMAN & RUFEI, 2009). In 2003, China's high-tech exports reached $ 110.3 billion; they grew 41-fold compared to 1991. Over the last twenty years, China has evolved from a closed and planned economy dominated by agriculture and heavy industry

into an open economy based on information, knowledge, and skills (CAO, 2004).

The modern development of Chinese technology can be divided into several directions, namely: a) food products and everything related to production, gathering or storage; b) medicine, the development of new drugs, the development of methods to prevent parasitic infections; c) generation, accumulation, and transportation of electricity; e) production and financial system technologies (CUI, 2010).

Let us consider some of the most promising directions according to our opinion. The localization of fruit and vegetables is of great importance to robotic harvesting. However, uncontrolled factors, such as varying illumination, random occlusion, different color, and surface texture, limit the localization of fruit and vegetables using the vision imaging technology in the uncontrolled environment. In the studies, various methods (illumination normalization, classification according to features, etc.) were developed to localize a certain fruit or vegetables using the binocular stereo vision. However, the localization of many fruits and vegetables is still a problem due to uncontrolled factors.

To solve this issue, the authors of CURRIER (2008) proposed an intelligent localization method of targets in the images of fruits and vegetables obtained with two color cameras. This method was based on the neural network model to recognize fruits and vegetables. Based on the recognition results, target localization was completed by calculating the three-dimensional coordinates of the matching target.

The experimental results showed that the proposed method does not depend on various illumination and occlusion, and the average recognition accuracy rate was 96.33%. The localization errors did not have a significant difference and were less than 7.5 mm when the measuring distance was between 300 and 1600 mm under varying illumination and partially occluded conditions.

In HEE, SCHROEPFER, NANXI & ZE (2008), there is a detailed analysis of various studies on the development of methods for segmenting images of microorganisms over the last 30 years (since 1989). Microorganisms have a great role in the ecosystem, wastewater treatment, monitoring of environmental changes and waste decomposition. However, some of them are harmful to humans and animals. For example, they are tuberculosis bacteria and plasmodium. It is very important to identify, track, analyze and consider their beneficial side, as well as to get rid of their negative effects using fast, accurate and reliable methods. In recent decades, image analysis techniques have been used to eliminate the drawbacks of manual traditional approaches to the identification and analysis of microorganisms. Image segmentation is an important technique used for microorganism detection, tracking, monitoring, feature extraction, modeling, and analysis.

There are different methods, including classical approaches and current deep neural networks, for detecting microorganism groups on the images. In KEANE (2009), segmentation methods are divided into classical and machine learning methods. Furthermore, these methods are sub-divided into threshold-based, region-based and edge-based

methods belonging to classical methods, supervised and unsupervised machine learning-based methods belonging to the machine learning category. There is a thorough analysis of the growing trend of different methods and the most frequently used methods in each category.

For many centuries, China was engaged in internal and external hostilities. Military treatises were created in China for many centuries and their description has survived to our time. The rich experience of Chinese military leaders and philosophers is reflected in many military encyclopedias. The most famous works in the West are seven classical treatises. They have been translated into Western sources and are available for general use. We believe that the book KULWA, LI, ZHAO, CAI, XU, QI & TENG (2019) by Horro von Senger deserves attention. This book gives an idea of the Chinese tricks as applied to business. The book explains the basic 36 concepts of Sun Tzu. In the main part, which is devoted to tricks, the manager learns about offensive and defensive actions, tactical and strategic tricks, and also studies the risks associated with 36 tricks. This book LIN (2011) is the first interpretation of Chinese works on 36 strategic warfare methods of warfare and their application in economics and management. The book primarily helps to understand the difference between Chinese and European tricks, since the misunderstanding of the mentality of the Chinese people and their lifestyle significantly affects economies of other countries.

4. CONCLUSIONS

China's economy has changed dramatically over the last ten years and there have also been some major changes in Chinese society. One of these changes is associated with the importance of culture and the subsequent transition from communist propaganda to the factors presenting China in a new way. China is changing itself. This gives it an opportunity to become one of the most influential countries in the world. The analysis of the Chinese economic revolution and its consequences for the culture was carried out. First in Beijing, then in Shanghai and other major cities, local and national governments started supporting the institutions of cultural and creative industries after the first period of adaptation. It took the government a few years to create such centers in Shanghai. This was a huge increase in creative production. The intrinsic value of cultural works was recognized and used for further development, improvement of social perception, creation of tourist destinations, the attraction of international attention and finance. The Chinese government has also recognized the need for a large-scale restructuring of its economic geography within and outside the country. Huge investment in the scientific activities of domestic scientists and the popularization of culture contribute to China's leadership in the development of art and modern technology.

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