

## 국가안보와 전략

## NATIONAL SECURITY AND STRATEGY

2022<sub>暑</sub>

▮ 제 22권 1호(통권85호)



# U.S. China Strategy in the Trump-Biden Era: A Synthesis of Structural Dynamics and Strategic Interaction through Morphogenetic Analysis

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The Main purpose of this study is to analyze and explain continuities and discontinuities in U.S. China strategy in the Trump and Biden era. Utilizing Archer's morphogenetic analysis based on critical realism, this study synthesized structural factors with strategic interactions and coherently explained U.S. strategy toward China. We can witness both strong structural continuities and important situational discontinuities in Trump and Biden administration's foreign strategy toward China. However, Trump and Biden administration share revisionist hegemonic strategy and it is highly likely that U.S.-China strategic competition will exacerbate. South Korea should seek for effective strategy to prevent the U.S. and China from being a veto power to its interest and security.

Key Words: Trump, Biden, U.S.-China Relation, Hegemonic Competition, New Cold War, Morphogenetic Analysis

투고일: 2022.01.31. 심사일: 2022.02.25. 게재확정일: 2022.03.11.

### Changes and Prospects of China's Military Innovation Strategy

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Changes in China's future war strategy and military innovation have led to remarkable shifts based on leaders' perception of threats and policy will. In particular, the Deng Xiaoping period focused on establishing long-term strategic goals by observing the behavior of developed countries. During the Jiang Zemin period, China tried to achieve military modernization through strategies based on information wars and national war strategies under high-tech conditions. The Hu Jintao period focused on the victory of the information war and the strengthening of strong naval power, information and communication technology to carry out modern warfare. The Xi Jinping period carried out full-scale reforms for organizations and advanced military technology development, including military reform and technological innovation for military innovation.

To this end, first, the existing military organization was reorganized into an organization optimized for operational command and organizational management. Second, China attempted to achieve a national development strategy by developing military-private technology based on Civil-Military Integration. Third, through strategic transformation based on national relations cooperation with Russia was closely established to increase military

power. The strengthened relationship with Russia also developed technology through imports of military weapons.

In other to materialize such a strategy military R&D organizations and the private sector are expanding and reorganizing a state-of-the-art strategic weapon system through aggressive funding. Such changes will secure advanced military technologies and create a new paradigm in the military technology sector. This is in line with China's strategic direction for future warfare, leading to the development of unmanned weapons based on AI, utilization in practice, and the establishment of technologies and strategies for space warfare.

Key Words: China, Military innovation, AI Technology, Military-Civil Fusion, Unmanned Aerial Vehicle, Unmanned Weapons

투고일: 2022.02.05. 심사일: 2022.02.25. 게재확정일: 2022.03.11.

#### A Study on the Effectiveness of Resumption of Kaesong Industrial Complex and Estimates of Required Funds

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This paper's aim is to re-evaluate the meaning of the resumption of the complex by diagnosing the current situation of the Kaesong complex and estimating the expected economic effects and necessary funds if the Kaesong complex resumes.

This paper estimated the economic effects of the resumption of the Kaesong Industrial Complex through a production function model and quantified the economic benefits of the Kaesong Industrial Complex through labor and capital production factors adjustment. In addition, a survey of companies operating in the Kaesong Industrial Complex was conducted on the costs of replacing, operating funds, and purchasing raw materials required to restart the complex to estimate the demand for funds needed to resume the complex.

According to the analysis, South Korea's economic profit from the resumption of the Kaesong Industrial Complex totals 22.2 trillion won over five years, and job creation totals 193,000 over five years, with North Korea's economic profit totaling 4.5 trillion won over five years and job

creation totaling 364,000 over five years. In addition, 4.3 billion won (a total of 638.1 billion won) was needed for the resumption of the Kaesong Industrial Complex, and assuming 100% of the economic cooperation insurance paid so far, the total amount of the initial necessary funds was 1.2 trillion won.

Key Words: North Korea, inter-Korean economic cooperation, Kaesong Industrial Complex, economic effect, employment effect

투고일: 2022.01.24. 심사일: 2022.02.25. 게재확정일: 2022.03.11.

## Analysis on Research Trends in Mathematics of North Korea in Kim Jong-un's Era and Plans for Cooperation between Mathematical Communities of South and North Korea

**Kim Suyeon** (Seoul National University)

The purpose of this study is to analyze mathematical research trends such as research fields, research capabilities, and joint international cooperation research activities in North Korean mathematics during the Kim Jong-un period and to look into measures for mathematics research cooperation between South and North Korea. This research is based on mathematical papers published on the North Korean academic journals - "Mathematics", "Notification of Academy of Sciences DPR Korea", and "Kim Il-sung University Academic Journal (Mathematics)" and on papers North Korean researcher published on international academic journals at Math.Sci.Net after Kim Jong-un took power.

As a result of the study, it was found that mathematics research activities during the Kim Jong-un period were very active compared to the Kim Jong-il period, and the research field was concentrated on applied mathematics. The core research personnel in North Korean mathematics are concentrated at Kim Il-sung University, and the State Academy of Sciences and Kim Il-sung University are most actively conducting joint international

cooperation research with overseas institutions. It was found that China was the major joint research country for international cooperation with North Korea. Thus, the paper suggests, as measures for mathematics research cooperation between South and North Korea, development of cooperation plan for training of North Korean research personnel, facilitation of demand in research cooperation in the field of applied mathematics and utilization of international cooperation, mainly based on current North Korean mathematics research situation.

Key Words: North Korea's mathematics research, North Korea's basic science policy, North Korea's mathematics joint research network, South-North Korean mathematics research cooperation

투고일: 2022.01.26. 심사일: 2022.02.25. 게재확정일: 2022.03.11.

#### Shifting Border Discourse and Rise of New Security Threats in Post-corona Era

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Deeply entrenched political, economical and cultural orders, which are inextricably linked to border system are shaking after the corona pandemic. While the objective of traditional war was to protect territory, new security threats including corona virus are difficult to eradicate as their entity is difficult to define. Moreover, rises of nationalism, decline of neo-liberalism, US-China hegemonic competition and etc are strengthening uncertainty and confusion of the 'new security' discourses. current. This study shed new lights on discourses on 'border' and 'border policies' in order to capture changes of new international order and new security threats in post COVID era. While securing territorial border centered national security in modern states, nature of new security in post 19 era includes detecting, controlling, and protecting daily lives of ordinary from diseases, environment, economic crisis, cyber attack and others while continuously guaranteeing flows of globalism by re-building an managing new border. By reassessing discourses of border and new security, this study seeks new approaches to the border and suggest political implications in post corona era.

### Key Words: Border, Border-Orientation, New Security Threats, Post-corona Era, Rebordering

투고일: 2022.01.08. 심사일: 2022.02.25. 게재확정일: 2022.03.11.





