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Geopolitics and Nuclear Proliferation

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Agenda

- Geopolitics – Definition and history of the concept
- Role of raw materials in classical geopolitics
- Energy and geopolitics
- The new geopolitics of energy
- Geopolitics of Renewables & Critical Geopolitics
- Nuclear Power and Proliferation
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Geopolitics – Definition

Geopolitics is the study of the effects of Earth's geography (human and physical) on politics and international relations.

Geopolitics focuses on political power linked to geographic space. In particular, territorial waters and land territory in correlation with diplomatic history.

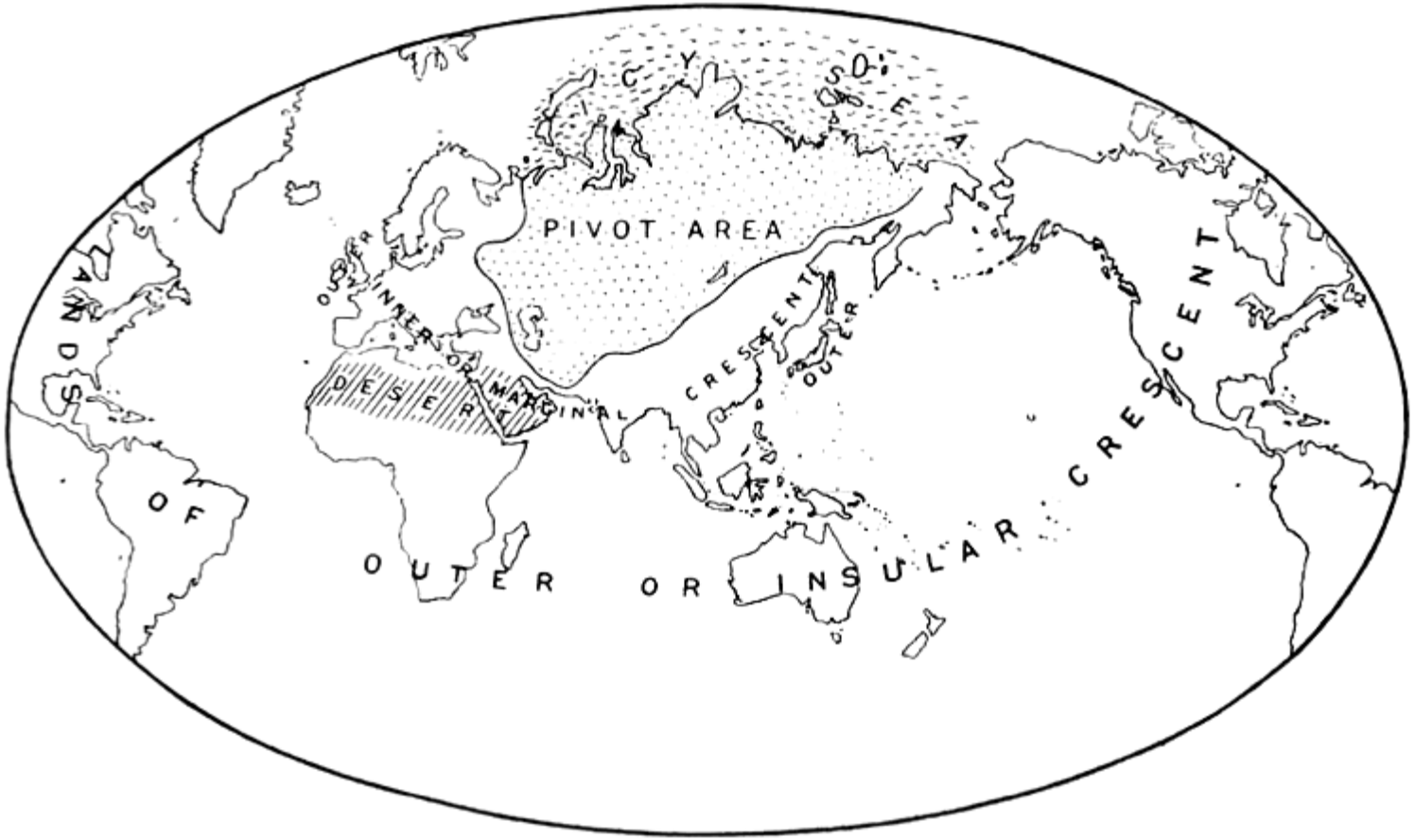
Topics of geopolitics include relations between the interests of international political actors focused within an area, a space, or a geographical element.

Critical geopolitics deconstructs classical geopolitical theories, by showing their political/ideological functions for great powers.

Geopolitics - History of the concept

- Johan Rudolf Kjellén – coined the term „geopolitics“
- Friedrich Ratzel - Lebensraum – living space
- Alfred Thayer Mahan – Importance of sea power
- Homer Lea - survival of Saxon supremacy
- Emil Reich – has coined the acceptance of “geopolitics” in English
- Sir Halford Mackinder - Heartland theory: The Geographical Pivot of History
- Karl Haushofer – design of the Eurasian bloc
- Nicholas J. Spykman - the "godfather of containment policy"
- Henry Kissinger & Zbigniew Brzezinski - The Grand Chessboard: American Primacy and Its Geostrategic Imperatives

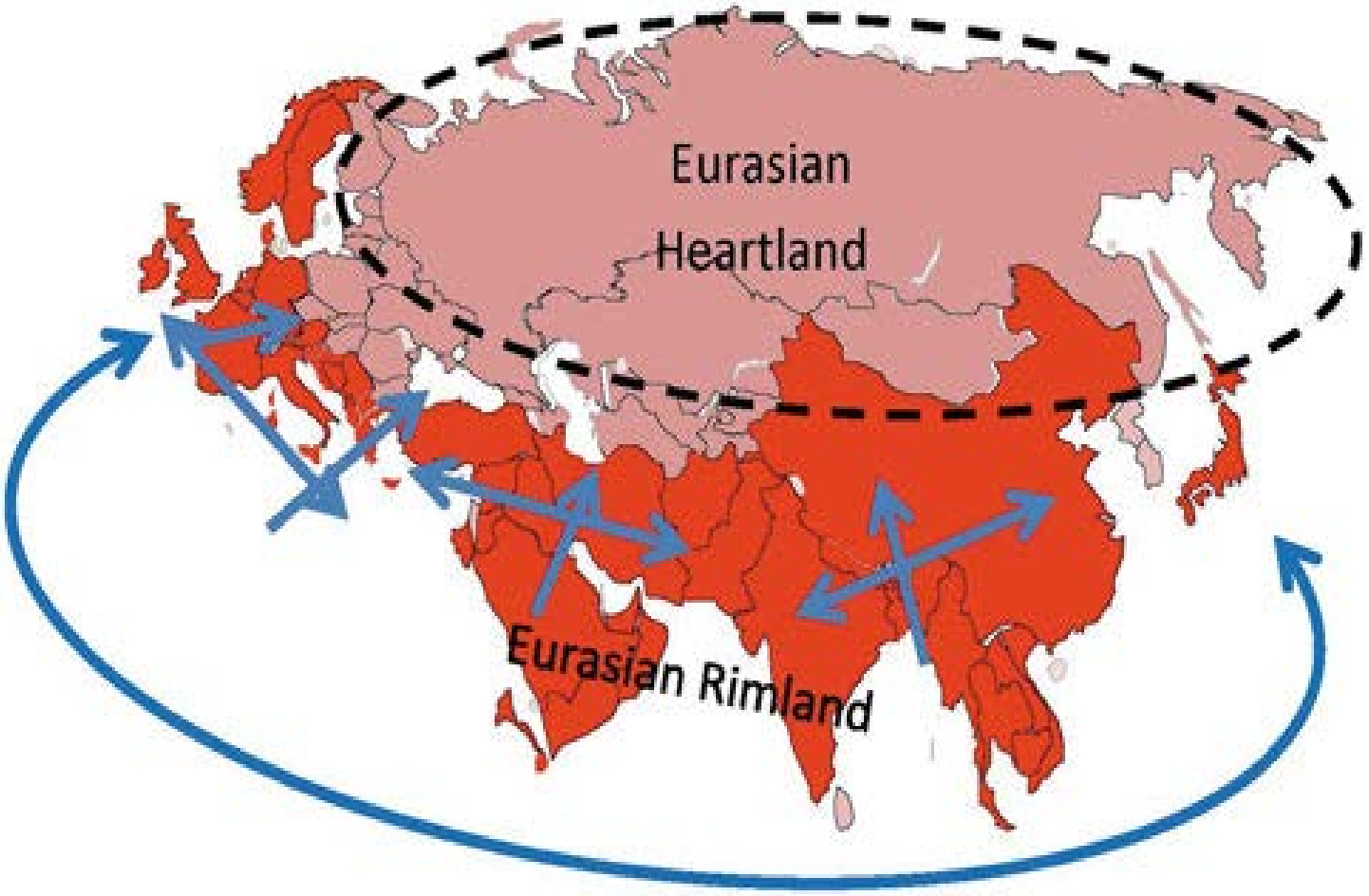
Mackinder (1904) The Geographical Pivot of History



The role of raw materials in classical geopolitics

- Historically, raw materials have always played a central role in world politics.
- Over the centuries, the eyes of the great powers have been particularly Eurasia's abundant raw materials.
- The *Great Game* became the historical conflict between Great Britain and Russia for supremacy in Central Asia.
- According to Mackinder, who ever has *pivot area* control, has the key to world power.
- During World War II Nicholas Spykman took up the thoughts of Mackinder.
- For Spykman, the "godfather of containment policy“, the control of Eurasia was not the *pivot area,* but the periphery of the Eurasian landmass. No land power was allowed to enter these Eurasian coastal and peripheral areas. This *rimland* extends from Europe to the Middle East, the Indian subcontinent to China to East Asia.
- Brzezinski defined as the central interest of the USA the consolidation and updating of "pluralism on the map of Eurasia" with the aim that "no opposing coalition which could ultimately call into question America's primacy"

The Eurasian Rimland (cv. Spykman 1944)



Energy & Geopolitics

The conventional understandings of energy geopolitics are confined to the realm of fossil fuels and ‘high’ politics and security.

But energy and geopolitics cannot be understood without considering the totality of world energy.

The connections between various energy systems, renewable and non-renewable, and other aspects of the world’s eco- and social-systems must be analyzed.

Energy & Geopolitics 2 (cf. Högselius 2019)

- International energy systems (fossil fuels, nuclear power, renewables and long-distance movements of energy)
- Who controls world energy? (variety of actors)
- Understanding energy dependence (supply & demand side)
- Managing vulnerability in a global policy context
- Energy as a foreign policy tool
- Energy transnationalism
- Geopolitical context
- Geopolitics of energy
- Geopolitics of Climate Change

The new geopolitics of energy (Mitchell, Beck & Grubb 1996)

A new international dimension to energy policy that takes account of the dramatic political changes since the oil crises of the 1970s. The “new geopolitics of energy” is creative rather than defensive, aligned to market-oriented development rather than state management. But governments have a role in promoting stable international conditions for trade and investment energy, which in turn contribute to wider political stability; the development of more widely acceptable options for nuclear power; coordinated international action to mitigate the risks of climate change and other environmental impacts.

Geopolitics of Renewables

- Renewable energy represents a game changer for interstate energy relations. The abundant and intermittent nature of sources, possibilities for decentral generation and use of rare earth materials, and generally electric nature of distribution make renewable energy systems very different from those of fossil fuels (Scholten 2019).
- What do these geographic and technical characteristics imply for infrastructure topology and operations, business models, and energy markets?
- What are the consequences for strategic realities and policy considerations of producer, consumer, and transit countries and energy-related patterns of cooperation and conflict between them?
- Who are the winners and losers?
- In the emerging renewable energy era, political influence will accrue to those states with renewable resources that attain self-sufficiency and export dominance.

Geopolitics of Renewables 2

- The losers will be the countries lagging behind, still bound to hydrocarbon supplies and asymmetrical supply relations, and unable to reap up the full political and economic benefits of renewables.

- The implications for interstate energy relations of the transformation of the energy systems towards renewable energy was presented more in detail by Andreas Goldthau in his presentation.

Critical Geopolitics

Around 2015, a new branch of the critical geopolitics appeared, deconstructing and critiquing another new branch, the geopolitics of renewables.

The new critical geopolitics literature argues that:

- the risk of geopolitical competition over critical materials for renewable energy is limited;
- the resource curse as we know it from the petroleum sector will not necessarily reappear in many countries in connection with renewable energy;
- transboundary electricity cut-offs will mostly be unsuitable as a geopolitical weapon; and
- it is not clear that growing use of renewable energy will exacerbate cyber-security risks.

Nuclear Power in the 21st Century (Cf. Von Hirschhausen 2017)

Nuclear power was one of the most important discoveries of the twentieth century, and it continues to play an important role in twenty-first century discussions about the future energy mix, climate change, innovation, proliferation, geopolitics, and many other crucial policy topics.

Some key issues around the emergence of nuclear power in the twentieth century and perspectives going forward in the twenty-first are questions of economics and competitiveness, strategic choices of the nuclear superpowers and countries that plan to either phase out or start using nuclear power, the diffusion of nuclear technologies and the emergence of regional nuclear conflicts in the “second nuclear age”.

The starting point is the observation that nuclear power was originally developed for military purposes as the “daughter of science and warfare” (Lévêque 2014, 212), whereas civilian uses such as medical applications and electricity generation emerged later as by-products.

Nuclear Power & Nuclear Weapons Proliferation

- Manufacturing a nuclear bomb requires fissile material - either uranium-235 or plutonium-239. The problem is that most nuclear reactors use uranium as a fuel and produce plutonium during operation.
- Nuclear power and weapons are Siamese twins. Since international controls on nuclear proliferation began, Israel, India, Pakistan and North Korea have obtained nuclear weapons demonstrating the link between civil and military nuclear power.
- A major challenge to nuclear proliferation controls has been the spread of uranium enrichment technology to Iran, Libya and North Korea.
- It is impossible to adequately protect a large reprocessing plant to prevent the diversion of plutonium to nuclear weapons.
- A small-scale plutonium separation plant can be built in four to six months, so any country with a nuclear reactor can produce nuclear weapons relatively quickly.
- Nuclear fusion reactors contain all isotopes necessary for the construction of the hydrogen bomb.

Geopolitics of nuclear proliferation

- Nuclear proliferation, the acquisition of nuclear weapons by additional national states, became a subject of concern soon after the end of World War II and nuclear non-proliferation efforts started.
- Intriligator & Brito (1981) studied the effects of nuclear proliferation, the acquisition of nuclear weapons by additional nation states, on the probability of nuclear war. There are multiple interrelated effects of nuclear proliferation in addition to its effect on the probability of nuclear war, such as economic effects on the global distribution of wealth, political effects on the structure of alliances and alliance relationships, and military effects on the nature of war.
- Bueno de Mesquita & Riker (1982) assumed that in a conflict between a nation with a nuclear capability and one without, the conflict may become nuclear, while, in a conflict between two nuclear powers, the conflict is unlikely to become nuclear by reason of fear of retaliation.

Nuclear Weapon armed states

- The United States, the first and only country that has used a nuclear weapon in August 1945 in war with two bombs on Hiroshima and Nagasaki.
- In August 1949, the USSR tested a nuclear weapon, becoming the second country to detonate a nuclear bomb.
- The United Kingdom first tested a nuclear weapon in October 1952.
- France first tested a nuclear weapon in 1960.
- The People's Republic of China detonated a nuclear weapon in 1964.
- India conducted its first nuclear test in 1974, which prompted Pakistan to develop its own nuclear program.
- In 2006, North Korea conducted its first nuclear test.
- The State of Israel is widely believed to possess nuclear warheads. Its first deliverable nuclear weapon is thought to have been completed in late 1966 or early 1967.
- Former South Africa, Belarus, Kazakhstan and Ukraine had nuclear weapons.

Short Chronology of Nuclear Proliferation

- May 1967 Israel produced two crude but deliverable nuclear weapons
- 1968 Israel is suspected of executing Operation Plumbat, securing 200 tons of uranium oxide
- May 1974 India exploded a nuclear device
- July 1977 Preparations for a South African nuclear test were detected
- September 1979 A US satellite detected a nuclear explosion off the coast of South Africa
- June 1981 Israeli planes bomb Iraq's Osirak reactor
- 1987 West Germany refuses to finish the Bushehr NPP in Iran
- 1989 US satellite detects a nuclear research center in North Korea
- 2002 undeclared uranium enrichment facilities in Iran are revealed
- 2003 Libya's illegal nuclear program is dismantled
- 2004 Abdul Qadeer Khan has provided nuclear-weapons-related technology to a number of countries – incl. North Korea, Iran and Libya

Summary

- Availability of raw materials and energy sources have always played a role in geopolitics
- Energy and geopolitics cannot be understood without considering the totality of world energy
- Since the oil price crises of the 1970s a new international dimension energy policy takes account
- The geopolitics of renewables and of climate change represent a game changer
- Nuclear power und weapons are Siamese twins. Nuclear proliferation became a subject of concern soon after the end of World War II and nuclear non-proliferation efforts started
- There are multiple interrelated effects of nuclear proliferation in addition to its effect on the probability of nuclear war, such as economic effects on the global distribution of wealth

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