

Stabilization of the world due to the expansion of a Western state system: Explanation using game theory

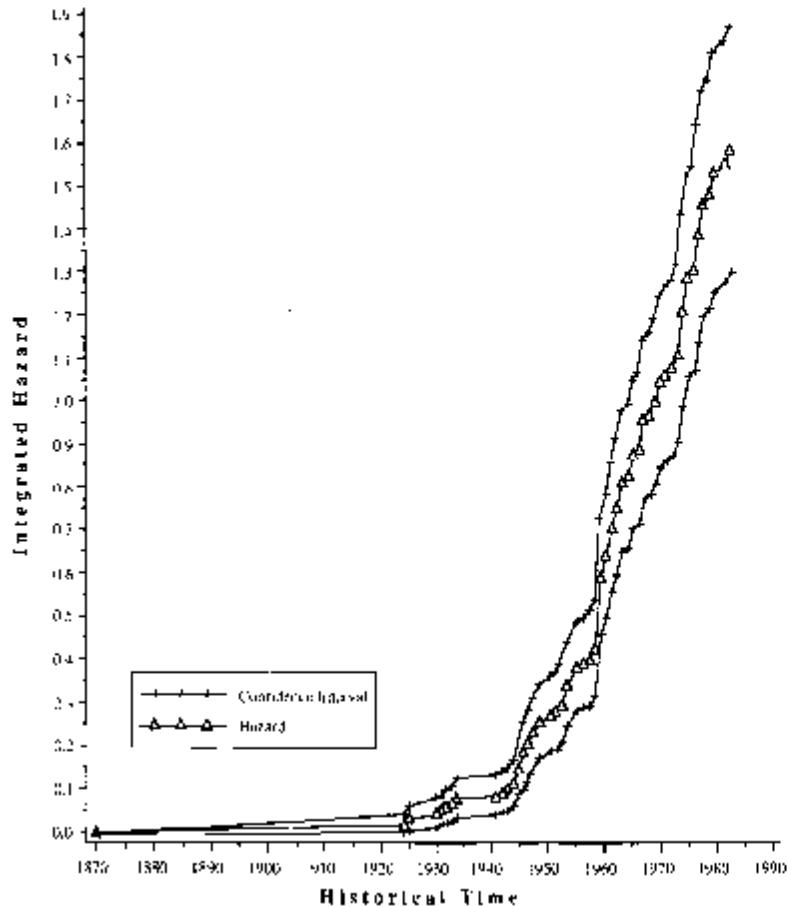
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From Yokohama Archives of History

Figure 1.

Transition from Dependency to Sovereignty: Non-European Polities, 1870-1987



■ Factors for Decolonization ■

1.1 American Hegemony (1945-67)

1.2 UN Declaration (1960), and Metropolitan Suffrage Regimes Expanded.

1.3 Diffusion Processes

⇒ **Political Factors** are Important.

ref. Strang, 1990.

Figure 2.

Number of Status Transition (with waiting times in parentheses) of non-European polities, 1415-1987

		Status after movement			Raw total
		Unrecognized	Dependent	Sovereign	
Status before movement	Unrecognized		263	11	274
	Dependent	18 (2173)	251 (153)	167 (225)	436 (87)
	Sovereign	0 (∞)	11 (612)	15 (448)	26 (258)

■European Political Expansion■

2.1 Rare Sovereignties to Dependencies Transition

2.2 Mutually Respected Global Expansion of the Western European State System

2.3 **New Sociological Institutional Theory** (“Institutionalization”), Instead of **Realism** (“Balance-of-Power”, “Rational Utility Maximize” etc).

ref. Strang,1991,
Meyer,1977,
Scott 1995 etc.

■Issues■

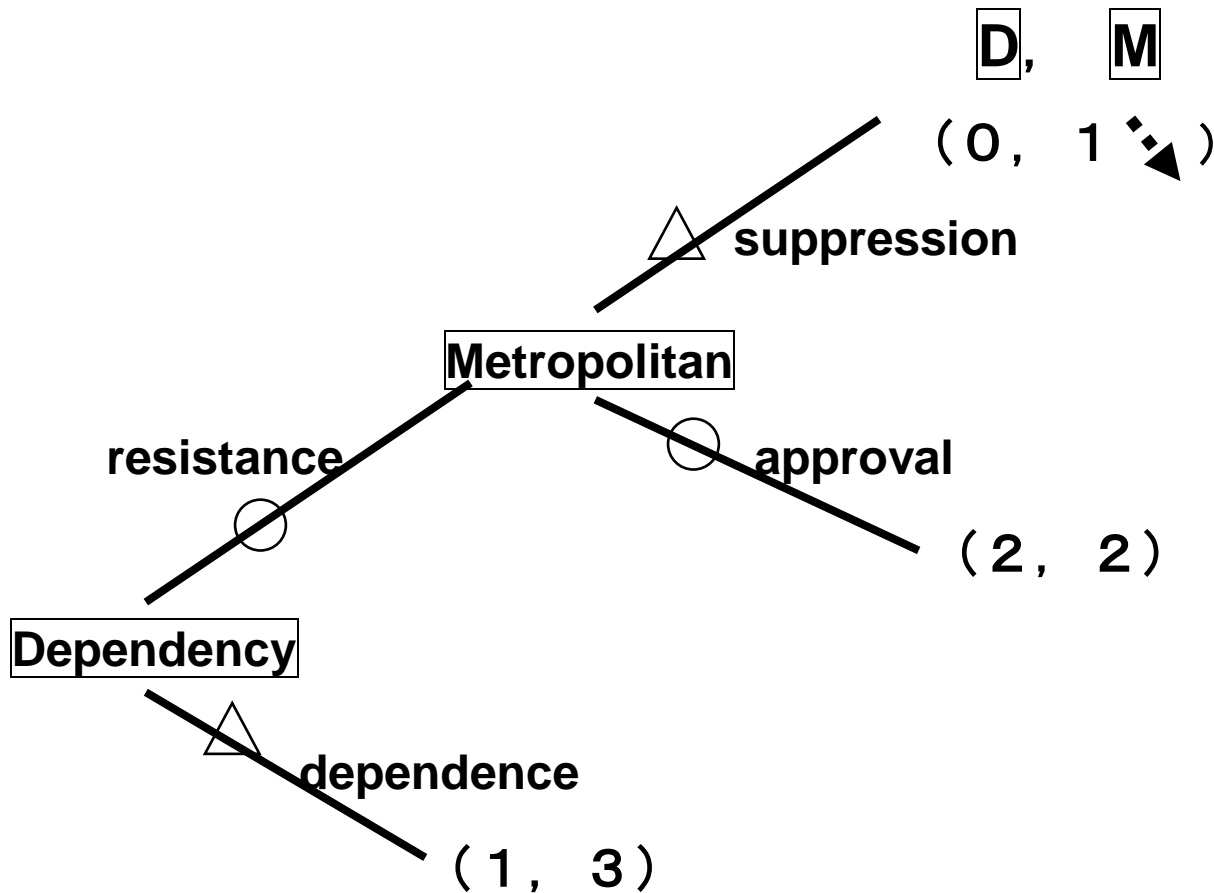
- 1 . Why Did “European Expansion” Occur ?
- 2 . Game Theory (Realism) is Not Considered.
- 3 . Conflicts between the Metropolitans and the Dependencies are disregarded.



■Goal■

I will Explain the Process of Decolonization, Focusing on the Game between Dependencies and Metropolitans from the Realism perspective.

■ The Dynamic Game between a Dependency and a Metropolitan within an Empire ■



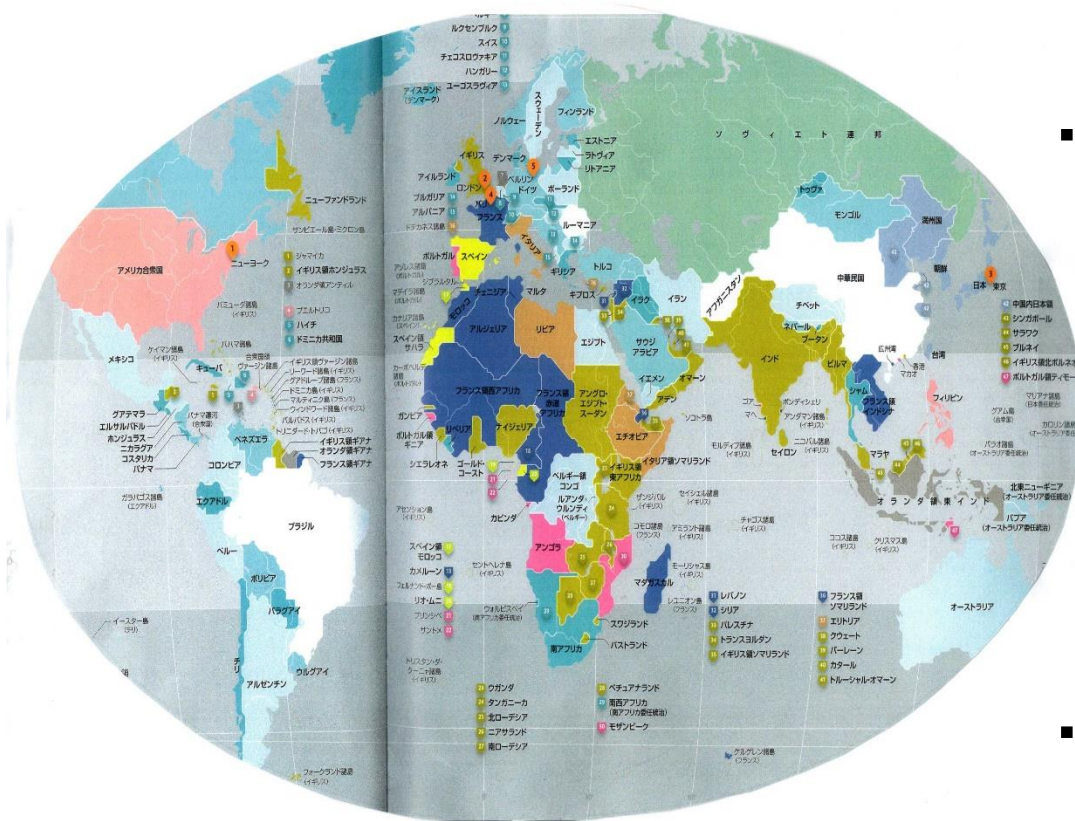
\circ : (the Set of Resistance and Approval) are **Subgame Perfect Nash Equilibrium**.

Δ : (the Set of Dependence and Suppression) are **Nash Equilibrium, Too**.

(\mathbb{M} is determined to suppress the \mathbb{D} 's resistance, but \mathbb{D} complies.)

Reason for using Replicator Dynamics

A Large Number of Dependencies and Metropolitans



Struggle for Existence

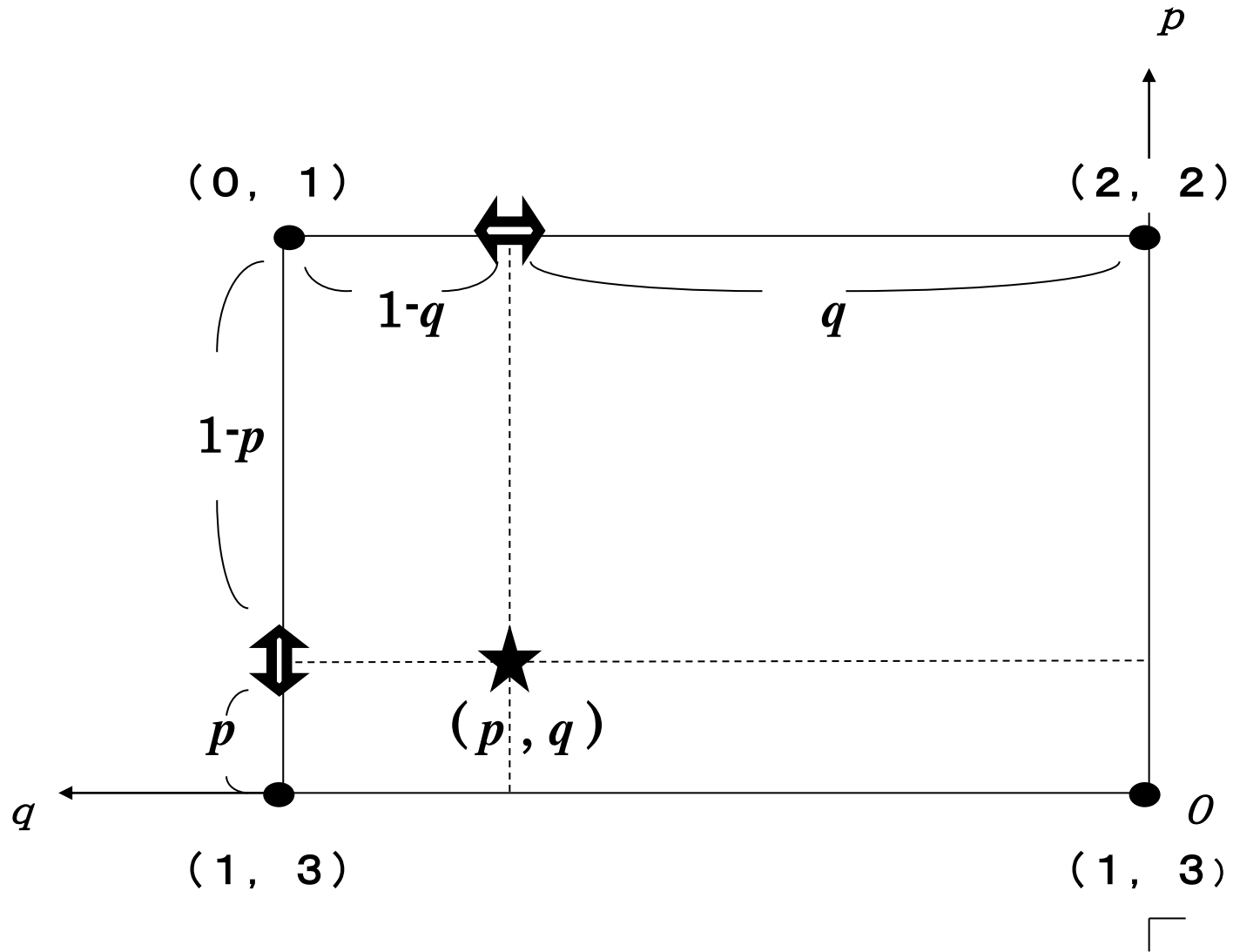
Ignorance of Others

No Institutional Environment

■ Strategic Form of the Game ■

		Metropolitan	
		Suppression(resistance) (q)	Approval(resistance) $(1-q)$
Dependency	Resistance (p)	0 1	② ②
	Dependence $(1-p)$	△1 △3	1 3

■ Replicator Dynamics ■



■ The Transition of the World State ■

dp/dt

= (Payoff of a Resisting Dependency

— Average Payoff of Dependencies) $\times p$

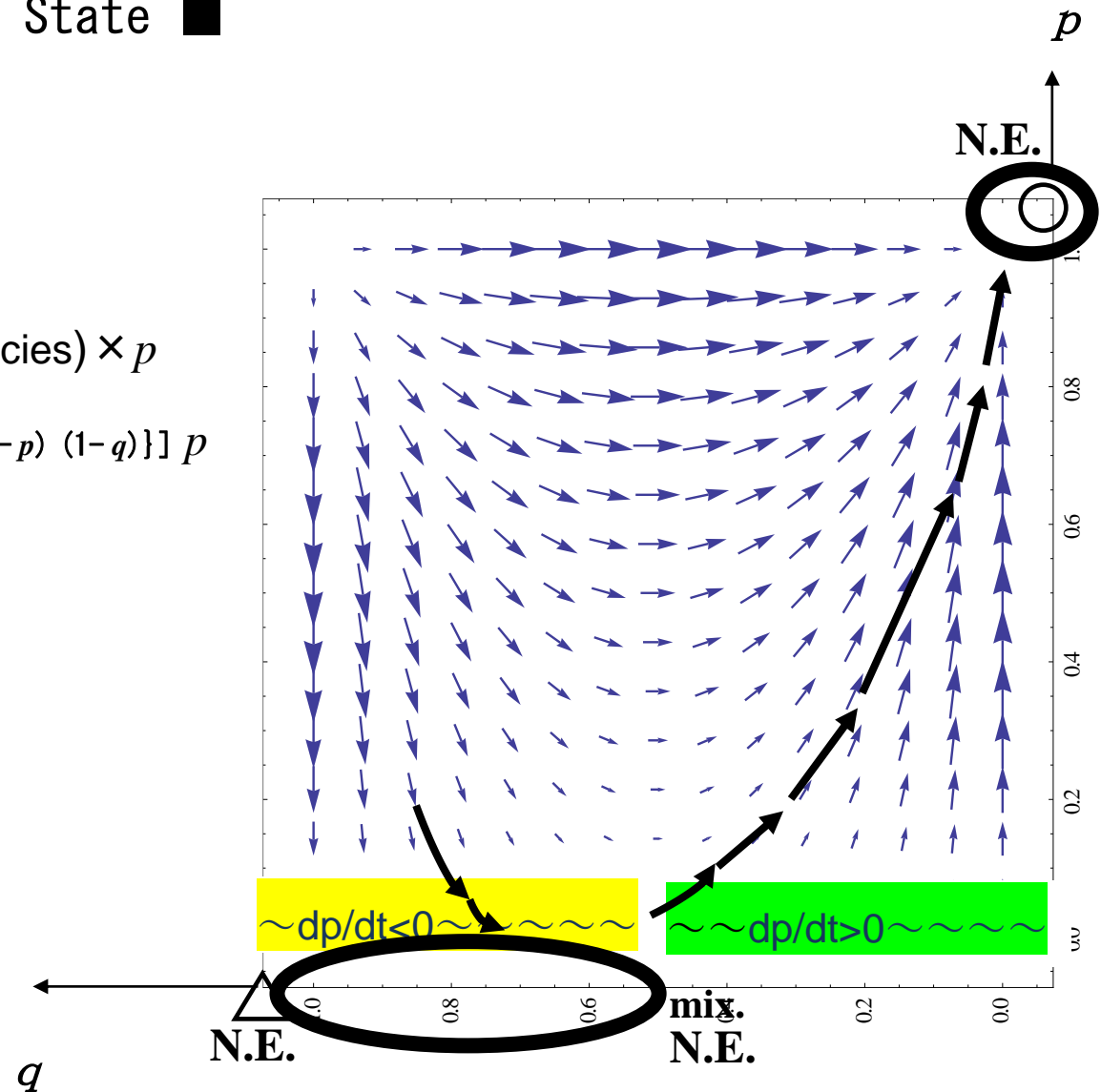
$$= [0 \cdot q + 2(1-q)] - [0 \cdot p + 2p(1-q) + 1 \cdot (1-p)q + 1 \cdot (1-p)(1-q)] p$$

$$= \{2(1-q) - (p - 2pq + 1)\} p$$

$$= p(p-1)(2q-1).$$

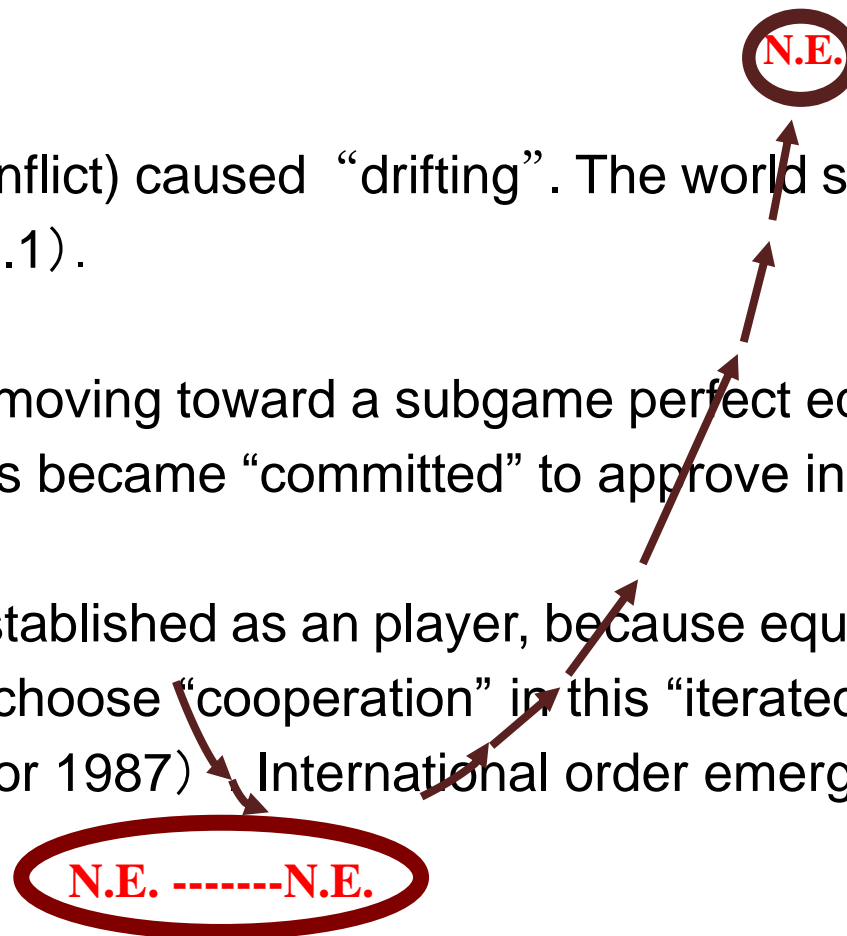
Similarly,

$$dq/dt = pq(q-1).$$



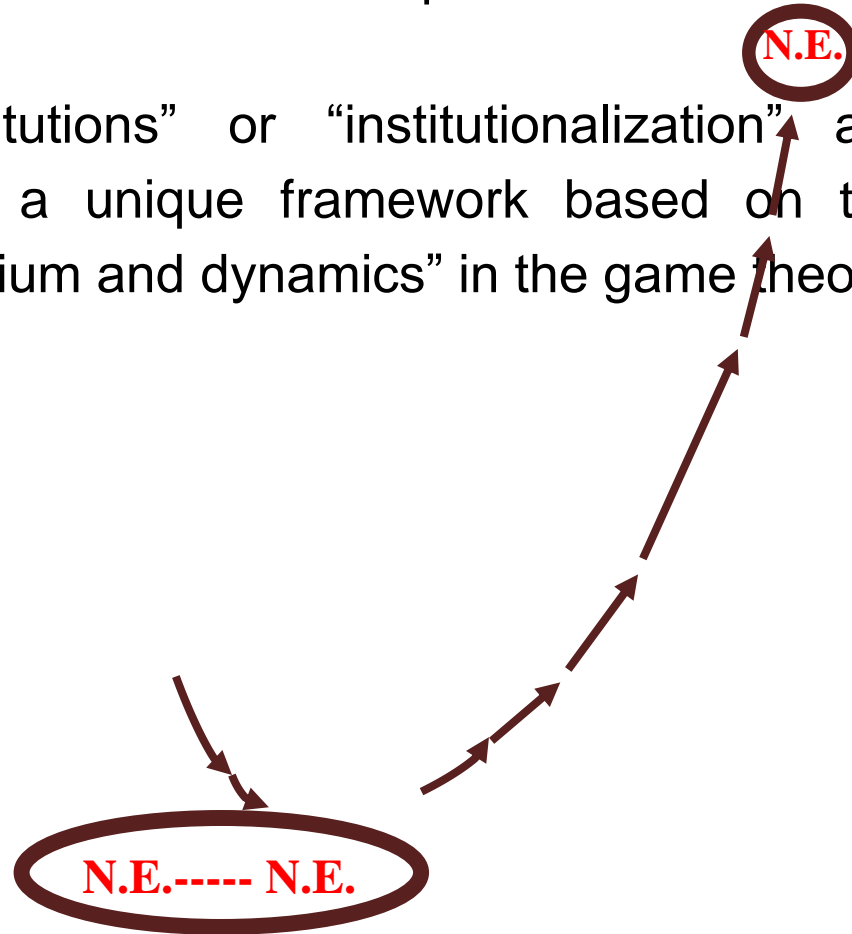
■ Discussion and Conclusion ■

- Polities will change their strategies based on imitation (1.3) and path-dependency. Dependents will stop resisting due to pressure from their metropolitan. This equilibrium is not stable.
- World War II (empire conflict) caused “drifting”. The world started moving toward another equilibrium. (1.1).
- The world accelerated moving toward a subgame perfect equilibrium. In line with this trend, metropolitans became “committed” to approve independence (1.2) .
- Each nation became established as an player, because equilibrium is irreversible (2.1) . Players may choose “cooperation” in this “iterated n-person Prisoner’s Dilemma game” (Taylor 1987) . International order emerges. (2.2) .



- A dynamic is generated in which the world is repositioned, focusing on the reality of the power relations between dependencies and metropolitans. (2.3).

- In summary, “institutions” or “institutionalization” as called by new institutionalists uses a unique framework based on the reality which is described as “equilibrium and dynamics” in the game theory.



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■Appendix■

institutional theory this branch of ORGANIZATION THEORY, sometimes referred to as the new institutional theory, developed in the 1970s and 1980s. The basic proposition is that the actions of organizations are not determined solely by the logic of economic and technological factors, but also by the institutions which comprise their social environments. These include, for example, the state, professions, and other organizations, together with the values and culture of the broader society in which an organization is embedded. Institutional pressures influence both organizational goals and means.

It follows from the basic proposition that organizations within a particular institutional environment should tend to be similar. For example, it is a legal requirement of the German system of INDUSTRIAL DEMOCRACY in large firms that employees' representatives occupy a certain proportion of seats on the company's top board of directors and that managers also consult regularly with employees about workplace issues via works councils. This legal framework, enacted by the state, reflects, and is reinforced by, a wider culture that values participative management. Thus business organizations in Germany are likely to share similarities in their structure and how they are managed and to differ from organizations in, say, the UK or USA. Institutionalists contend that organizations select institutionalized practices which are appropriate within a particular environment. *Isomorphism* describes the fact that organizations typically copy each other. When new organizational practices are developed, other organizations will follow suit once a certain minimum number has adopted these. There are several reasons for isomorphism: coercive pressures, the need to seek social legitimacy, or the wish to reduce uncertainty.

The *process* of institutionalization is also emphasized. In this process, repetition and familiarity lead over time to organizational structures and activities becoming firmly embedded in, and legitimized by, the culture of organizational members. Therefore, the internal social environment of the organization also influences structure and activity. Innovations that are introduced from outside, or designed internally for a particular purpose, may be modified in the process of institutionalization, as members adapt them to be compatible with existing practices and social norms. The term *path dependency* describes the fact that initial conditions influence the future path of development of an innovation. In this case, the initial conditions are institutional. For example, the same new technology may be used differently in different firms, either to enhance employees' skills or to de-skill. One explanation of these outcomes is cultural variation among firms and societies with regard to appropriate forms of work organization and the determinants of job satisfaction. Institutionalization means, in addition, that practices may persist even when they have ceased to be appropriate for the goals of those who control an organization.

Institutional theory is a useful corrective to the notion that there is a simple link between economic and technological variables and how organizations act. This link is made in the contingency approach to organizational theory and also in the rational profit-maximizing assumption of neo-classical economics. But it should be treated more as a general orientation than as a fully developed theory, because there is a significant lack of agreement among its adherents as to its precise specification.

N. Abercrombie, S. Hill, B. S. Tuner, "the Penguin Dictionary of SOCIOLOGY fifth edition", Penguin Books