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Rational Choice Theory in Early Cold War US Defense Policy –

The Role of 'Defense Rationalists'

-Research Design-

ABSTRACT

Rational choice theorists first become the source of policy and scientific innovation as they got involved in the construction of the United States' post-World War II defense policy in the late 1940s, based on the new weapon: the nuclear bomb. The 'A-bomb' rewrote the rules of traditional Clausewitzian warfare and presented a strategic puzzle to the United States, the (then) only superpower possessing such weaponry: how to use the weapon and what to use it for. To answer these questions, the US military turned to civilian scientists who later became known as the "defense rationalists". Defense rationalists in research institutions, such as the RAND Corporation figured prominently in the development of the US's Cold War strategies using rational choice. Among their works one can find many examples of other applications of game theory, the problem of inference, survivorship bias and, counterforce, systems analysis, mutually assured destruction and the Nash equilibrium. This paper outlines my future research on the role of the defence rationalists in the policy innovation process, culminating in the US's early Cold War policy. It tries to answer the central research question: Why did rational choice theory in particular become the foundation of early Cold War US nuclear defense policy? Looking beyond RAND, the paper employs an epistemic community (a network of professionals with recognized expertise and competence in a particular issue-are and an authoritative claim to policy-relevant knowledge within that domain) framework to assess the plausibility of a supply-driven policy innovation process, i.e. the scientific experts framing the problem and presenting the policy answer favoured by the community as well. A positive answer would have implications for our understanding of the construction of the Cold War as a polarized conflict.

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1. Introduction

My PhD research looks at the rise of rational choice theory as the foundation of early Cold War (from the mid-1940s to the late 1950s) US nuclear defense policy, which grunded the theory's success in social sciences e.g. economics. I will try to answer the research question: *Why did rational choice theory in particular become the foundation of this new policy?* Does the answer lie in the characteristics of the theory itself, or rather in the interplay between the scientific community and the military's demand? The research is based in the broader theoretical framework of the literature on the role of ideas in policy change (mostly sociology of knowledge). It follows two competing hypotheses built on the two main branches of this literature: supply-driven and demand-driven approaches. Methodologically, the study relies on process tracing – the process how this particular scientific idea became relevant in political/military circles and induced policy change.

In this paper I will outline a preliminary research design, focusing in particular on the historical setting of my analysis, its theoretical framework and the methodological approach I find suitable for answering the research question.

2. Historical Overview

Rational choice theory enjoyed a unique popularity in Western academic circles ever since the beginning of the Cold War in the late 1940s. Based on von Neumann's and Morgenstern's work, the theory spread through economics to other social sciences. Rational choice theorists first become the source of policy and scientific innovation as they got involved in the construction of the United States' post-Cold War defense policy, based on the new weapon: the nuclear bomb. This new, devastative weapon of mass destruction rewrote the rules of

traditional Clausewitzian warfare and presented a strategic puzzle to the United States – the only superpower possessing such weaponry. The question was how to use the weapon and what to use it for.

To answer these difficult questions, the heavily restructured US military turned to civilian scientists who later became known as the "defense rationalists". The defense rationalists came from various academic backgrounds – mostly physics, mathematics and strategic studies – and were assembled in the newly founded think tank, the RAND (for Research and Development) Corporation in 1948. As the first in the second wave of American think tanks (see Abelson 1998:109), RAND was unique in that although it was founded by the Air Force's Strategic Air Command (SAC – the office responsible for nuclear arms), it was a private institution employing civilian scientists. Defense rationalists in the RAND Corporation figured prominently in the development of the SAC's Cold War strategies using rational choice (in particular formalized game theoretical models) as a basis for many of their early studies on various strategies and their outcome. Among their works one can find many examples of other applications of game theory, the problem of inference, survivorship bias and, counterforce, systems analysis, mutually assured destruction and the Nash equilibrium.

Following RAND's foundation, the Army spread the issue of national defense policy innovation through the academia, contracting with research centers/think tanks –mostly tied to prestigious universities- such as Columbia's Bureau of Applied Social Research, Princeton's Institute for International Social Research or the Center for International Studies at MIT. With government founding and national security/nuclear war as primary research objective, a community of intellectuals –the defense rationalists- formed that set the direction of related US policies throughout the better part of the Cold War conflict.

3. Literature review

During the Cold War, rational choice-based deterrence policy featured prominently in American defense policy planning, facilitating the rise of the discipline in academic circles – first in economics and later on in other social sciences. Throughout the past fifty years a broad set of literature accumulated on the nuclear defense strategy RAND and similar institutions helped to develop. Works range from historical studies on the evolution of nuclear deterrence concepts (e.g. Smoke & George 1974, Trachtenberg 1991), to philosophical works on the ethics of nuclear war (most notably Aron 1965) and further theorizing on the use of nuclear arms (e.g. Jervis 1989, Brams 1985 and many others) As the theory became more and more salient in social sciences in general, the focus shifted from deterrence policy analysis to the analysis prominent rational choice theorists' work (e.g. that of Kenneth Arrow 1951, or Thomas C. Schelling 1966 etc.) and rational choice theory as a discipline/metatheory.

The most peculiar aspect of the available set of literature is, that as rational choice theory became more and more embedded in American social sciences in the second half of the 20th century, it also became the basis of the analysis of deterrence policy itself: the assumptions and methodological guidelines of RCT were used to assess the usefulness of different deterrence concepts (see e.g. Brahms 1985). Thus, the mainstream view implicitly assumed a certain symbiosis between deterrence policy and rational choice theory. I believe that precisely because of this view, the narrower literature on the origins of rational choice/game theory's success story is underresearched. Since RAND is generally considered as the cradle of RCT, it is plausible to look for answers here. The simple assumption that rational choice was *meant to become* the solution to the US military's policy innovation problem due its general characteristics seems to be both too bold and unjustified.

Again, showing the power of the mainstream view, literature on the link between the Cold War setting and the rise of these different intellectuals is relatively rare to find – even the critics of rational choice theory only deal with theoretical predecessors of RCT or only depart from the revolution the theory induced in neo-classical economics. (e.g. Green-Shapiro 1994) Two notable exceptions are Kaplan's *The Wizards of Armageddon* and Sonja Amadae's *Rationalizing Capitalist Democracy: The Cold War Origins of Rational Choice Liberalism*. The starting point of these two works is similar to what I have sketched above: the new strategic setting of the Cold War demanded a completely new defense policy, thus the Pentagon turned to the scientific community. In *Rationalizing…* Amadae presents a well-argued demand-driven explanation for the rise of rational choice theory in the US military and later in social sciences, in particular neo-classical economics. She claims that the Western capitalist democracies were in need of a scientific justification for democratic rule and a capitalist economic system, as opposed the equality proposed by Communism. While Kaplan's work is more of a sociological piece, Amadae's research conducted through a detailed analysis of defense rationalists' works and interviews with ex-RAND members I believe can be a major contribution to my research. Though her explanation seems rather far-fetched, it is nevertheless plausible. Thus, at this point, I would not go into an assessment of its validity, but rather use it as a possible scenario.

The broader literature on American science offers a better take on the historical period I intend to analyze. Works, such as Robert Gilpin's (1962) *American Scientists & nuclear Weapons* or Christopher Simpson's (ed. by, 1998) *Universities and Empires* describe the close interaction between the US government (and the Army) and American academia. These two volumes as well as many others argue that strategic considerations (i.e. the Cold War as a truggle between the US and the USSR) hugely affected American science and constrained the direction of mainstream research through the Cold War, with effects lasting even in our times.

Though these analyses offer an excellent mapping of the 'military-industrial-academic complex', I believe they uniformly subscribe to the approach that can be labeled as demand-driven. (More on that in the next chapter)

4. Conceptualizing Scientific Policy Innovation- Two Competing Hypotheses

Tracking the creation of the US nuclear strategies and the influence of defense rationalists has some implications for the broader field of the sociology of knowledge. Namely, it draws attention to one of the discipline's central questions: when and how are scientific advancements transformed into actual policies? Members of the critical school like Herbert Marcuse argue that science and power interplay: scientific ideas can be (mis)used to preserve the political status quo or just to support a policy enterprise. Though the situation is not always so alarming, politically motivated policy innovation can be the source of scientific innovation. On the other hand, the history of science also offers some examples when systematically developed scientific ideas (independent of the political sphere) gained wide political salience and were the basis of societal change (e.g. Keynes' General Theory and its effects on economic policies in the US). Thus the goal of the analyst becomes to distinguish cases when ideas and their innovation are subservient to political interests and cases when they are capable to induce policy change. Building on these two approaches, a taxonomy of theories of policy innovation can be created. According to this taxonomy, the literature can be divided into two subcategories: supply-driven and demand driven theories.

In the realm of science, innovation is crucial and new ideas are greatly valued, even if they are flawed. Academics is a world of creation and critical testing where several ideas compete. The realm of politics also includes innovation, but the incentives for policymakers differ. The military for example may need scientific rationales when applying for increased funding, but when it is performing established missions, it may rely on existing and tested ideas, putting a brake on innovation. Thus –referring to my research- an increased demand for

innovation may arise when policymakers are confronted with previously unseen situations where traditional ideas no longer offer a predictable and favorable outcome.[1] In this situation, according to a demand-driven explanation, the policymakers confronted with a problem turn to the realm of science for new ideas. They gather scientists for a previously defined task, and the interaction of this selected group of scientists with the policymaker results in policy innovation. In this case, the resulting policy is based on a scientific idea that corresponded to the criteria set by the policymakers – science is subservient to political demand. Such instances are not uncommon, for example many of the European Union's narrowly defined expert policies are created in this fashion.

In a supply-driven explanation, the causal mechanism is different. Here, the policy vacuum the policymaker faces is filled from outside: an existing scientific theory serves as the basis of a newly developed policy. The difference is that here, the problem at hand is also framed by the group of scientists involved in policymaking. They not only provide the answer, but also the questions. Thus, in this case a scientific idea induces policy change independent of political interests.

Though these two approaches may be both present at times of policy change to different degrees, I believe they are able to present distinguishable, competitive and plausible hypotheses to my research question. In the supply-driven framework, rational choice theory became salient because the community of defense rationalists framed the problem at hand and also the alternatives according to their shared beliefs. As they became members of RAND they gained access to policymaking and pushed through their own solution. The created defense policy was then an outcome favored by community scientists. In order to devise a supply-based scenario for this historical event, I will rely on one of the most famous theories in this field: epistemic communities as developed by Peter Haas et al. (See e.g. Haas 1992)

[1] As I have previously demonstrated, the dawn of the nuclear era was clearly such a situation. The novelty of nuclear weapons, the strategic situation of the US in world politics and the forming bipolar system (especially in Europe) made old ideas/strategies obsolete.

Epistemic communities are cohesive groups of knowledge-based experts with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain. They may come from various disciplines, but hey share a common set of normative beliefs, causal beliefs, notions of validity and a common policy enterprise (a set of common practices associated with a set of problems to which their professional competence is directed.) These communities are crucial in providing information and advice to decision makers. They can also influence state behavior by identifying the problems at hand and the national interests at stake. I offer a more detailed conceptualization of epistemic communities in the subsequent chapter.

A demand-driven explanation would be that as WWII neared its end, the Pentagon realized that complete and permanent peace might not be assured. Thus following the trends during the war –i.e. employing civilian scientists in military planning, e.g. economists in bombing strategy-planning- they collected a group of intellectuals in the RAND Corporation and other research institutions to assess the new strategic situation. The result was a deductive nuclear defense strategy based on game theory as a best answer to a strategic dilemma. Note that Sonja Amadae argues similarly, though for her the problem American policy-makers faced was a more general one. According to *Rationalizing Capitalist Democracy*, Western capitalism needed a solid scientific basis for the justification of capitalist democracy against communism. The answer was of course rational choice theory, which basically argues on a scientific basis that social planning or collectivism is the antithesis of individual freedom since the common goals required for achieving the outcome envisioned by communism have to be imposed on each member of the population (Amadae 2003:19). Although I focus on rational choice theory as an answer to a military-strategic dilemma, I still believe that her more general framework combined with the previously mentioned literature on the history of

Cold War US science will enable me to sketch up a demand-based scenario in my analysis as opposed to an epistemic community-based one.

The two competing hypotheses pose an additional question to my original question: *can the group of defense rationalists be characterized as an epistemic community; and if so, did they exert an influence on policy innovation as outlined in the theory?* The theory of epistemic communities is highly theoretical and rather hard to operationalize. However, epistemic communities are very clearly defined as opposed to other knowledge-based groups (e.g. professions, faculties etc.); and attempts were made for improved operationalization. To show how an epistemic community-based explanation of the phenomenon at hand can be constructed, I will have to devote attention to the ways epistemic communities can be operationalized. Additionally, a detailed assessment of the theory's key concepts is necessary, since the literature's original focus is different from that of my research: namely the epistemic communities literature deals with instances of successful and benevolent epistemic community influence in international cooperation.

5. Key concept: Epistemic Communities

As defined by Peter M. Haas, an epistemic community is a network of professionals with recognized expertise and competence in a particular issue-are and an authoritative claim to policy-relevant knowledge within that domain. The epistemic community may consist of professionals from a various disciplines, but they have (1) a shared set of normative and principled beliefs, which provide a value-based rationale for the social action of community members; (2) shared causal beliefs, which serve as the basis for elucidating the multiple linkages between possible policy actions and desired outcomes; (3) shared notions of validity; and (4) a common policy enterprise – i.e. a set of common practices associated with a set of problems to which their professional competence is directed,. (Haas 1992:3)

Epistemic communities are professional providers of advice to policy-makers in more technical issue areas. As problematic issues arise, governments turn to epistemic communities for advice and delegate responsibility to them. As members of the community acquire important positions in the state bureaucracy, the community becomes a strong actor on both the national and international level. (Haas 1992:4) Through their growing bureaucratic power, epistemic communities "…insinuate their views and influence national governments and international organizations." (Haas 1992:30) By not merely providing professional answers, but also framing the issue areas themselves according to the community's beliefs, epistemic communities can in fact identify the national interest *per se*, insulating it from ideology, patriotism and 'state-centric' concerns. (Mitchell et al. 2007) Hence, the way states recognize their interests depends on how these interests are framed by advisory teams like epistemic communities. In light of the new knowledge articulated by epistemic communities, a state may choose to pursue entirely new objectives, in which case outcomes may be shaped by the distribution of information, as well as by the distribution of power capabilities. (Haas 1992:5) In this framework, international cooperation plays itself out much like a two-level game (see Putnam 1988) where epistemic communities gain influence in national policy making, persuading governments to adopt cooperative policies based on the community's beliefs. On the international level, such policies then enable cooperation and the building of persistent institutions.

Though the focus of the theory has so far been successful international cooperation furthered by epistemic communities, the theoretical core further conceptualization. I believe that the theory can be extended to the domestic sphere, where the position and *modus operandi* of these communities could be modeled via the toolkit of bureaucratic politics, as outlined by Graham Allison and others. (e.g.Allison & Halperin 1972).

6. Operationalization

As I mentioned, the two competing hypotheses I outlined lead me to an additional (secondary) research question: *can the group of defense rationalists be characterized as an epistemic community; and if so, did they exert an influence on policy innovation as outlined in the theory?* In case of a positive answer, the supply-driven explanation would gain in explanatory power, while a negative would strengthen the demand-driven hypothesis.

Unfortunately, the theory of epistemic communities is highly theoretical and rather hard to operationalize. However, epistemic communities are very clearly defined as opposed to other knowledge-based groups (e.g. professions, faculties etc.); and attempts were made for improved operationalization.

The research-design I outlined so far would naturally involve process tracing, offering additional guidelines for operationalization. In order to answer the central question, key actors, their grouping, their policy enterprise, their influence on the policy innovation process etc. would have to be identified during the period spanning between the end of WWII. and the late 1950s. Based on the operationalization of epistemic communities and also the broader set of process-tracing literature, my research would involve identifying the defense rationalist community's membership and their trajectories, determining the community members' principled and causal beliefs, tracing their activities, and demonstrating their influence on decision makers at various points during the Cold War. Identifying principles and beliefs would call for a detailed analysis 1) of the community's materials, such as publications, testimonies, policy papers etc. Additonally, my research would rely on 2) secondary sources that accumulated on these individuals and their work. Here, I'm referring to biographies, analysis of community members' theories and existing interviews transcripts. Again, this

secondary literature is also rather large and easily accessible. Finally, this design would involve 3) a judicious assessment of the history of scientific currants the community's members derive their understanding of the world of. Sonja Amadae has done valuable work on this field by putting historical currants like utilitarism, classical economics, von Neumann's game theory, or operations research in a new perspective. My work would obviously depart from her work and interpretation, though not necessarily arguing in favor of her findings.

7. Methodology

Since the research relies on process tracing, the unit of analysis is the policy itself, based on scientific theories – in this case RCT. Additionally, there is a second analytical layer, namely the group of scientists involved in the process.

The research is based on the concept of epistemic communities (e.c.), thus the goal of measurement is to present sufficient data in order to answer my secondary question: can the group of scientists active around the RAND Corporation be characterized as an epistemic community?

The crucial points that really distinguish epistemic communities from other knowledge-based communities (e.g. professions, interest groups) are elements 2 and 3: shared causal beliefs, which are derived from their analysis of practices leading or contributing to a central set of problems in their domain and which then serve as the basis for elucidating the multiple linkages between possible policy actions and desired outcomes; and shared notions of validity. Haas consistently implies the non-negotiable nature of these two elements - without them, the epistemic community ceases to function as an authoritative voice of advice. For example, in the event of a serious challenge to the causal 'world view' of the community (2) which could not be settled internally (3), Haas is firm that the community would withhold

policy advice: "Unlike an interest group, if confronted with anomalous data, they would retract their advice or suspend judgment" (Dunlop quoting Haas 1990: 55). Hence, in order to answer the above question, the focus of 'measurement' shifts from the scientists as such (of course, only after the identification of possible e.c. members) to their beliefs.[2] As I have noted in the chapter on operationalization, identifying principles and beliefs would call for a detailed analysis 1) of the community's materials, such as publications, testimonies, policy papers etc. Additonally, my research would rely on 2) secondary sources that accumulated on these individuals and their work. Finally, this design would involve 3) as a judicious assessment of the history of scientific currants the community's members derive their understanding of the world of. It is through this research (aimed at points 2 and 3 of the definition) that I would link the concept of epistemic communities to the actual (secondary) units of analysis; consequently to the process as primary unit itself.

In order to decide, whether an intellectual is an advocate of RCT (and perhaps member of the defense rationalist community), the 'language' of rational choice theory has to be identified. To deal with this task, I will rely on content analysis. Relying on the vast literature on rational choice, but also later works of important rational choice theorists, such as Thomas Schelling, I will devise a code that identifies this language in materials I will use in my research.

A third method that seems adequate for my purposes is social network analysis that can be used to map the interaction of politics and members of the defense rationalist group by following individual trajectories.

As for data, I will rely on histories, archival documents, interview transcripts, think tank materials, biographies and of course secondary literature.

[2] Since this involves qualitative analysis I would avoid the term 'measuring'.

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