

# PARADIGMS AND POLICYMAKING: A TWOFOLD RELATION

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## **Abstract**

Thomas S. Kuhn's original idea of paradigm and paradigm shift provides the scientist with theory, methods, and standards, and, through the paradigm shift, indicates the significant change in the criteria through which the legitimacy of problems and proposed solutions is determined. It can be said that the paradigm regulates not only scientific, but also policymaking criteria. In this regard, the aim of this paper is twofold: first, to examine the influence of a paradigm on the policymaking process; second, to examine the reverse influence of policymaking process on paradigms through the case of procedures. The final goal is to see whether it is possible to optimize the application of a paradigm in the policymaking process.

**Keywords:** *paradigm; paradigm shift; public policymaking; climate change; global warming; Balkans;*

## ***1. Paradigms and paradigm shifts: from natural to social sciences***

In his 1962 seminal work *The Structure of Scientific Revolutions*, the famous philosopher of science Thomas S. Kuhn coined the terms paradigm and paradigm shift. He was the first to provide some understanding of the influence worldviews have on the development of scientific knowledge. The term paradigm is used in a broader and a narrower sense. In the broader sense, a paradigm is a collection of beliefs, values and techniques shared by members of a specific group or community. In the more narrow sense, paradigms are specific puzzles-answers that are used as models or examples for solving specific problems (Kuhn, 1996).

According to Kuhn, each paradigm has two basic functions: cognitive and normative (Rueschemeyer, 2006 p.227). The cognitive function implies that the paradigm is a prerequisite to perception itself, or, more precisely, that it precedes perception of reality. In his words: “what a man sees depends both upon what he looks at and also upon what his previous visual-conceptual experience has taught him to see” (Kuhn, 1996, p. 113). While the cognitive function defines our perception of reality, the normative function enables the paradigm to regulate and influence reality. Kuhn’s understanding of a paradigm’s normative function is somewhat limited, since he believes that “though the world does not change with a change of paradigm, the scientist afterward works in a different world” (Kuhn, 1996, p.121). Yet, having in mind that the paradigm alters people’s attitude to reality, the world does change, not only in a conceptual, but also in a material sense.

The general aim of each paradigm is, by providing an explanation of the world, our relation to it and our place in it, to contribute to the meeting of the various needs of our group or community. By filtering the inputs and outputs, the paradigm helps us successfully navigate the sea of challenges and opportunities of a given system. In doing so, a paradigm can influence our approach to the world and to other people, thus determining the course of social development. While analyzing scientific revolutions Kuhn locates three preconditions for a paradigmatic shift, understood as fundamental change in the perception of reality: (1) A growing feeling that the existing paradigm does not function adequately; (2) growing amount of evidence that does not fit in the existing paradigm; and (3) convincing argumentation for a new paradigm (Kuhn, 1996, p. 90-110). Crucial role in paving the way for a paradigmatic shift is the perception of “anomaly” or phenomenon the existing paradigm cannot explain. Once a paradigm ceases to provide satisfying solutions to problems, its authority to define and interpret reality is in question. The emerging paradigm crisis can be resolved either by adaptation and adjustment of the paradigm or by its complete replacement with a new way of thinking – a new paradigm (Kuhn, 1996). In this regard, the paradigm shift implies a thorough change of ideas, perceptions and values that form a specific view of the world and reality.

Although Kuhn originally had in mind the natural and exact sciences and was skeptical of the idea of a paradigm and paradigm shift in the field of social sciences (Dogan, 2001), the concept was soon recognized as applicable in social (Elzinga, 1984) and political sciences (Rees, 2012) and was widely popularized (Paton, 2014).

For example, in the field of political sciences, Barbara Geddes defines paradigm as a collection of widely accepted theories, hypotheses, applications and favored methodologies which can structure further research by “determining which

facts are theoretically salient; defining what constitutes a paradox and what questions urgently require answers; identifying which cases need to be examined and what kinds of evidence are considered meaningful” (Geddes, 2003, p. 6-7). She recognizes that in order to be successful, a paradigm has to resemble a successful ideology.<sup>1</sup>

Jane Jenson goes a step further and defines the societal paradigm as “a shared set of interconnected premises which make sense of many social relations. Every paradigm contains a view of human nature, a definition of basic and proper forms of social relations among equals and among those in relationships of hierarchy, and specification of relations among institutions as well as stipulation of the role of such institutions”. (Jenson, 1989, p. 239)

In the field of public policy and policymaking, Peter Hall defines policy paradigm as establishing

the broad goals behind policy, the related problems or puzzles that policy-makers have to solve to get there, and, in large measure, the kind of instruments that can be used to attain these goals. Like a gestalt, this framework is all the more powerful because it is largely taken for granted and rarely subject to scrutiny as a whole. It seems likely that policy-makers in all fields are guided by some such paradigm, even though the complexity and coherence of the paradigm may vary considerably across fields (Hall, 1990, p. 59).

Finally, Howlett and Ramesh see policy paradigm as an intellectual synthesis linked with political subsystems. In this regard, a policy paradigm is “a set of ideas held by relevant policy subsystem members [...] which shapes the broad goals policy-makers pursue, the way they perceive public problems, and the kinds of solutions they consider for adoption” (Howlett and Ramesh, 1995, p. 185-188). Policy-makers take their paradigm for granted in such a way that they are unaware of its influence.

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<sup>1</sup> “To achieve success, paradigms need to have the same characteristics as successful ideologies. Ideologies simplify the world, explain what we see around us in a compelling way, and identify what needs to be done. The basic ideas need to be simple, yet applicable to a broad range of puzzling questions. They need to have the “aha!” factor—that is, to lead the newly exposed individual to exclaim, “That has to be right! Why didn’t I think of it?” And finally, paradigms need to be fruitful; the theories they contain need to explain previously unexplained regularities and to create new paradoxes and puzzles. As ideologies imply needed political action or policies, a successful paradigm implies a research frontier of puzzles and paradoxes on which scholars need to work.” (Geddes, 2003, p. 7)

Building upon Kuhn's idea that the scientist gains theory, methods, and standards by way of a paradigm, and that a paradigm shift implies "a significant shift in the criteria determining the legitimacy both of problems and of proposed solutions" (Kuhn, 1996, p. 109), it can be argued that the paradigm regulates not only scientific, but also policymaking criteria. In this regard, it is important to examine the ways a paradigm can influence the policymaking process. Furthermore, it is important to see whether it is possible to optimize the application of a paradigm in the policymaking process.

## ***2. Influence of paradigms on policymaking***

James Anderson defines public problems as "those affecting a substantial number of people and having broad effects, including consequences for persons not directly involved" (Anderson, 1994, p. 81). According to Anderson, "policy formation denotes the total process of creating or developing and adopting a policy" (Anderson, 1994, p. 84). He defines the policymaking process as a sequence of three functional activities:

1. Problem identification: identifying the nature of the policy problem.
2. Agenda formation: the process of bringing the policy problem to the systemic and institutional agenda of policymakers.
3. Policy formulation: developing acceptable proposed courses of action for dealing with the identified public problems. (Anderson, 1994, p. 84).

It can be argued that, as an invisible scheme, the paradigm has both direct and indirect influence on the policymaking process in all three functional activities.

### **2.1. Paradigm's direct influence on policymaking**

First, through its cognitive function, the paradigm influences the perception of policy problems. Whether a certain condition or process will be perceived as a problem depends on the dominant paradigm. For instance, for decades politicians and decision makers in South East Europe (the Balkans) failed to see and understand global warming and climate change as a policy problem. Seen through what Toffler calls "second wave" anthropocentric mentality of the industrial civilization, air pollution was a normal byproduct of the industrial progress (Toffler, 1980). However, the unambiguous scientific evidence (Thompson, L. G., & Kuo, G., 2012), the increasing magnitude and frequency of climatic extremes that lead to hydrometeorological hazards (SEEDRMAP, 2008) and the pressure from the general public (Philander, 904-912) through a coalition framework

(Weible and Sabatier, 2007, p. 123-136) helped governments in the Balkans see the global warming and climate change as important policy problems.

Second, if the dominant paradigm allows policy makers to recognize a certain condition or a process as a policy problem, the next step is for the problem to become part of the official stakeholders' agenda (Rochefort, 2007, p. 71-75). In this regard, the paradigm influences the approach to the problem. Although global warming and climate change were acknowledged as a policy issues, their position on the policy agenda was yet to be determined. This second phase is characterized by debates on issues such as costs and budgets of policy action. In the Balkans, this can be exemplified by the dissenting views on economic, social and ecological objectives of sustainable energy. Having in mind that the agenda setting includes the approach to a recognized policy problem, here we see the normative function of the paradigm. This phase eventually resulted in at least declarative action – the Balkan countries became parties of the UN Framework Convention on Climate Change – UNFCCC and signed the 2015 Paris Agreement (CAN, 2016).

The third functional activity in the policymaking process is the policy formulation for treating the policy problem. Even at this stage, the policy formulation depends on the dominant paradigm, since the solutions it provides reflect the framework provided by the paradigm. For instance, climate change proposed solutions could range from old-fashioned energy conservation to investment in innovative technologies and even futuristic geoengineering<sup>2</sup>. Some governments in South East Europe have been reluctant to invest in diverting from traditional (nonrenewable) energy sources and infrastructure such as coal power plants, to renewable energy infrastructure such as solar and wind (South East Europe Energy Watchdog Report 2016). Here too we see the normative function of the paradigm in action since it determines the policy formulation.

These examples show that the paradigm is built within the framework of the three functional activities of the policymaking process: problem identification, agenda formation and policy formulation. However, a paradigm's influence in policymaking goes even deeper. The functional activities can be broken down into five stages within the policymaking process (Anderson, 1994, p. 38):

- (1) *Problem identification and agenda setting*. The focus is on how to identify and determine problems that can become part of the policymaking process.
- (2) *Formulation*. This includes the creation, identification or borrowing of proposed courses of action, which are often called alternatives or options

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<sup>2</sup> “Geoengineering is the novel idea to apply planetary engineering to deliberately modify the Earth's environment to reduce GHG effect and reduce global warming” (Philander, 2012, p. 206).

for resolving public problems.

- (3) *Adoption*. This involves deciding which proposed alternative, including not taking any action, will be used in tackling the problem.
- (4) *Implementation*. Here the attention is on what is done to bring about or apply adopted policies.
- (5) *Evaluation*. This includes activities intended to determine what a policy is accomplishing, whether it is achieving its goals, or whether it has other consequences.

Policy Terminology	Stage 1: Policy Agenda	Stage 2: Policy Formulation	Stage 3: Policy Adoption	Stage 4: Policy Implementation	Stage 5: Policy Evaluation
Definition	Those problems, among many, that receive the serious attention of public officials	Development of pertinent and acceptable proposed courses of action for dealing with a public problem	Development of support for a specific proposal so that a policy can be legitimized or authorized	Application of the policy by the government's administrative machinery	Efforts by the government to determine whether the policy was effective and why or why not
Common sense	Getting the government to consider action on the problem	What is proposed to be done about the problem	Getting the government to accept a particular solution to the problem	Applying the government's policy to the problem	Did the policy work?
<p><i>Source:</i> Adapted from James E. Anderson, David W. Brady, and Charles Bullock, III, <i>Public Policy and Politics in the United States</i>, 2<sup>nd</sup> ed. (Monterey, Calif.: Brooks/Cole, 1984).</p>					

Each of the five stages is influenced by the paradigm. Namely, as previously demonstrated, only those conditions and processes that are recognized as problems become part of the policy agenda. The influence of the paradigm is not only limited to the policy formulation, but also the policy adoption and implementation. The policymakers and implementers will not accept, never mind implement, policies for something they fail to recognize as a problem in the first place. Finally, the paradigm influences the evaluation of the results of the specific policy. This in brief shows how a paradigm directly influences the policymaking process.

## **2.2. Paradigm's indirect influence on policymaking**

However, a paradigm can influence the policymaking process indirectly, through the environment. Decisions are effectively limited and directed by the environment, which in its broadest sense includes geography (climate, natural resources and topography), demography (population size, age distribution and spatial location), political culture, social and economic system (Anderson, 1994, p. 46-47). With the exception of geography and demography, a paradigm can influence the political culture, as well as the social and the economic system of the policymaking environment, thus indirectly influencing the policymaking process itself. This means that there is a dynamic equilibrium between the environment and the paradigm. Just as the environment influences the paradigm, so too, the paradigm can influence the environment through public policy.

Having in mind its cognitive function in interpreting objective material conditions and its normative function in regulating reality, the paradigm has an essential role in the policymaking process. However, this process is a two-way street. Just as the paradigm can influence the policymaking process, so do some aspects or products of the policymaking process influence the paradigm. We will briefly examine the case of procedures.

## ***3. Influence of policymaking process on paradigm shifts: the case of procedures***

Following Kuhn, Peter, A. Hall accepts the general understanding that the discovery of anomalies undermines the dominant paradigms and eventually leads to their change (Grin, and Loeber, 2007, p. 206). The policy paradigm shift process is as follows: "policymakers stretch the paradigm to the limit to cover the discrepancies between paradigmatic expectations and empirical reality, but eventually this becomes impossible, precipitating a search for a new paradigm (Howlett and Ramesh, 1995, p. 190-191). Hall's policy paradigm change model is as follows:

Stage	Characteristics
1. Paradigm Stability	In which the reigning orthodoxy is institutionalized and policy adjustments are made, largely by closed group of experts and officials.
2. Accumulation of Anomalies	In which 'real world' developments occur which are neither anticipated nor fully explicable in terms of the reigning orthodoxy.
3. Experimentation	In which efforts are made to stretch the existing paradigm to account for the anomalies.
4. Fragmentation of Authority	In which experts and officials are discredited and new participants challenge the existing paradigm.
5. Contestation	In which debate spills into the public arena and involves the larger political process, including electoral and partisan considerations.
6. Institutionalization of a New Paradigm	In which, after a shorter or longer period of time, the advocates of a new paradigm secure positions of authority and alter existing organizational and decision-making arrangements in order to institutionalize the new paradigm.
<p><i>Source:</i> Adapted from Peter A. Hall. 'Policy Paradigms, Social Learning and the State: The Case of Economic Policy Making in Britain', <i>Comparative Politics</i> 25, 3 (1993): 275-96.</p>	

According to Kuhn, the internal (endogenous) change of the awareness of the scientists facing a new problem or phenomenon alters their perception, that is, their paradigm. Some social sciences authors add external (exogenous) change. A policy paradigm shift happens in conditions of serious external changes. According to Paul Sabatier the reasons for these changes of the political sub-systems are (Sabatier, 1987, p. 657-8):

- (1) changes in socio-economic conditions and technology;
- (2) changes in systemic governing coalitions; and
- (3) policy decisions and impacts from other subsystems.

Michael Howlett and M. Ramesh make a distinction between normal and paradigmatic patterns of policy change. Normal policy change has a high level of continuity in the policymaking process. The same structure of policymaking stakeholders has been involved in the process for a long time. On the other hand, the punctuated equilibrium model of paradigmatic policy change is characterized by a change in the deep structure that consists of values and beliefs that are



responsible for the understanding and interpretation of the policy problem (Howlett and Ramesh, 1995, p. 187-189).

A paradigm claims to provide a solution to a policy problem. As long as the solution provided by the paradigm satisfies the real needs, the paradigm will sustain itself. The solution is manifested through procedures modeled in accord with the paradigmatic principles. According to Kuhn, paradigmatic procedures are just as important for science as paradigmatic laws and theories, since they have the same effect – they limit the phenomenological field for scientific research at a given time (Kuhn, 1996, p. 60-61), thus helping scientists focus their research. This approach can be applied to public policy procedures as well. Policy procedures are important for the survival of the paradigm since they help build habits and culture. However, once the paradigm faces anomalies that it cannot effectively and efficiently solve, its legitimacy is brought into question. In this regard, procedures and procedural culture and habits can be a “double-edged sword”, since, in many cases, organizations tend to approach new problems with old procedures (Hogwood and Peters, 1984, p. 111).

Hogwood and Peters identify the danger of “inherited procedures” in public policy. All organizations have procedures in order to implement policies. While some of them may be developed by a current organization, others are inherited by an older organization. The problem with inherited procedures is that they were developed for old policies and can subvert the purpose of a new policy. Procedures that were adequate for past issues may be irrelevant for present ones. A helpful illustration is the problem of “senility” as pathology in public policy: once established, standard operational procedures have a tendency to persist without serious reexamination. The very existence of a procedure could be seen as evidence that the policy problem has been solved and that the organization can carry on with other pressing issues. These procedures are often remnants from past times, reflect old paradigms and, as such, they make the organization less perceptive of the changes in its environment. (Hogwood and Peters, 1985, p.30, 96-98). This can lead to conflict, which is often brushed off as a “clash of generations”, while, in fact, it is a clash of paradigms. When parallel paradigms coexist and compete, each paradigm offers procedures that serve as an instrument for their self-justification. For instance, an older paradigm X uses procedures  $X_1$  developed within the context of paradigm X and thus cannot refute it. A newer paradigm Y, which exists in parallel with the old one, can develop its own procedures  $Y_1$ , which also justify paradigm Y. Just as procedures  $X_1$  cannot refute paradigm Y, so procedures  $Y_1$  cannot refute paradigm X. Each of the paradigms justifies itself with its own set of procedures.

In the great process of paradigm shift, the first thing that changes is the environment, then the paradigm, and ending with the procedures. Procedures (which are important for developing the habits of the paradigm) are among the last strongholds of old paradigms. The system established by a paradigm educates (or rather trains) individuals who defend the core principles of their paradigm.

#### **4. Conclusion**

Kuhn developed the idea that a paradigm provides the scientist with theory, methods, and standards, and that a paradigm shift implies a significant change in the criteria through which the legitimacy of problems and proposed solutions is determined (Kuhn 1996: 109). While building on his original idea and following contributions by Geddes, Jenson, Hall, Howlett and Ramesh, it can be said that the paradigm regulates not only scientific, but also policymaking criteria. Paradigms influence the policymaking process directly and indirectly. Directly, the paradigm is built within the framework of the three functional activities of the policymaking process: problem identification, agenda formation and policy formulation. However, a paradigm's influence in policymaking goes even deeper. The functional activities are broken down into five stages in the policymaking process. Indirectly, the paradigm influences the policymaking process by regulating the policymaking environment itself. The success of a policy depends on the environment in which it was created and implemented. The environment and the paradigm are in a dynamic equilibrium. Just as the environment influences the paradigm, so the paradigm, through public policy can influence the environment.

At first glance, the relation between a paradigm and the policy making process resembles the relation between the operating system and the application software. The applications can only perform the tasks stipulated by the operating system. Some of the Microsoft applications cannot run in Linux and vice versa. However, this relation is much more complex and twofold. Just as the paradigm influences all policymaking phases, so does the policymaking process influence paradigm shift. Procedures are part of the existing policy paradigm. Procedures reflect paradigms, since they include criteria and are based upon a methodology rooted in the existing paradigm. We can expect a change in the approach to certain policy problems only when a paradigm (which influences the policymaking process) changes. However, procedures can block or at least postpone this process until enough anomalies have accumulated that the stakeholders can no longer ignore. The problem occurs when a new phenomenon and information is interpreted with old and inadequate methods. It is like trying to open a new door lock with an old key.

What are the possible solutions to optimizing the application of a paradigm in the policymaking process? Having in mind that paradigms are inevitable and crucial part of policymaking, whether they are part of the problem or part of the solution depends on two things: first, whether their interpretation of reality is close to objective reality, and, second, whether policymakers are aware that they making decisions based on a given paradigm. Having in mind that policy-makers usually take the paradigm involved in a particular policy for granted in such a way that they are unaware of its influence it could be helpful if they could develop greater awareness of the paradigm. This would allow them to do two things: first, to see the problem from a distance and, second to critically reexamine adopted procedures used in solving the specific policy problem. In doing so, they could escape the trap of inherited or old procedures and adapt to the new realities interpreted by a new paradigm.

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