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Arnoldussen, T.

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The precaution controversy: an analysis through the lens of Ulrich Beck and Michel Foucault

Tobias Arnoldussen

Few doctrines of environmental law have caused as much debate as the precautionary principle. Even the exact wording of the principle itself is controversial but the gist of it is to make sure that in case of environmental risk, protective measures could be taken, without having to wait for complete scientific certainty. This principle may be found in many environmental treaties as well as in article 191 of the Lisbon Treaty. The controversies surrounding the precautionary principle (henceforth PP) become understandable when one considers that more is at stake than simply stating the intention to be prudent for the sake of the environment. According to numerous authors, the PP represents a paradigmatic shift in dealing with risk in our society.¹ Instead of merely intervening to prevent certain, calculable and tangible threats, authorities signal their willingness to tackle risks of which it is not certain that they will lead to harm.²

This proactive reaction to risk has its staunch defenders. Tickner, Raffensperger and Meyers describe it as “a decision-making and action tool with ethical power and scientific rigor.”³ In their view the precautionary principle may be a safeguard to the many technological and environmental risks mankind has brought on to itself. In the face of scientific uncertainty it is better to be safe than sorry. The use of the precautionary principle may make our society more aware and able to react more quickly to “early warnings” that environmental or public health threats are impending.⁴ Proponents of the PP can also be found among the Dutch Scientific Council for Government Policy (*Wetenschappelijke Raad voor het Regeringsbeleid* (WRR)). This influential governmental think tank suggests incorporating it in the Dutch constitution and making it the cornerstone of Dutch safety policy.⁵

Other authors, however, associate the precautionary principle with the pernicious desire to eliminate all risk taking. Roel Pieterman sees it as the legal embodiment of a more sweeping social transition towards a “precautionary culture.”⁶ In such a culture, the reliance on scientific expertise is eroded by the wish to allay all possible fears that laymen may have and innovation is stifled. Paul Frissen argues that the increasing incorporation of the PP in the legal order may lead to increasing government intervention in the lives of citizens when there are indications of

1 Ewald 2002; Pieterman 2008; Arnoldussen 2009; Hanekamp, 2015.

2 De Saedeleer; 2012, p. 3.

3 Tickner et al. 1999, p. 2.

4 Harremoës et al. 2000.

5 WRR 2008.

6 Pieterman 2008.

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risk.⁷ Moreover, he considers that it may lead to an increase in the level of responsibility that citizens have to signal possible risks. It has also been strongly criticized by De Vries and Francot because it is no longer necessary to prove causal connections between certain economic activities and environmental harm or the emergence of health threats. This legitimizes state intervention in domains otherwise protected by the principle of legality that demands a solid legal basis for state intervention.⁸ De Vries and Francot consider that the PP trumps this principle of legality causing worries that state power could be used arbitrarily.⁹ Proponents of precaution generally argue that the deteriorating condition of the environment and the long-term risks associated with problems like climate change and nuclear waste force us to become pro-active. The increasing embrace of the precautionary principle is both necessary and hopeful because it shows that we are increasingly prepared to deal with the risks we have created ourselves. Detractors worry that the reliance on precaution makes government intervention possible on terrains other than environmental protection and foist a responsibility on scientific experts and laymen alike to function as threat detectors.

In this article, I aim to shed light on both these perspectives on precaution by relating them to highly influential currents of thought regarding our relationship to law, science and governance. The academic proponents of precaution are frequently inspired by the work of the German social theorist Ulrich Beck on the “risk society.” I will use his considerations on the need for reflexive modernization to argue how, from this perspective, the PP may be considered as the outcome of a social learning process. The fear of the skeptics may be understood by examining the work of the later Michel Foucault. By taking recourse to the thought of Michel Foucault on governmentality, I will propose that the PP could also be considered as a technology of power within the context of neoliberal governmentality. This consideration leads to skepticism regarding the PP’s environmental credentials and explains how it might lead to an expansion of administrative competencies. In the final section of the article, I will investigate whether reconciliation is possible between the two perspectives even though I contend that Foucauldian and Beckian notions contain diametrically opposite assumptions on the nature of power and rationality.

1. The precautionary principle

The PP entered environmental law in the 1980s and had a stormy career. Its roots are usually traced to the German environmental “*Vorsorgeprinzip*”, introduced in the 1970s in the context of acid rain and fossil fuel policies.¹⁰ It made its appearance on the scene of international law during negotiations on marine environ-

7 Frissen 2008.

8 De Vries & Francot 2011.

9 De Vries & Francot 2011, p. 17.

10 Whiteside 2006, p. 74.

mental regimes,¹¹ and since then it has been accepted in numerous environmental treaties and conventions. It entered EU policy through the 1992 Maastricht Treaty and currently underpins the EU approach on this terrain. Article 191(2) of the Lisbon Treaty states that:

“Union policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.”

The article makes clear that the PP governs EU law together with other environmental principles, but the EU Treaty does not define them. There is in fact no standard definition of the PP; it is defined differently in every treaty. Sometimes treaties contain stronger versions and sometimes weaker versions. One of the most well-known weaker versions is contained in the 1992 Rio Declaration at the United Nations Conference on Environment and Development, the so called Earth Summit. It was stated that:

“In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental damage.”¹²

The formulation with the typical three negatives, “lack of scientific information shall not be used to not take measures” is quite common in various versions of the precautionary principle. The Commission did issue a communication in 2000 illuminating the PP under European Law. This communication was issued in response to the numerous cases brought before the European Court of Justice involving the PP. The communication gives general guidelines as to when the PP may be invoked and which general rules apply, such as the proportionality of the preventative measures and the risk at hand, consistency, non-discrimination, the need to investigate costs and benefits, and a review of the measures in light of new scientific findings. Although it carefully avoids giving a definition, it does highlight its basic qualities. It is applicable in situations of scientific uncertainty where there are risks threatening the environment or population groups and it may compel the reversal of the burden of proof that an activity or product does not cause harm.¹³

While exact definitions vary and the precise obligations imposed remain unclear, the essence of the principle is apparent. Arie Trouwborst considers that the PP’s

11 Freestone & Hey 1996, p. 5.

12 Freestone & Hey 1996, p. 3..

13 Commission of the European Union, COM2000, 1, p. 14, 16, 20/21.

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maxim can be summarized by the phrase “*in dubio pro natura*.”¹⁴ Pieterman describes it as “first do no harm.”¹⁵ In practice it comes down to ensuring the use of clean production methods, using comprehensive methods of environmental and economic impact assessment, conducting scientific research into long-term consequences and developing legal, administrative and technical means to ensure the implementation of a precautionary approach.¹⁶ Charles Vlek also notes that it involves an analysis of credible worst-case scenarios and the inclination to take a cautious or “pessimistic” decision about a provisional course of action.¹⁷

It is important to note that the PP does not often stand alone, but operates together with a number of other principles within a certain environmental legal framework. Principles play a strong role in environmental law in general and we may note a number of other principles that govern environmental policy.¹⁸ The precautionary principle marches in step with other principles and taken together they form a framework within which environmentally sensitive activities are governed.

2. The Precautionary Principle in Ulrich Beck’s thought: main thesis

When commencing an exploration of the PP as a legal doctrine, the work of Ulrich Beck comes to mind because the risk society seems to be the principle’s natural habitat. Beck, however, did not discuss the precautionary principle per se. He did make some comments about it, but they are sparse and sketchy. He approvingly cites French philosopher Francois Ewald when he mentions the precautionary principle and subsequently states that the boundary between hysteria and rationality becomes blurred. However, when he gives an example of – in his eyes – problematic precaution and hysteria, he cites the war in Iraq. He associates this war with the PP because it was considered to be necessary to prevent the use of supposedly available weapons of mass destruction.¹⁹ Sørensen and Christiansen analyze this remark as an admonition that trying to avert catastrophe through precaution may have catastrophic consequences itself.²⁰

However, the most important form of the precautionary principle is as an environmental principle. In Beck’s work, environmental risks caused by technology play a prominent role and he seems to be less averse to curbing technological risks. With little to go on therefore, I will develop my analysis according to the line that I think follows convincingly from Beck’s analysis of current society. I consider that the precautionary principle, its emergence and its application fit rather neatly in Beck’s description of reflexive modernization. To investigate this

14 Trouwborst 2005.

15 Pieterman 2008.

16 Freestone & Hey 1996, p. 13.

17 Vlek 2009, p. 139.

18 For a discussion on a number of environmental principles see Beder (2006).

19 Sørensen & Christiansen 2013, p. 89.

20 Sørensen & Christiansen 2013.

claim and its consequences for our appreciation of the PP, it is necessary to dwell on this concept.

2.1. *Reflexive modernization*

In his most celebrated work, *Risk Society, Towards a New Modernity*, Ulrich Beck coins this term to indicate that in current society, the concept of modernity became a problem for itself. He means that the process of modernization has reached a point at which the awareness of the negative side effects of it emerge in social consciousness. These side effects take the form of technological and man-made risks. Social conflict will erupt over the division of these risks and over questions of the attribution of blame. The resulting “risk society” gives rise to a number of paradoxes. One of the most pressing ones is the role of science. Beck’s ideas on this topic are directly relevant for understanding the nature of the precautionary principle because it is conceived to address situations of scientific uncertainty.

Beck criticizes the positivist discourse of scientific rationality.²¹ Science provides the main frame through which to communicate risks, but also obscures them by providing mostly numerical and abstract accounts. It declines to offer a concrete interpretation of what a certain (environmental) risk may mean for specific groups in society. Nonetheless, environmentalists and other pressure groups challenging the status quo can only criticize the products of scientific rationality by applying the same positivistic and “scientized” frames.²² The result of this is increasing self-criticism within the scientific community and awareness of the limits of scientific knowledge.

Critical scientific disciplines, like sociology of science, have successfully used this to critique scientific rationality on its own terms, fostering a thoroughgoing skepticism. The critical anti-dogmatic scientific attitude was successfully applied to its own dogmas. As Beck puts it: scientific principles “carry within themselves the standards for their own critique and abolition.”²³ For science this is both a burden and a boon. It is a boon in that science could shed its dogmas and quasi-metaphysical underpinnings. It allowed for a more free and adventurous form of scientific practice.²⁴ However, the price it has had to pay was a decline of its authority. The perceived distance between expert knowledge and laymen’s experience became smaller.

Moreover, science is becoming aware of the negative side effects that scientific and managerial rationality have created. Since the risks of modern society are generally not easily perceivable, they are made plain through scientific discovery. Therefore science increasingly focuses on the detection of possible problems and

21 Discourse is not a term Beck uses, but I think it is apt to use it here. I use it here in the way that is common among sociologists as a mode of speech in which states of affairs become articulated in a specific way.

22 Beck 1992, p. 161.

23 Beck 1992, p.164.

24 Beck 1992, p.162.

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threats. Solutions to the problems created by what Beck calls “techno-scientific development” need to be solved by scientific means as well. The utilization of scientific knowledge in industrial applications creates problems, but science also provides the conceptual and cognitive apparatus to perceive and explore these problems. This situation causes a continuous loop of problem creation, problem detection and problem solutions, which in turn creates its own problems again.

Both the continuous coupling of problems caused and solved by science and the increasing self-critical attitude among experts undermines the legitimacy of scientific claims. This situation leads to one of the most pressing anomalies of modernity. Technoscience is at the same time the cause of risk and its solution. Within reflexive modernization science gives rise to uncertainty instead of certainty: “living and acting in uncertainty becomes a kind of basic experience.”²⁵

A similar reflexive transformation occurs in the political sphere. Beck points out that the line between scientific development and political deliberation becomes blurred. In industrial society techno-economic production was considered a non-political sphere. Technology meant progress and progress meant higher standards of living. Technological development was considered a good in itself with no other effects than improving social well being and therefore it managed to remain out of the processes of every day political deliberation. Shielded from demands of political legitimation, the processes of rationalization remained separate from the process of democratization. The political direction of society was decided within the institutions of democracy, while innovation and production processes were devised within the techno-economic sphere, unhindered by political meddling.

This demarcation of spheres of influence becomes lopsided within the risk society.²⁶ Technological development itself becomes the main driver of social change, and debates on human and cultural development have entered the boardroom through decisions on product standards, safety margins and the width of application of new hitherto unknown technologies such as genetic engineering. These decisions are often made through processes of corporate self-regulation and the public demands transparency, reacting with anxiety to the new situation. It does not know the magnitude of the risks it faces and calls for their curtailment. In response, the institutions within the sphere of traditional political legitimation try to gain influence over the decision-making structures within the techno-economic sphere. The corporations in turn try to retain their traditional shield against government interference and the calls for democratic legitimation. The result is that what is called a non-political sphere wields decisive political influence, but is also faced with calls to open itself up to public scrutiny. Beck coined the term ‘sub-politics’ to describe this reversal of roles.

Beck does not describe similar tendencies in the sphere of environmental and other law, but also here reflexive tendencies take place. Environmental pressure

²⁵ Beck 1994, p. 12.

²⁶ Beck 1992, p. 184.

groups are inclined to take the authorities to court if they make political decisions that these groups disagree with.²⁷ In many of these technical dossiers, administrative courts need to rely on experts. They are confronted with a reality that neither they nor the public fully understand and face public pressure to make sure the activities they permit are not harmful. In environmental cases in the Netherlands, for instance, this has led to the judiciary demanding more detailed assessments of environmental risks from the administration to justify decisions with potential harmful environmental consequences.²⁸ This situation leads to similar reflexive loops as discussed above because the involvement of the judiciary in politically precarious cases means that legal decisions are under increasing public scrutiny and elicit more critical media attention. The courts have to rely more heavily on experts and this will raise the standards of scientific evidence to make sure no harm is done. This reliance on experts and quantitative frames increases transparency, but also public anxiety and political controversy when scientific reports become the object of criticism and doubt.

The increasing power of supranational courts and supranational law exacerbates this tendency because they cause the role of the judiciary vis-à-vis the administration to change.²⁹ Top down regulations have giving way to more horizontal methods of steering because of the inherent limitations of bureaucratization on the one hand and the current cross-border nature of social problems on the other. In the European Union, for instance, goal oriented directives, aimed at achieving a certain qualitative standard are gradually replacing more substantive regulations, leaving more space for the Member States to choose their own methods of implementation. Open norms and principles drive international environmental law instead of concrete prescriptions, especially in the environmental field. The judiciary is then called upon to flesh out these obligations. Their verdicts obtain more weight because European law has precedence over national legislation and an unwelcome legal interpretation by the national court cannot be amended easily by national legislation. Therefore the courts' decisions become increasingly contested due to the political interests involved. These tendencies imply that law meets the same limitations as politics and science do. Rights, regulations, scientifically based standards and jurisdictions conflict and are turned against themselves, calling for new methods to mitigate conflict.

2.2. Beck's answer to the demands of reflexive modernization

In his essay, "The Reinvention of Politics: Towards a Theory of Reflexive Modernization" Beck discusses his solution to the paradoxes brought forth by reflexive modernization. The main question is whether the uncertainty produced by the reflexive tendencies of the risk society can be tackled by using the means the

27 For the Netherlands, the cases before the highest Dutch administrative court regarding air quality in 2005/2006 come to mind (Arnoldussen 2016). The notorious Urgenda decision from 2015 also comes to mind, though not concerned with administrative law proper, it concerns the question of how much precaution the Dutch state is obliged to take into account.

28 Arnoldussen 2016.

29 Arnoldussen 2016.

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modern era offers us, such as the market, the state and technology, or that a new way of thinking is necessary that affirms the ambivalence and accepts its far reaching consequences.³⁰ Beck calls this second answer the reflexive answer to reflexive modernization.

There is no doubt that Beck prefers the reflexive answer: reflexive modernization can only be overcome through further reflexivity. The paradoxes that have been created must be affirmed instead of negated. In the sphere of science and technology that means that science's self-criticism should be utilized to bring techno-science under social and democratic control. The direction science and technology is taking is not even known by scientists and engineers themselves. Currently economic and military concerns are dominant, but these concerns should rank below aims democratically decided upon. To this end, Beck proposes that new mediating institutions concern themselves with the objectives of science and technology. Technology should become an official concern comparable to education in the 19th century and financed out of public money.³¹

Most importantly, in order to tackle major socio-ecological problems, old animosities and barriers must be overcome because they lead to paralysis. Traditional adversaries, such as consumer and environmental groups and polluting sectors of the economy should work together in devising solutions that may turn out to be favorable. Taken in this sense, the ecological crisis could be considered a gift in the realm of politics, because according to Beck it can provoke a revitalization of modernity since it resurrects heroic and helper roles.³² It forces new ethical commitments and may induce a new sense of optimism that has been lost. Admittedly these recommendations are more vague than those in the sphere of technology. Yet it is clear that he envisions a total resurgence of politics in society with the ecological question as a lynchpin.

Since Beck curiously enough does not discuss the legal field, he also does not give any recommendations in this regard. However, his way of thinking can be extended to law. I consider that it would lead to the following: instead of finding the one legally right solution, courts and lawmakers would need to seek the least contested solutions and solutions that least impinge on all the legitimate interests at play. Law giving and law application will no longer be the sole domains of the legislator or the court, but will become a participative affair between the parties involved. These would be the parties represented in the legal conflict, but also non-legal experts and representatives of social interests, communities etc. The open conflict displayed in the courts of law would be replaced by consensus-seeking mechanisms and decisions that are designed to prevent open conflict before it occurs, by involving a broad selection of stakeholders and thorough weighing of interests. In a risk society all experts, including legal ones, are aware of their fallibility.

30 Beck 1994, p. 12.

31 Beck 1994, p. 28.

32 Beck 1994 p. 52.

This could entail changing existing legal procedures from the current “winner takes all” adversarial approach to an approach in which the court acts as a mediator between the various stakeholders involved. Solutions are found through a process of prolonged stakeholder negotiations under the legal scrutiny of a court. The court would act less as a decision-maker, but more as a facilitator and as a guardian of the legal position of the various parties. The law becomes a tool with which conflict prevention and resolution becomes possible, without the legal spectacle and judgment of one party being considered “wrong” and the other “right”. The role of the lawmaker becomes that of a moderator,³³ and the court becomes a mediator that “steers” the litigants in the right direction.

2.3. *The precautionary principle and reflexive modernization*

In all the fields discussed above, the precautionary principle may play a part as a reflexive principle, that is to say, a principle that ensures that we do not turn a blind eye to risky activity, but that we take risks into account when making the political decision to allow or prevent a certain course of action. From the perspective of Ulrich Beck, supporting the rise of the PP in decision-making is understandable. The PP is designed to combat the risk that concerns Beck the most, i.e. wholesale ecological destruction. Its primary field of operation is environmental law. Moreover it shifts the burden of the creation of risk to those that produce it because the onus is now onto demonstrate that their innovations do not cause harm.

The precautionary principle is applicable under the condition of scientific uncertainty. This condition is rife in the risk society and therefore it does not cover up the ambivalences created by science and technology but rather aims to deal with them as a given condition of modern legal decision-making. The precautionary principle is political and takes a political stance. Risks are to be mitigated and the creation of risk is a socially undesirable activity. The phrase “*in dubio pro natura*” with which the precautionary principle was described above amounts to this political position; the interests of the environment and ecology should be given precedence over economic interests.

The precautionary principle is a reflexive legal principle because it forces the legislator to consider possibly harmful effects before it allows certain activities. Likewise it instructs the court to weigh interests in such a fashion that possible environmental threats are taken into account. It is a legal way to reflect scientific rationality back onto itself because, in order to prove that there is no risk, the same scientific rationality has to be used that created the potentially risky activity in the first place. The principle displays a keen awareness of the downside of technological progress and tries to harness the forces of science and technology in order to produce less risk instead of more. Moreover, precaution is not merely a legal principle. It is the legal centerpiece of a precautionary approach.³⁴ In this approach, risks should be minimized. Science, policy and law all have their place

33 Arnoldussen 2009.

34 Pieterman 2008; Ewald 2005.

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in this endeavor. Science should serve as an early warning system for previously unknown threats that may lie in wait. Policy should make early preventative action possible and if need be prohibit or dissuade certain risky courses of action. The law should help bring about ‘no regret’ policies and protect the population against threats that are uncertain. It is a way to keep the rampant development of techno-science and its concomitant creation of risk in check.

The PP is also indicative of reflection in the legal field because it acknowledges that neither the judiciary nor the legislator can foresee the consequences of all courses of action. The precautionary principle represents a guideline, or rule of thumb. Descriptions like “first do no harm,” or the conventional “scientific uncertainty should not be a reason not to take preventative measures,” are indications that it has its place in a weighing of interests. It favors the environmental interests at stake, but not unconditionally. It leaves the exact course of action open, but tilts the weighing of interests towards the environmental position. The precautionary principle is notoriously vague and ambivalent,³⁵ but from Beck’s point of view that may just be its main strength. It allows for deliberation on a case by case basis, taking into account both expert opinion and the laymen’s perception of risk. It offers opportunities to scrutinize the activities of techno-science and bring them under legal and political control. This fits with Beck’s desire to open up scientific and economic decision-making processes to democratic deliberation and transparency.

In one more sense it is eminently reflexive. The precautionary principle creates a “risk to risk.” Risky activities run the risk of being stricken with legal and political countermeasures. The concept of risk is applied to itself and therefore in a sense internalized within the activities of risk creators. Instead of only putting the public at risk, their activities run the risk of prohibition, incentivizing the internalization of precautionary measures in the processes of production.

I conclude this section by stating that, from the perspective of Beck, the emergence of the precautionary principle gives a reflexive answer to the reflexive challenges of the risk society. The precautionary principle is a step in an ongoing social learning process that passes from simple modernity via reflexive modernity to a new form in which the challenges of this modernity are met through increasing reflexivity. It provides a counterweight to the dominant economic rationale in which short-term interests too often take precedence over long-term ones and the rights of today’s citizens are accorded more weight than the rights of future generations. In the scientific, political and legal sphere precaution opens up space for new and more inclusive relationship between mankind and its environment that is less naïvely exploitative and more thoughtfully protective.

35 Marchant & Mossman 2004.

3. The precautionary principle in Foucauldian thought: main thesis

For opponents, the PP is not the outcome of a learning process but merely the legal manifestation of a culture increasingly obsessed with risk and bent on increasing the scope of governmental intervention in every day behavior of consumers and producers. They fear that the PP legitimizes numerous interventions on many terrains in order to alleviate potential threats and that it broadens the scope of policy makers to steer society. I argue that in Foucauldian terminology the PP together with other environmental principles should be seen as legal “technologies” of power by which subjects are guided to act in conformity with the ecological and economic needs of the state. In order to state this claim convincingly, we will turn to a discussion of governmentality and subsequently to a discussion of neoliberal governmentality, the type of governmentality found in late liberal society. The discussion is concluded by a review of a number of social and legal practices that illustrate that precaution is about more than environmental protection alone. It also serves the creation of new markets and increases the potential of administrative control throughout all social levels.

3.1. Governmentality

Michel Foucault developed the concept of governmentality in his lectures from the period of 1978 to 1979, especially in the course of a series of lectures called “Security, territory and population” and “The birth of biopolitics.” Some authors consider this neologism to be an amalgamation of the terms government and mentality, linking “modes of thought” to “governing.”³⁶

Foucault’s own remarks on how to define governmentality are rather scarce and sometimes seem mutually incompatible, but both explanations for the word given above come down to the same notion: governmentality is the totality of technologies and rationalities by way of which subjects are governed.³⁷ This definition of governmentality is inspired by the work of Miller & Rose. They identify two different aspects of governing, the rationalities of governing and the technologies of governing. They use a broad concept of rationality indicating the ways of rendering problems “thinkable in such a way as to be practicable and operable”.³⁸ In other words rationalities of government have to do with the ways in which social and other phenomena are conceptualized, discussed and judged. These rationalities come about within society through instrumental practices. These practical interventions constitute the concrete legal, medical, economic and cultural pendants of governmental rationality. Foucault refers to such practices as “technologies”. According to Miller and Rose, these “human” technologies are “assemblages

36 Lemke 2001, p. 191.

37 Governmentality is different from governance. Governance is a term from political science that is used in many ways but broadly indicates the multiple ways of steering people, corporations and countries (Levi Faur, 2012). It captures the ‘practical’ side of the term governmentality but is less concerned with the rational/ideological underpinnings of the ways of steering. In the concept of governmentality this moral component is crucial.

38 Miller & Rose 2008, p. 15–16.

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of persons, techniques, institutions, instruments, for the conduct of conduct”.³⁹ The notion of “the conduct of conduct”⁴⁰ is important in governmentality, because essentially it is about the way populations or other subjects start to organize and manage themselves in the way desired by the state. Only when subjects manage themselves in the right way can the goals of the state be realized in the differentiated and complex societies that emerged during modern times.

Essential to the notion is the broad meaning assigned to the term “government”. Government is not used in the narrow political sense in which it is predominantly used today. Instead, government refers to the broad range of ways in which various social groups and even things are managed and disciplined. It includes the “governing of children, families, domains, principalities and eventually oneself”.⁴¹ Foucault connects the emergence of governmentality to the emergence of the rationality of the modern state in the 16th century and first half of the 17th century.⁴² At that time a new economy of truth was formed around the question of how to govern well. In the previous age, the question on the limits of government was conceived as a legal question: by what right could the sovereign govern and what limits were set by law on governmental power? The question under consideration was whether a certain form of government was just. The question whether government is conducted well is an altogether different one. It is not a normative question, but one of result and output. Instead of right or wrong, government could be managed efficiently or clumsily.

3.2. *The market and the internal limit on governmentality*

In this sense, the notion of governmentality contains within itself a critique of government because the state aspires to conduct the conduct of its subjects, but should not interfere if it is unproductive to do so. A central tenet of liberalism is that state intervention may well have unintended and unproductive consequences and efficiency is gained through minimal state intervention coupled with a legal framework that ensures ownership rights and flow of commerce. Liberalism, according to Foucault, is a practice of governmental rationalization geared towards “the internal rule of maximum economy.”⁴³ The central question shifted in liberalism from how to govern to when to govern. Government should always concern itself with the possibility that its interventions lead to a loss of efficiency. In liberalism the state gradually withdrew and created spaces that manage themselves in principle without state intervention. Zones like private life, the market and civil society emerged through this withdrawal of the state and with the aim of maximizing efficiency through self-government. The state did not withdraw completely, but relied on mediating institutions that would take up the governance of these spheres, such as the church, philanthropic organization and trade unions.⁴⁴

39 Miller & Rose 2008 p. 16.

40 See also Lemke 2001, p. 191.

41 Foucault, in Rabinow 2000, p. 68.

42 Foucault, in Rabinow 2000, p. 68.

43 Foucault, in Rabinow 2000, p. 74.

44 Miller & Rose 2008, p. 17.

According to Foucault, and this is of great interest in our discussion on precaution, liberalism demands a balancing act of freedom and security. Foucault does not conceive the liberal state as a being freer than its predecessors. The liberal state regulates the freedom of its citizens to a significant extent. Rather, the liberal state is dependent on a number of freedoms to realize itself. It needs freedom of the market, freedom to buy and sell, freedom to exercise property rights, and probably freedom of organization and expression as well.⁴⁵ However, to realize these freedoms the liberal state must also regulate all sorts of things. Free trade presupposes that states stand on a mutually more or less equal footing, therefore hegemony of some states over others should be prevented. Free trade presupposes the existence of buyers and sellers, and so both categories must be created through assistance and subsidies. Monopolies must be prevented through competition law and a labor market must be created that presupposes qualified and politically disarmed workers who are adequately disciplined. All these requirements necessitate far flung legislative endeavors. Self-government may be an effective tool for government to achieve optimal efficiency, but to function it needed a battalion of disciplining institutions all described at length in Foucault's earlier work. It needed statistics, discipline, the human sciences and education.

Liberalism cultivated a sense of risk taking or "living dangerously," as Foucault put it.⁴⁶ The flip side of it is that under liberalism especially the working classes are in constant uncertainty about their means of existence since they do not own the means of production. Moreover, they are in danger of losing their productive power and therefore their income through accidents, illness and crime. This essential fear is allayed through a host of mediating institutions such as village life, churches, trade unions, and charity.⁴⁷ In this context Foucault speaks of a "culture of security" that is sustained by these institutions, but also by the state in the context of law and order. The state protects the working class from delinquents by organizing effective means of crime control and punitive sanctions. It also protects the health of its working classes through campaigns to eradicate illness.⁴⁸ The state according to Foucault is far from absent in a liberal state, but is present through creating the conditions for an effective market economy.

3.3. *Neoliberal governmentality*

The liberal market-oriented form of governmentality is refined and radicalized in neoliberalism. It is in this form of governmentality that I consider the articulation of the precautionary principle should be seen. Not only is the freedom of the market promoted, so is the culture of security that supports it.

Virtually all authors agree that a shift towards neo-liberalism took place in the last decades of the 20th century. From the perspective of governmentality, this shift is not merely a shift in political theory and policy. It is a transformation in

45 Foucault 2008, p. 65.

46 Foucault 2008, p. 66.

47 Miller & Rose 2008, p. 17.

48 Foucault 2008, p. 66-67.

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governmentality because a new type of governmental rationality started to hold sway, combined with a redeployment of the technologies of government.

Foucault locates the emergence of neoliberalism in discussions between German and American economists centered around the German magazine “Ordo” and the Chicago School in the US during the post war restoration period.⁴⁹ Economic growth became the central legitimation for state rule since narratives of identity, shared history and the benevolent state were discredited due to the experience of the world wars. Especially in Chicago School neoliberalism, all social action is conceptualized in terms of market transactions. This reconfiguration of policy, the state and society along the model of the market had major governmental consequences for late Western liberal societies. Miller and Rose, but also Thomas Lemke, have considered these consequences.⁵⁰ According to Lemke neoliberal governmentality rested on an epistemological shift in which the economy was not viewed as a social domain among other social domains, but it encompassed all other social domains.⁵¹ Economic discourse functioned as a kind of master discourse in light of which all other human efforts became discussed and assessed. Social relations as well as governmental practices were evaluated in economic terms, using economic concepts and should, normatively, conform to the logic of the market.

This neoliberal frame recasts the human subject as a rational human actor who conducts itself by basing its actions on rational prudence and economic cost-benefit analyzes. From such subjects the state may expect that they take responsibility for their choices and, in this way, the “classic” autonomous subject emerged again, much as it was presupposed in classic 19th century liberal law. This new form of subjectivity allows the state to engage in a campaign of passing on responsibility, absolving itself from being responsible for illness, unemployment and poverty, and shifting this responsibility onto social institutions like associations, families and support groups.⁵² This is known as “responsibilization.” In this context, Lemke discusses the American movement for “self-esteem,” which at the outset is about self-respect, but in fact triggers continuous self-assessment in terms of prudent and responsible living.

In addition, subjects are encouraged to regard themselves as entrepreneurs, selling their skills in the marketplace of employment. The boundaries between work and leisure time, and between one’s own personality and role within labor relations became blurred. The structures of production were optimized by a reconfiguration of labor relations in which one views oneself in economic and managerial terms.⁵³

49 Foucault 2008.

50 Lemke 2001.

51 Lemke 2001, p. 197.

52 Lemke 2001, p. 197.

53 Lemke 2001, p. 203.

Miller and Rose tease out a number of other implications of the shift towards neoliberal governmentality as distinct from the liberal state discussed above. First, the way expert knowledge is utilized is different. In the liberal state, expert knowledge increasingly started to dominate policy making. Through utilizing the legitimacy of expertise the state could “govern at a distance,” that is to say knowledge could be translated into concrete policy goals and these goals were subsequently legitimated by the scientific expertise that provided the findings. In this way, the social and human sciences were employed to form an effective and skilled labor force. In neoliberal governmentality, expert knowledge is more instrumental in character. It is mediated by the economic knowledge of management and translated in monetary and economic terms. In other words, scientific findings are literally accounted for in terms of costs and benefits. The goal of optimal efficiency also guides the targets of scientific research.

Secondly, the subject is recast as a customer. As noted above, individuals are invited to be enterprising and increase their quality of life by exercising free choice.⁵⁴ In this sense, the authors discuss a reconfiguration of insurance schemes. Insurance no longer embodies a principle of social solidarity, instead it acts on a principle of the privatization of risk management. Insurance against the hardships of life become a private affair and a matter of prudence. The subject is invited to calculate risks and optimize preventative strategies.

3.4. *The PP and neoliberal governmentality*

When dealing with the precautionary principle, the question becomes how it relates to the market and to the neoliberal social arrangements that cast social spheres as markets in their own right. Can the PP be related to a society in which subjects conceive of themselves as marketable commodities and that is supervised by regulatory organizations using soft law and discipline? My contention is that whereas neoliberal governmentality can be seen as a radicalization of liberal governmentality, the precautionary principle has its function in the same radicalization of the concomitant demand for security that characterized liberalism. In the liberal form of governmentality, the regulation of risk was necessary to ensure harmonious relations between labor and capital. In neoliberalism this is still a concern but the environmental predicament means that the relationship between nature and capital, and nature and labor also needs to be regulated in order to safeguard the free market. Therefore, just as liberalism legitimated far-flung governmental regulation of risk, neoliberalism legitimates the regulation of risk in a more radical vein: it legitimates the regulation of uncertainty.

Pieterman distinguishes between risk and uncertainty. Risks are calculable in the scope of their magnitude and chance of their actualization. We may accurately predict the risk of motorized traffic, for instance, through statistical means. The number of accidents is predictable. The same goes for plane crashes. In some cases either the magnitude of the materialization of a certain risk, or the proba-

54 Miller & Rose 2008, p. 214.

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bility of its realization are unpredictable. In some cases even both are. In the environmental domain many situations may have dramatic and unpredictable consequences, but we do not know what the chance of their realization is. We do not even know whether environmental conditions such as the existence of genetically engineered foods or nanotechnology constitute threats at all. The precautionary principle nonetheless demands the regulation of these uncertain threats.⁵⁵ According to Pieterman and Arnoldussen, the PP should be seen as a legitimization for a range of policy goals that all gravitate toward the imperative to protect the population against possible threats that are of an uncertain magnitude and nature, but that are feared nonetheless.⁵⁶

The threat that environmental problems pose to market relations legitimates the regulation of uncertainty, but the fading of the older institutions underpinning a liberal governmentality also does, as the following makes clear. The certainties of the liberal age, such as the church, the expert and communal ties, have receded in a globalized multipolar world that is highly dependent on technology that laymen do not understand. Moreover, subjects are constantly at risk in a society in which subjects are cast as market parties, but also as commodities themselves. They need to keep a constant eye on their “value.” Both these positions are volatile and therefore constantly threatened, creating constant demands for security. In order to function optimally, for instance, employees need to make sure they are in good health. That requires constant monitoring of their calorie intake. Thorough information on the properties of products is essential, as are high standards of product safety. Moreover, the expert systems within which neoliberal man conducts his daily business need a high degree of trust. Transport systems, but also digital infrastructure, need to run smoothly and without interruption. If they do not, society geared to optimal efficiency will cease to function. This uncertainty over health concerns and infrastructure partly explains why they have become the subjects of massive scares.⁵⁷ Indeed, for neoliberal man, “living and acting in uncertainty becomes a kind basic experience,” as Beck would have it,⁵⁸ not only because the institution of science is under increased pressure, but because his very life has become the subject of elaborate risk management. The precautionary principle provides regulators and legislators with a legal base to take the security measures it demands.

The precautionary principle fits neoliberal governmentality by increasing the possibilities of state intervention in answer to the real and imagined threats of an anxious public. However, within neoliberal governmentality, more is required of a legal technology than merely protection. It should also further market efficiency and the competitive position of the state. I consider that the PP does so by oper-

55 Pieterman & Arnoldussen 2008, p. 245.

56 Pieterman & Arnoldussen, 2008, p. 245.

57 Consider for instance the massive scare over the inclusion of horsemeat in packed foods in the Netherlands in 2015, or the “millennium bug” which was allegedly set to strike computers worldwide on 12-31-1999 at 24:00.

58 Beck 1994, p. 12.

ating along three lines, responsabilization, optimalization and control. These three notions are intertwined. Firstly, it is a mechanism to responsabilize and discipline private parties to take into account the needs of future generations. In this way, it may provide a mechanism to curb short-term thinking in the market. The precautionary principle is not a principle that only appeals to the legislators who may set norms and standards in a command and control fashion. It applies to producers of all kinds of risk individually. It invites a “thinking before one acts” approach and this approach can be internalized in safety regulations. The PP is a device that allows for long-term control of the unforeseen side effects of marketization, such as depletion of resources, pollution and the diminished emphasis on costly safety measures. Safety measures are a direct drain on efficiency in the short term and will be diminished out of concerns for competitiveness. However, in the long term these side effects may undermine the functioning of the market.

Secondly, the PP stimulates the creation of new markets and facilitates the protection of the markets of advanced liberal societies against developing nations.⁵⁹ In this field of application, it fits general “*raison d’etat*” by both optimizing productivity and by limiting competition with a public health or environmental justification in an era in which competition is proclaimed to be almost boundless. New and increased emphasis on safety means that new products need to be produced with new more stringent safety standards replacing the old. Moreover, when demand for safety becomes higher, a consumer base for these safer products is created. It also opens space for consultancy agencies and other employment possibilities in the sphere of safety and in this way creates the market-based answer to the anxiety felt by the neoliberal subject.

Thirdly, the PP is a way for the supranational governments “to strengthen [their] own position of power by catering to the public demands of safety.”⁶⁰ The PP legitimizes government control in the sphere of safety and security. Since neoliberalism needs public safety due to the inherent uncertainty within the system, the area of security is a big one. The PP is a way to justify far-reaching control measures and increase public trust in regulatory institutions.

Similar to the way that liberalism called for far-flung regulation to ensure market freedom, neoliberalism calls for regulation of uncertainty to counter uncertainties that the unfettered primacy of the market has brought about. Neoliberal culture developed in tandem with what Pieterman calls a culture of precaution and Furedi calls a culture of fear.⁶¹ The precautionary principle is its legal manifestation. It is a legal “technology of power” that is paradigmatic of the way we deal with risk in our modern day society.

Neoliberalism places a central emphasis on the free market as the legitimation and purpose of the state.⁶² In order to safeguard its smooth operation, not only

59 Veinla 2004, p. 186-187.

60 Purnhagen 2013.

61 Pieterman 2008; Furedi 2002.

62 Lemke 2001.

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the relationship between people must be regulated, but also the relationship between man and nature. Moreover, the thoroughgoing economization of social life creates anxious subjects that are continually striving to improve their value in market terms and stave off threats to that value. Public health and environmental wellbeing have become a prime concern of the population and even potential threats become classified as harmful and therefore the subject of state intervention. The state takes advantage of this situation because it increases its scope for oversight and control. It may intervene through direct regulation, but also by campaigns of responsabilization that ensure that the subjects themselves detect, avoid and if possible neutralize risk. This ensures the long-term operation of the market, the productivity and health of market parties, and creates new markets through the demand for a “risk industry” and innovations related to safer products and production processes.

4. Conclusion: Foucault versus Beck

The analyses of Beck and Foucault overlap in many respects. Both Beck and Foucault see in this late period of modernity a heightened preoccupation with risk and with security. What Foucault refers to as a “culture of security” and Beck calls the “risk society” is fundamentally the same social arrangement. Nonetheless, following a Foucauldian train of thought leads me to a much more pessimistic conclusion regarding the PP than an analysis along the lines of Ulrich Beck. It is not my intention to endorse one of these perspectives in this article, but to trace the differences between both lines of thought.

Among scholars of environmental law, the PP is generally viewed upon favorably. Dutch scholars such as Douma, Trouwborst and Borgers, defend the notion that the precautionary principle is a reflexive step forward in dealing with environmental risks.⁶³ Though their arguments are all different, they implicitly agree with the Beckian line of reasoning explained above: the PP is a step in a learning process. Finally we have come to terms with our reckless tendencies to create techno/environmental risks. A Foucauldian analysis of the PP as a neoliberal responsabilization device might make it much harder to swallow though. Many proponents of the PP would frown upon neoliberalism because it represents the primacy of the economy par excellence.

Can the perspectives of Beck and Foucault be reconciled in some way? Since both authors focus on security and both seem to be critical of current neoliberalist practice, points of convergence seem likely. However, their differences are far greater than their points of agreement. A thorough treatment of the implicit assumptions of Foucauldian and Beckian thought exceeds the scope of this article, though I intend to undertake it in a forthcoming work. A few points are conspicuous, though, and explain the skeptical outcome of a Foucauldian reflection and the optimistic outcome of the Beckian perspective. The remarks below are

63 Douma 2004; Trouwborst 2005; Borgers 2012.

sketchy but are offered to make clear why the disagreement between the two perspectives is fundamental and – by extrapolation – the disagreement between the proponents and detractors of the PP is a fundamental one as well.

Beck signals the vicissitudes and paradoxes inherent in the risk society. However, these paradoxes are presented as in need of resolution. Within the risk society the old offerings of the market, the government and scientific rationality do not suffice anymore, instead a new way that affirms the ambivalence needs to be rethought.⁶⁴ This alternative rationale generally consists of establishing broad participative stakeholder forums, increased public deliberation and increased care for risk mitigation. Beck leaves the possibility open that such a new way is possible. Throughout his works he proposes the necessity of this “new way.” He analyses modernity as an epoch that radicalized its conceptions of progress and efficiency, then ran into its limitations and apparent contradictions in the form of risk, causing modernity itself to turn inward and become reflexive.⁶⁵ In this sense his work is reminiscent of the analyses provided by the Frankfurter Schule, and stands in the same dialectical tradition. In this article I argue that the PP expresses this direction because it allows for governments to bypass expert judgment and take the public fears related to modern risks seriously. It represents a step in a social learning process in which we have learned how to control our propensities to create risks of large-scale environmental destruction.

From a Foucauldian perspective, social epochs do not follow each other due to an internal logic of radicalization and subsequent transformation due to internal contradiction. For Foucault, transformation is the product of discontinuity, rupture and the subsequent recombination of power relations. What separates Foucault from Beck is Foucault’s rejection of any kind of transcendental guarantee underpinning our social order. Within Beck’s analysis I discern an optimistic attitude towards man’s rationality, not only in the sense of his ability to find solutions, but in his ability to come to terms with social challenges within a field of democratic communication and dialogue. Eventually mankind has to overcome the risk society through curbing its destructive powers and, to do so, a politics of rational self-containment is necessary because incessant production of “goods” leads eventually to the production of “bads.” Foucault’s faith in rationality is more limited if not absent. The sciences work in the service of power and subjectification and social changes have no inherent necessity. In fact, deconstructing narratives of necessity and given postulated historical trajectories is the prime concern of Foucauldian genealogy.⁶⁶ Neoliberal governmentality is not a product of historical necessity, but the product of a certain discursive practice becoming hegemonic due to favorable environmental conditions. An analysis in terms of social learning processes, or a call to open participative deliberation is not warranted in Foucauldian terms. The precautionary principle and its emphasis of

64 Beck 1994, p.11.

65 For this treatment, see Beck (2007) Chapter 12, “The dialectics of modernity”.

66 Connolly 1998, p. 110

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prudence and responsibility is simply a device that reshapes power relations maybe, but does not in any way lead to a more restrained use of power.

The ontological differences between these authors go some way in explaining the different concerns the proponents and detractors of the precautionary principle raise. The proponents will enquire into the possibilities that precaution offers towards opening up public discourse on the production of risk. They see the power mankind is displaying in techno-economic progress as a threat to the environment that can be mitigated by a precautionary approach. The detractors are more concerned with the redistribution of power relations and fear that it becomes a device appropriated by the state and used in programs to subjugate individual autonomy to suit its interests.

Even though a reconciliation may not be in the offing, mutual understanding may be. The Foucauldian analysis makes clear why the objections against the PP raised by the detractors are valid concerns. Their comments are not only made because they are interested in freeing the market from environmental meddling. The PP might serve the neoliberal agenda of responsabilization. The analysis from Becks perspective shows that the possibilities of the PP should not be underestimated though. Proponents may show that the PP does not stifle innovation, but is itself a legal innovation. It promotes democratization and public involvement in safety policy. Both are equally valid points.

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