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Six selected Master's theses by College of Europe students

Guest Editor

Georges Mink, Titulaire de la Chaire de Civilisation européenne
Collège d'Europe à Natolin
Directeur de Recherche émérite au C.N.R.S. (ISP)

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INTRODUCTION

THESES

Introduction

Unless otherwise indicated directly in each article, the date of last consultation of the websites and webpages is 30 October 2022

De Europa et le Collège d'Europe à Natolin se lancent pour la quatrième fois dans la publication des meilleurs mémoires de fin d'études réalisés par les étudiants, cette fois-ci de la promotion 2021-2022 ayant eu pour patronne la juriste « Éliane Vogel-Polsky » qui s'est distinguée par son apport au droit social européen.

À chaque fois, il s'agit d'un échantillon de travaux qui se démarquent par leur qualité intrinsèque et par la diversité de leurs centres d'intérêt, avec un point commun : celui d'être réalisés dans le cadre du programme interdisciplinaire d'études européennes de Natolin. Ainsi, on bâtit ensemble un lien académique fort, une sorte de tradition d'échanges et de partage, contribuant à la consolidation de l'espace académique européen.

Le Collège d'Europe est une institution unique, composée de deux campus, à Bruges et à Natolin. Il fait partie d'un petit nombre d'institutions universitaires qui ont produit et continuent de produire un si grand nombre de spécialistes de l'Europe et de cadres européens. Ses tâches principales sont d'enseigner l'UE et, plus largement, l'Europe dans le monde. Pour ce qui est du Collège d'Europe à Natolin, ses marques de fabrique et d'excellence sont :

- s'appuyer sur une riche interdisciplinarité destinée à développer tous les angles des études européennes ;
- créer une culture et un savoir sur l'Europe ;
- former les futurs cadres européens, citoyens imprégnés des valeurs fondatrices européennes et fins connaisseurs de l'histoire européenne et de sa civilisation.

Les mémoires de fin d'année, dont nous proposons une sélection ici, sont une forme de couronnement des efforts consacrés à l'obtention du Master avancé en Études européennes interdisciplinaires au Collège d'Europe à Natolin. Ces travaux ont une visée académique, mais aussi pratique, en ce qu'ils proposent des solutions et des recommandations, lorsque cela est possible. En cela, ces travaux sont une manifestation de l'ethos citoyen européen. Les critères auxquels ils obéissent correspondent parfaitement à des normes de qualité communément admises, théoriques et empiriques. Ils se conforment aussi à une série d'exigences méthodologiques, déontologiques et épistémologiques. Ces exigences sont consignées dans une sorte de code de bonne conduite, mais font aussi partie d'un important bloc d'enseignement appelé « Séminaire de recherche », où sont enseignées toutes les facettes de la bonne conduite déontologique (notamment en politique d'anti-plagiat) et de rigueur épistémologique (prévention devant des erreurs logiques et des évidences ou des idées fixes).

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Il est important de préciser ici le cadre de ces travaux et le format que ce cadre impose. Les cours, les ateliers thématiques, les masterclass, les jeux de simulation sont enseignés par plusieurs dizaines d'enseignants ou de praticiens reconnus, réputés sur le plan international et venant du monde entier. Les abondantes activités extracurriculaires, comme les conférences internationales, les exposés des personnalités invitées, les débats thématiques, les sorties de terrain, complètent le contenu du programme interdisciplinaire. Chaque année, ce programme est mis à jour et adapté aux plus récentes évolutions contemporaines. Deux voies se dessinent devant les diplômés du campus de Natolin : ce sont surtout des études professionnalisantes ; mais un petit nombre de meilleur(e)s étudiant(e)s choisiront de poursuivre leurs études supérieures en s'inscrivant dans des cycles de PhD. Ils poursuivront ainsi, pour la plupart, une carrière académique.

La structure du programme fait que le format du mémoire de fin d'année dépend du temps dédié à l'exercice de la rédaction. Cependant, prévenus dès le début de l'année de ce défi, les étudiants choisissent leur sujet pratiquement dès le premier semestre et commencent à définir leur objet de recherche, lisent les travaux se rapportant au sujet à traiter, puis passent à la phase empirique. Cette dernière, forcément, ne peut être trop complexe ; car le temps pour la recherche empirique est relativement court. Cela n'empêche pas un recours fréquent à des entretiens préparés selon les canons des règles méthodologiques. On ne s'étonnera pas de constater qu'il s'agit, dans la plupart des cas, d'entretiens qualitatifs, semi-directifs. Le temps consacré à la vérification empirique des hypothèses de travail impose une méthodologie restreinte et bien contrôlée. Enfin, l'écriture finale intervient pendant les deux à trois mois de la fin du deuxième semestre, souvent en parallèle des activités incessantes et des cours du deuxième semestre. Et pourtant, malgré ces contraintes, un grand nombre de mémoires comportent des thèses innovantes, originales et prenant part à des débats intellectuels en cours.

L'échantillon des meilleurs mémoires que nous avons sélectionné donne une très bonne mesure et une riche représentation de la diversité des sujets choisis par nos étudiants, des objectifs ambitieux poursuivis, de l'élégance de l'écriture, du respect des normes et des règles en vigueur dans le monde académique, mais surtout du foisonnement d'idées inspirées par la qualité de nos enseignements. C'est une vraie gageure de bâtir une recherche qui n'a rien à envier par sa qualité aux travaux des étudiants qui consacrent, dans le cadre de Master 2, bien plus de temps à leur mémoire. Le choix de ces mémoires n'est guidé que par leur excellence. Au lieu de constituer un corpus thématique lié par un thème commun, ou une problématique analogue, ce corpus montre la liberté de choix de sujets dans leur grande diversité thématique. Le kaléidoscope des thèmes choisis recouvre aussi la pluridisciplinarité du programme de Natolin, ainsi que son caractère interdisciplinaire.

Parmi les travaux sélectionnés nous avons décidé de permettre aux lecteurs de De Europa de prendre connaissance d'abord d'une recherche mettant en lumière la

question des mobilisations sociales concernant un sujet « brûlant » dans l'UE. Sous le titre Les relations entre la Société Civile Polonaise et les institutions européennes face à la tentative d'une harmonisation du cadre légale de l'avortement à l'échelle de l'Union, Jade Jafrate aborde la problématique du genre, de la juridiction nationale concernant le droit à l'avortement, dans un pays membre de l'UE, en l'occurrence la Pologne, enfin la question de la tentative d'alignement sur une juridiction communautaire dans ce domaine. Observer les mobilisations sociales autour de ces questions en Pologne signifie se pencher sur une actualité mais aussi essayer de tirer des observations plus générales.

Un tout autre sujet de grande actualité est abordé dans le mémoire d'Antonino Matafù sous le titre YouTubers and Streamer : Labour conditions in the EU. L'ambition de ce travail est de décrire et analyser les lacunes existantes dans le champ social face aux nouveaux métiers, notamment issus de la sphère des médias sociaux. Une interrogation qui mérite d'être mise en débat, les hypothèses formulées par Antonino devraient contribuer à la mise en valeur d'un objet de recherche autant neuf qu'important pour le législateur européen. Comment légiférer sur ces nouveaux phénomènes de communication, comment protéger socialement les nouveaux métiers ?

Le sujet de médias sociaux étant particulièrement d'actualité, beaucoup d'étudiants le choisissent comme objet de mémoire. C'est le cas également de Álvaro Garrote Fuentes qui se penche sur The EU use of social media in crisis management. Point besoin de souligner que son interrogation est intéressante pour éclairer l'utilité de l'usage des médias sociaux dans les différentes politiques de l'UE, comme dans sa politique étrangère, dans ses aspects stratégiques comme face à des problèmes tactiques spécifiques. Le recours aux médias sociaux, comme le démontre l'auteur, facilite grandement la transparence, au temps des crises de gouvernance, et garantit la légitimité démocratique des organes de l'UE.

La pluridisciplinarité des choix des thèmes par les étudiants du Collège à Natolin s'exprime aussi par le choix d'une discipline, parfois étroite, pour approcher un sujet de première importance pour les politiques de l'UE. C'est bien le cas du mémoire de Christina Stuart : The biased deficit bias : exploring heterogeneities in discretionary fiscal policy choices in the EU and the assumption of a deficit bias. Ce quatrième mémoire tourné vers la fiscalité explore l'hypothèse du biais du déficit qui sous-tend une grande partie du cadre fiscal actuel de l'UE. L'originalité de cette recherche tient au fait que très peu de travaux existent pour l'instant sur l'influence du changement du contexte économique sur les règles budgétaires que s'impose l'UE. L'auteure explore ainsi des voies alternatives pour comprendre pourquoi le biais de déficit est plus accentué dans certains pays que dans d'autres, au sein de l'UE.

La richesse des préoccupations de nos étudiants va jusqu'à se confronter à des méta sujets liés à la méthodologie et/ou à l'épistémologie. C'est le cas du mémoire de Pierre Walckiers : The use of scientific arguments as a mode of justification. What place does it have in politics and law? A case study of EU GMO regulation. Avec ce

travail nous sommes en plein dans les questions des légitimations des politiques et de leur judiciarisation, exemplifiés par la question des organismes génétiquement modifiés (OGM). Il s'agit d'un sujet de première importance dans les débats écologiques actuels qui traversent l'UE.

Le dernier mémoire choisi, celui de Lorenzo Cornettone, relève de la philosophie politique : The trial of the prophet: the problematic relationship between Hegel and nazism. On pourrait croire que cette recherche nous éloigne de la centralité des questions liées à l'UE. Bien au contraire, cette réflexion, extrêmement stimulante et très savante, nous oblige à revoir, via le travail critique de Karl Popper de la pensée de Hegel (par exemple la question du communautarisme opposé au libéralisme marchand), notre vision de l'intégration européenne.

Voici donc une palette pluridisciplinaire et interdisciplinaire des meilleurs mémoires de la promotion Éliane Vogel-Polsky 2021-2022. Sa richesse comme sa qualité sont un témoignage de la vitalité des études européennes et du rôle du Collège d'Europe à Natolin. Ce dernier, en offrant aux étudiants de chaque promotion l'occasion d'exprimer leurs talents, leur savoir, et enfin, leur engagement européen, joue un rôle incontournable dans la formation sur l'UE et pour l'UE.

Bonne lecture,
Professeur Dr. Georges Mink

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The use of scientific arguments as a mode of justification. What place does it have in politics and law? A case study of EU GMO regulation

Pierre Walckiers

"You are a king, then!" said Pilate.
Jesus answered, "You say that I am a king. In fact, the reason I was born and came into the world is to testify to the truth. Everyone on the side of truth listens to me".
"What is truth?" retorted Pilate.
With this he went out again to the Jews gathered there and said, "I find no basis for a charge against him. But it is your custom for me to release to you one prisoner at the time of the Passover. Do you want me to release 'the king of the Jews'?"
They shouted back, "No, not him! Give us Barabbas!"
Now Barabbas had taken part in an uprising.
(John 18:37).

1. Introduction

Taken up by Kelsen, the "democratic tragedy" carefully crystallises the dilemma between 'Truth', politics and law. In this scene, Jesus seeks to uphold a divine truth (Kelsen 2004: 101-110; Lagi 2020:106) while Pontius Pilate relativises and leaves democracy in charge (John 18:37; Tiercelin 2019). Indeed, Pilate, free of any divine belief, can ignore any statement of Jesus Christ and let the people decide to condemn Jesus to death while sparing Barabbas the thief (Kelsen 2004: 101-110; Tiercelin 2019). The 'democratic tragedy' challenges classical theories of law: on the one hand, natural law will consider a rule valid if it conforms to divine rules, the laws of nature, or in any case, rationality (Kelsen 1949: 481; Kunz 1961: 951; Langford, Bryan, McGarry 2019:101). On the other hand, positive law is only interested in formal law and not in the content of the norm (social values conveyed, conformity with science or religion) (Druffin-Bricca, Henry 2009: 67; Kelsen 2004: 108).

According to Kelsen, even if a divine truth could exist, this truth has no place and would bow to the democratic decision (Lagi 2020: 106; Tiercelin 2019; Kelsen 2004: 101-110). In this way, Pilate acts according to the precepts of legal positivism, for only procedural or formal rules matter. Since he is free from absolute belief or conviction - that is, he is a 'relativist' - Pilate lets the people decide about Jesus' faith. On the other hand, Jesus Christ falls within the scope of natural law, because He holds a divine truth, and any other contrary opinion is irrelevant (Kelsen Lagi 2020: 106; Kelsen 2004: 101-110). Kelsen argues for legal positivism and relativism. This does not imply a posture denying the existence of values or truth, but rather to integrate the founding components of democracy (Lagi 2020: 95; Langford, Bryan, McGarry 2019: 462).

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Kelsen's democratic tragedy allows us to introduce a reflection on the place, authority, roles, and functions of discourses of truth in politics and law. This master's thesis will look at scientific narratives as discourses of truth and see how they fit into and are used in the legal and political spheres. We want to see how certain actors can claim scientific arguments as truth and authority to exert pressure in law and in politics. Latour had already worried that the use of scientific discourse - charged with understanding the world - would block and impose itself against any political or legal discussion - charged with regulating social life- (Latour 2004: 10; Latour 1993: 23). More specifically, we want to raise the way in which certain actors can invoke scientific arguments to impose 'objective' elements of fact in the debate and, in this way, refrain from discussing politically and 'subjectively'' these same elements (or, at least, their social consequences) (McGee 2015: 38; Latour 2013: 489).

In this way, the invocation of science in politics and law would correspond to a return to natural law (Druffin-Bricca, Henry 2009: 67; Viala 2010: 162). In fact, the rule would be valid if it is scientifically correct, not legally correct. However, the legal positivism perspective does not seem to be sufficient either. Indeed, legal positivism takes up the distinction between nature and objective science on the one hand, and objective law and politics on the other (Latour 2010: 198; Latour 2004: 18). The problem is not with the source of law, because law derives its legitimacy from the rules of law (not from nature). On the contrary, the problem with legal positivism comes from its ideological underbelly, which reinforces the narrative of an objective science, neutral and external to all political consideration (Hart 1958: 71; Latour 2013: 248; Conway 2012: 20).

In a transversal way, the narrative of a natural and objective science cannot possibly consider the multitudes of physical, social links between the object and the subject of knowledge (Haraway 2018: 33; Gardey 2013: 118) and must be criticised with regards to the normative temptation of 'knowledge-power' (Foucault 1980: 133; Foucault 1990: 93; Dreyfus, Rabinow 1984: 118). Furthermore, the modern separation of nature and politics seems to have become inadequate regarding 'hybrid' issues (Latour 1993:1-12). These 'hybrids' refer to 'object/subject' problems combining the need for a technical approach (without having scientific certainty) and having major consequences at the societal level (Latour 1993: 1-12; Latour 2004: 11; Gutwirth, van Dijk 2020: 123). For example, the proper use of scientific data can be found in the fields of vaccination and health policies, genome editing or within non-discrimination law (Papon 2020: 7-17; Stengers 2018: 3-22; Stengers 1993: 30; Stengers 2015; Shan 2020). In this work, we will look at the GMO event as a hybrid: studying the role of scientific discourse in legal and political regimes.

Finally, the problem that interests us is the reconciliation between, on the one hand, the authority of a discourse of truth (such as religion or science), which assumes an argument that is better than the others (Castoriadis 2005: 244), and, on the other hand, the values of positivist law (where a rule must be formally just to be legally just) (Kelsen 1989:44) and positivist democracy (where majority rule is sufficient for a law to be valid) (Kelsen 2004: 101-110). This project is challenged by the prin-

ciples of truth arguments (religious or scientific), which assert a superiority over any other register (Latour 2004:10; Latour 2013: 233, 283; Papaux 2009: 105). However, the idea of a 'better' or superior argument seems to be the basis of a communication ethic, and thus of democratic principles. According to Perelman, Olbrechts-Tyteca and Habermas, when one argues, one enters a certain register that presupposes a truth (or at least, a more rationally acceptable argument). This implies that the authority of one argument would be superior over others, even if all interlocutors are equal (Habermas 1986: 34; Perelman, Olbrechts-Tyteca 2008: 441; Cometti 2007: 19; Berten 1989: 87). Thus, whether from a divine truth or a scientific truth, the idea of a better argument persists: gods have not completely abandoned us.

2. Research Questions, Approach, and Methodology

The research questions (RQs) are the following: What roles, functions and risks are involved in using a scientific argument in politics and law? (RQ1). Without questioning the importance of the place of scientific arguments in these debates, RQ1 will seek to understand how a scientific message (although it may include uncertainties, conflicts of interest, gender biases, etc.) (Papon 2020: 61; Haraway 2013: 183; Latour 2015a: 27; Gutwirth, Christiaens 2015: 21) can be perceived as an 'objective' argument and will therefore impose itself in the face of all political and legal debates (which remain 'subjective'). While these issues are highly topical considering the current public health crisis (Papon 2020: 9; Latour 1984: 340), this article will focus on GMO regulation. Indeed, a second research question arises from this, illustrated by our case study: What are the uses of scientific arguments in the political and legal implication of GMO regulation? (RQ2).

The first research objective (RO) is to clarify the scientific public debate and to establish limits for the use of scientific arguments to prevent them from being (mis)used for political or legal purposes (RO1). This contribution will propose to illustrate these theoretical questions through a case-study analysis of the regulation of GMOs in the European Union. In particular, the 2018 ruling of the Court of Justice (CJEU) is particularly significant, as it links New Breeding Techniques (NBTs) (CJEU 2018) to the legal regimes of GMOs (and goes against the opinion of some actors, claiming a scientific truth). A second research objective will therefore derive from this case study, namely, to provide a comprehensive and coherent analysis of the regulation of NBTs since the CJEU (RO2).

The hypotheses are as follows: first, whether in general or applied specifically to GMO regulation, the actors involved in public deliberation will mobilise scientific data to justify decisions and interpretations that would be convenient to them (RQ1, RQ2). The GMO regulation will be the case study to confront these hypotheses (RQ2).

In terms of methodology and structure, this article is divided into two chapters, with different objectives and approaches. Chapter one addresses a theoretical approach to present the interrelation between science, politics, and law. In general, this first chapter will propose an interdisciplinary theoretical framework combining the

philosophy of science and the philosophy of law to present how science should be integrated into politics and law and to apply it to my research material. *Primo*, philosophy of law is used because the interaction between science and law challenges both the theories of positive law and natural law (Corten 2017: 26; Ost 2007; 117; Ost, van de Kerchove 1989). *Secondo*, we will borrow from the philosophies of science the critiques of science in practice (Latour 2015a: 60) and the introduction of situated knowledge (Haraway 2015: 183; Cretu, Massimi 2020: 71) and knowledge pluralism (Cretu, Massimi 2020: 141). In a second step, our theoretical framework will be applied to a casuistic analysis (RQ2). Mixing legal technique (Corten 2017: 23; Kestemont 2018) and analytical legal theories technique (Corten 2017: 23; Kestemont 2018; Fordham 2004:91), we will apply the applications of principles and rules of legal interpretation in the EU to analyse the EU legal regime on GMO, before and after the judgement of CJEU of 25 July 2018 (Corten 2017: 26; Spranger 2015; Lenaert, Guiterrez-Fons 2020: 8; Bengoetxea 1993: 141-144). In addition, we will mobilise the sociology of law, legal technique, and analytical theories to study the role scientific arguments have played in the CJEU judgment and in the work to recast the GMO Directive (O1, O2) (Corten 2017: 22-45). In this case, the CJEU 2018 judgment is relevant to analyse the interaction between law and science (Latour 2013: 129; Gutwirth, van Dijk 2020: 127; McGee 2015: 184). The study of these relations is particularly important in the European Union, where the use of scientific/technical arguments to justify policies is common (Mérand 2021: 5-22).

3. The mobilisation of scientific discourse in the political and legal fields

In this chapter, we will provide theoretical elements for rethinking the interaction between science, politics, and law. First, we will discuss theoretical choices for a truth-in-construction path rather than a transcendental one (Section 1, RQ1). Then, it will be necessary to expose two movements to criticise the authoritarian claims of sciences: on the one hand, the relations between knowledge and power traced by Foucault and Haraway (Section 2, RQ1) and on the other hand, the critiques of science in action (Section 3, RQ1).

3.1 Truth under construction and regime of truth

We wish to place our reflections in the continuity of the philosophy of science which accepts the "truth under construction", the "pluralism of truth", and the "perspectivism of knowledge" (Cretu, Massimi 2020: 89; Latour Wooglar 1979: 30). This truth under construction can be claimed by following a set of regulated processes (Tiercelin 2011; Boghossian 2009). As a result, truth under construction is then opposed to the discourse of an external, divine, and objective truth (Latour 2004: 30). According to Latour and Stengers, the invocation of an unsurpassable and external scientific truth will have the effect of paralysing the political exercise, in the sense that it should only socially record the laws of nature (Latour 2004: 218: 235; Stengers

2018: 106; de Vries 2018: 99). On the contrary, if there is an objective character to science, it is derived from a scientific method (Chalmers 1976: 21; Feyerabend 1981: 5). Consequently, we arrive at a scientific consensus by the sum of the convergences of scientists according to coherent method and values (Papon 202: 44; Poper 1973). In this sense, the follow-up of a process and a method of construction and rectification allows us to relate to a scientific truth (Merton 1938: 321). In this sense, even though scientific truths and paradigm will be corrected in the future, we have good reason to hold them as true for the moment (Kuhn 1996:160; Stengers 1997: 43; Boudon 2011: 121-123).

In this respect, within the idea of a science under construction, there are great divergences between: on the one hand, the idea of a solid objectivity of the sciences by following their methods (Latour 2015a: 17; Shapin, Schaffer 2011: 37), and on the other hand, a relation of force and interpenetration between the sciences and their social, axiological, economic, or gender context (Haraway 2013: 21; Haraway 2018: 99; Barad 2007: 37). It is in this sense that "reality is not independent of our explorations of it" (Harway 2013: 21: Haraway 2018:99; Gutwirth, Christiaens 2015: 33; Martin 1991: 16; Martin, Schiebinger 1993), because there is a set of physical, natural and social constructions and links between the researcher and his/her knowledge (Haraway 2018: 99). In the same vein, Foucault does not consider truth as the result of a pure, objective, and disinterested knowledge (Foucault 2011; Thirion 2013: 180). Conversely, truth will vary according to the way it is socially constructed and disseminated (Foucault 2011: 90; Frydman, Genicot 2020). Knowledge is directly inserted in a power relationship and in a set of external determinations (Foucault 1997: 13; Foucault 2001: 2639; Thirion 2013: 181).

Still in this idea of truth under construction, another of Foucault's concepts seems essential to explain the ways in which a subject can access a truth. In *Le gouvernement des vivants*, Foucault proposes to follow an approach from the angle of "regimes of truths" (Foucault 2012: 91; Thirion 2013: 185). He defines the regime of truth as the corpus of rules and obligations that determine the procedures that individuals must follow to access a truth (Thirion 2013: 183; Weir 2008: 367). In other words, it is essentially a framework of action that has the effect of obliging individuals to relate to the truth in a specific way, according to predefined rules, and whose origin is not necessarily limited to the framework of action in question (Thirion 2013: 184).

Therefore, the concept of truth regime gives legitimacy to several types of truths (scientific truth, judicial truth, religious truth) because they are issued from several regimes of truths that can claim their truths (the regime of science, law, or religion) (Introna 2003: 235). This idea corresponds to the concept of truth pluralism, which inserts the singular and specific character of the scientific domain while conceiving a balancing with other truths and their contexts and their discourses (Lynch 1998). For Gutwirth, truth pluralism establishes a space for discussion and controversy between the different truths, without one wanting to take the place of the other (Gutwirth, Naim-Gesbert 1995: 57-58).

In contemporary societies, perhaps science is the main regime of truth (Gutwirth, Christiaens 2015: 30). Science defines its protocols for constructing truth and even provides mechanisms for arbitrating possible disagreements (Foucault 1981: 165, 179, 219; Gutwirth, Christiaens 2015: 25). In a nutshell, science is characterised by collective rules and practices aimed at producing solid, reliable knowledge that is rectified and rectifiable (Gutwirth, Christiaens 2015: 25; Latour 2010: 208). However, from Foucault's point of view, Science is only a special case of the regime of truth. In the case of science, the manifestation of truth is self-constrained and it aims to be as autonomous as possible from the influence of other regimes (i.e. law and politics). But in most cases, truth is not manifested in this way. It depends on the respect of a set of obligations that are not articulated on themselves, but rather involve other types of regimes. With this articulation of truth regime, it is possible through a particular truth regime to exert legal, moral or political pressure from another truth regime (Thirion 2013: 188). Moreover, we believe that the articulation of truth regimes is mutually reinforcing and justifying. As an example, Foucault shows that the patient incarcerated in a psychiatric clinic finds himself in an articulation of regimes of truths (regime of the institution in charge, economic constraints of the policies, psychiatric understanding of his illness, legal regimes concerning him, etc.) (Foucault 2013: 213; Long 1992: 119).

For some of the cases between science, politics and law, which we will call 'hybrid', the problem lies not only in the specificity of one regime, but also in its articulations with other regimes. For Foucault, this is the expected benefit of the new method, the place for the development of a new knowledge: that which concerns the intersection between different regimes of truth and power and which are part of a larger complex of power-knowledge (Frydman, Genicot 2020: 4; Wetherell, Taylor, Yates 2001: 12-81). Finally, the truth regime approach allows us to link the idea of a truth under construction and the interaction between disciplines (law, politics and science). Having set out our methodological choices, we will in the next section take up the risks between the relations between knowledge and power.

3.2 Relationship between knowledge and power

Our reflections on the integration of scientific narratives in politics and law aim to anticipate an authoritarian claim of science considering the relationship that science can have with power.

In this case, Foucault had already pointed out that the wills of knowledge contain relations of power and domination (Foucault 2004: 616-622; Foucault 2011: 114). In a way, discourses are strategic elements of power relations, among which knowledge discourses take a strategic place (Foucault 1994: 465). For him, knowledge and power are linked by systems of co-ownership, accumulation, communication, information forming "power-knowledge" (Foucault 2004: 231; Foucault 2011: 114; Favreau 2017: 147-199). As part of a *genealogy of knowledge*, Foucault repositioned power-knowledge as the result of a particular process of enactment by which the individual en-

gages in an active inquisition of knowledge (in a disciplinary dimension) (Foucault 2004: 1495); Foucault 2011: 3-19; Frydman, Genicot 2020: 5; Thirion 2013: 181). In *Surveiller et punir*, Foucault notes that disciplinary power has constructed new tools of knowledge/power such as the examination and the norm (Foucault 1975: 260; Thirion 2013: 183-184; Frydman, Genicot 2020: 6). On the one hand, the norm becomes an anonymous authority, defined as the nature of things (Angenot 2013: 124), inscribed in all spheres of society (scientific, moral, legal) and acting in parallel to strict criminal law (Frydman, Genicot 2020: 7-8; Foucault 2011: 122). According to theories of global law, this process of normalisation, justified by a science, has a normative and dominating dimension, while not being part of law in the strict sense (Frydman, Genicot 2020: 7-8). On the other hand, examination is a process that seeks and constructs truths (present and not past) and seeks to return the subject under examination to normality (Thirion 2013: 184). In this way, normality is established from an accumulation of knowledge and regulates the abnormal individual (Angenot 2013: 126-130). These techniques examine the subject according to his degree of abnormality to bring him back to the norm in a logic of continuous surveillance (Thirion 2013: 184).

In connection with our reflection, this relationship of knowledge-power, domination under scientific justification and normalisation can be found in the fields of punitive medicalisation (Binet 2002: 197-219) and the regulation of deviants (André 2000; Angenot 2013: 126-130; Foucault 1999), in physical criminology (with the search for 'born criminals' or 'born prostitutes') (Rodler 2012), or in justification for eugenic, sexist and racist policies (Quichon-Caudal 2013: 8; Engs 2011: 332; Blanc 2020: 60), etc. Presented as "objective" and indisputable facts, it becomes worrying when law (especially according to legal positivism) will transcribe and emphasise these processes of domination into the social spheres (Supiot 2017: 8; Gutwirth, Naim-Gesbert 1995: 40).

This co-implication between power and knowledge was also incorporated by Haraway and mixed with critiques of the neutrality and exteriority of science. On the one hand, Haraway denounces the "modest witness" narratives of an external science that proceeds with gender, class and race exclusion (Haraway 2007: 316). Indeed, the "modest witness" is only received and validated by gentlemen, of the right nationality, white, chaste, able to certify the objective facts (Haraway 2007: 316). On the contrary, Haraway argues for an epistemology of situated knowledge and positionality in the sciences, as a condition for rational knowledge (Haraway 2007: 113, 126, 325; Charbonnier 2009: 163). Situated knowledge is part of a scientific pluralism where the scientist is invited to identify and acknowledge his or her biases in his or her perspectives and to avoid claiming a neutral and objective discourse on the world. On the other hand, in *Primate vision*, Haraway marks an interaction between the prescriptive and the descriptive in the natural sciences. In this case, the study of apes was used to explain and legitimise sexual difference within human society. In fact, scientific narratives are reintegrated to prescribe behaviour based on the interpretation of facts. However, these facts themselves take on meanings based on the narratives and values of the scientists (Haraway 1986: 79-81). Accordingly, Haraway warns

against a rhetorical strategy using a "biological law" as a vehicle for social domination, as it would be a discourse of values that hides behind a supposedly natural, neutral and objective norm (Haraway 1986: 109). This rhetoric borrows from natural law, as the rule should be aligned with the "just" or "natural" (Druffin-Bricca,& Henry: 67). However, as Viala points out, the invocation of "nature" makes it possible to impose certain values that one wishes to see imposed in society, whereas behind this idea of nature, reputed to be objective, there is always an arbitrary and subjective order (Viala 2010: 147).

In the end, Foucault and Haraway's perspective offers a critical approach to the co-implications between discourses of knowledge and power. Thus, this digression by these two authors serves as a warning when science is used as a mode of justification, as it could take on a normative dimension without being identified with politics or law. On a different note, our next section takes up critiques of the sociology and philosophy of science to rethink science in context or in action.

3.3 Critics of science in practice

This section will take up the work of Science in Action to deconstruct the grand narratives of modern science (which are dangerous when taken up in politics and law). As presented above, we are concerned about the instrumentalisation of a science defined as neutral and objective in the political and legal field. The science in action approach therefore offers an opening for alternative narratives on science that are more appropriate in democracies (Latour 2004: 18; Stengers 2018: 4).

We find in the accounts of modern science this 'great division' between science (upper chamber) and politics (lower chamber) (Latour 2004: 15; Latour 1993: 13-46; Prigogine, Stengers 1979: 75; Gutwirth, Naim-Gesbert 1995: 35). The natural world is then seen as objective and manageable (Prigogine, Stengers 1979: 63; Gutwirth 2001: 305-342), in which man is a scientist who has a right of reason over the world, because he is outside it and objective (Latour 2004: 19; Gutwirth, Naim-Gesbert 1995: 35). This "Modern Constitution" (Latour 1993: 136) proposes the object/subject separation as the epistemic principle for political and social organisation (Latour 1993: 136; Descola 2005: 122; Gutwirth, Naim-Gesbert 1995: 35). According to these accounts, science is presented as objective and independent of any political, cultural or moral values (Shapin, Schaffer 2011: 37; Gutwirth, Naim-Gesbert 1995: 19). The scientist is also outside society and escapes political discussions and power relations (Stengers 1993: 30; Gutwirth, Christiaens 2015: 26). His word is therefore indisputable, objective, direct and extra-political (*adequatio rei et intellectus*) (Gutwirth, Naim-Gesbert 1995: 35). Therefore, only scientists are competent to tell an objective and rational truth about their objects: they are the only ones who have a legitimate word about the world (Gutwirth, Naim-Gesbert 1995: 57; Gutwirth 1993: 93). In this sense, when we mobilise the narratives of modern science to justify our claims in the social world, we invoke a monopoly of universality, truth and fact (Gutwirth, Naim-Gesbert 1995: 56).

However, the narratives of "modern science" are not respected in practice on several levels. First, while the "Great Divide" seems to be clear on the science/policy dichotomy, scientists and politicians keep switching them around unofficially (Latour 2004: 98). According to Stengers, scientists can no longer ignore the hybrid interdependence between humans, their values, and their environment (Stengers 2018: 221-226). In this case, it rather invites to assume these interferences and that scientists can express their values and position themselves regarding their knowledge without their ethos being called into question (Stengers 2018: 16; Haraway 2007: 107-144; Latour 2015b: 295). Like Haraway, we argue for localisation and perspectivism in scientific discourse (Haraway 2007: 133).

These interferences between science and politics are more marked around "hybrid" problems which are marked by a scientific complexity, and which have a great societal impact (Latour 1993: 51; Latour 2004: 32). Certain subjects such as climate change, genome editing, public health policies, etc. constitute "hybrids" because they mix nature and politics, scientific uncertainties, and high societal impact (Servigne, Stevens and Chapelle 2018: 94). We can take up the concept of 'hybrid' in what some call "hyperobjects", the "divergent problems", or the "wicked problem" (Servigne, Stevens and Chapelle 2018: 94). Hybrids are the result of an incomplete "purification" between science and politics (Latour 1993: 51 Bourgault 2011: 75). This concept allows us to understand the links of redistribution between the different disciplines (Latour 2010: 205; Gutwirth 2020: 25). Indeed, when two regimes of action act to write the same object, this creates hybrids: this is the case of the GMO, which was characterised by the act of legal and scientific writing. Consequently, it will be argued that the legal GMO is not the same as the scientific GMO. Faced with these hybrid issues, it is no longer adequate to invoke scientific discourse as an objective truth that should impose itself on the social level.

Moreover, the idea of a world "in the laboratory" is no longer appropriate for hybrid issues (Gutwirth, Christiaens 2015: 32; Stengers 2018: 53). In this case, only the experimental sciences can provide laboratory evidence (Stengers 2018: 118; Stengers 1993: 102). The exercise has to be strictly controlled and the scientist has to stay away from the objects in the laboratory (Gutwirth, Christiaens 2015: 31). Only after being questioned in the laboratory (in the black box) can the objects studied be presented as "facts" (Latour 2004: 143; Stengers 2018: 48; Gutwirth, Naim-Gesbert 1995: 43). However, this mode of proof concerns only an exceptional segment of scientific production (Stengers 1997: 53) and is not exportable to other types of science (Gutwirth, Christiaens 2015: 33, 40; Stengers 2009: 86). This authority of science cannot therefore be invoked outside the laboratory, and even less so for 'hybrid' subjects: we cannot treat with the same degree of certainty GMOs in the laboratory and GMOs in cultivation (where we cannot have the same degree of mastery outside the laboratory) (Servigne, Stevens, Chapelle 2018: 94; Stengers 2018: 3; Gutwirth, van Dijk 2020: 131). Gutwirth points out that no serious scientist can attest to the safety of GMOs for health and the environment outside the laboratory. Worse still, if this scientist were to present GMOs as the means to free the world from hunger, this would be propaganda and not science (Gutwirth, van Dijk 2020: 132).

A final field of our critique concerns the consideration of the social context in which the scientific process moves. Indeed, it seems illusory to us to consider science outside of any social and economic context. On the contrary, it is advisable to think of this register as being interrelated with other registers: that of industrialists, the political context, funding or even gender, colleagues, etc. On this subject, we want to highlight the risk of instrumentalisation and blocking of science in politics. Taking tobacco as a case study, Conway and Oreskes show how some industrialists and economists have created false scientific controversies to maintain the status quo and discourage political positions (Conway, Oreskes 2010: 38, 189, 451). In the same vein, many academics are concerned that science (as a method for constructing truths) is being confused with its practical, industrial and economic applications science (Gutwirth, Christiaens 2015: 33; Stengers 2018: 49).

This can be seen at the internal level of science with the criticisms of the knowledge economy: on the one hand, science must respond to economic needs and is dependent on private funding; on the other hand, scientific practices in themselves are dictated by managerial practices (flexibility, conformism and opportunism are valued) (Gutwirth, Christiaens 2015: 39-49; Stengers 2018: 49). This criticism concerns the experimental sciences and its influence on other types of sciences (sociology, political science, law, etc.) (Gutwirth, Christiaens 2015: 42; Stengers 2018; 55; Gutwirth 2013: 108). Stengers and Bensaude-Vincent believe that these managerial techniques specific to fast science tend to weaken it on several levels: too much competition and pressure to publish, too much potential for manipulation, too much at stake for society, etc.(Stengers, Bensaude-Vincent 2003: 176).

Having outlined our theoretical framework (on truth in construction, the risks of the authoritarian dimension of science and their analysis in practice) (RQ1), we would like to complement it with a case study (RQ2). In our next chapter, we will therefore study the legal regime of GMOs as a hybrid illustration of the relationship between science, policy and law. In the end of this case study, we will suggest some ways of correctly integrating the discourse of science into law, by paying attention to "regimes of truths" and "modes of existence" (RQ1) (Funtowicz, Ravetza 1993: 739; Køniga Børsen, Emmeche 2017: 12).

4. Application of the theoretical framework: case study of GMO regulation

This chapter will present the case study of the EU GMO Regulation to illustrate our hypotheses on the relationship between law and science (RQ2). We chose GMOs because it is an "event" hybrid, marked by scientific controversies, and which shows great socio-economic implications (Stengers 2009: 38). Scientific uncertainties are marked by contradictory studies on the safety or otherwise of GMOs (Krimsky 2015: 883;

Bordonaba 2011: 734; Nicolia, *et al.* 2014: 77; Hilbeck, *et al.* 2015: 4; Krimsky 2015: 8837). Apart from that, GMO/NBT represent important economic considerations (especially for the agricultural and medical sectors) (EC 2021a; Brookes, Barfoot 2017: 156). These issues will become more important with the arrival of NBTs that make

gene editing easier, cheaper and more accurate (EC 2021b; Gutwirth, van Dijk 2020: 134; Schleissing, Pfeilmeier, Dümberger 2019: 181-196; Knott, Doudna 2018 688; Somsen 2018: 701; Rath 2018: 107). In contrast to older genetic modification techniques (randomly introducing undirected changes) (Sikora *et al.* 2011: 1), NBT allow the genome of a plant (or virtually all living organisms) to be modified in a precise manner (Menz *et al.* 2020: 130).

We will present the legal framework for GMOs in the European Union (Section 1, RQ2). Then, we will develop the case law of the Court of Justice of 25 July 2018 on the status of NBTs in relation to the legal framework of GMOs (Section 2, RQ2). We will conclude this section with a reading of this case law in terms of "modes of existence" (Section 3, RQ1).

4.1 The European legal framework for GMOs

4.1.1 Relevant legislation

The European regulation of GMOs is specified by Directive 2001/18 on the deliberate release into the environment of Genetically Modified Organisms (the "GMO Directive") (Directive 2001), Regulation (EC) 1830/2003 on traceability and labelling of GMOs (Regulation 2003a), Regulation 1829/2003 on Genetically Modified Food and Feed (Regulation 2003b), and other regulations for drugs, pesticides and other products (Dederer, Hamburger 2019: 143). As a shared competence, the EU is competent for the definition of the GMO Directive, the general regulation, the risk assessment methodology and the authorisation of GMOs, the conditions under which a Member State may ban a GMO on its territory, and the labelling of GMOs in food (Brosset 2012; Pignataro 2011; 361). Finally, the EU GMO regulations are also part of the international legal framework with, for example, the World Trade Organisation (WTO), the FAO or Cartagena and Nagoya Protocol (Dederer, Hamburger 2019: 145).

4.1.2 Definition

Article 2 of the GMO Directive defines a GMO as follows:

> means an organism, with the exception of human beings, in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination;
>
> Within the terms of this definition:
>
> (a) genetic modification occurs at least through the use of the techniques listed in Annex I A, part 1;
>
> (b) the techniques listed in Annex I A, part 2, are not considered to result in genetic modification; (Zimny *et al.* 2019: 56).

An essential point is that the definition is processual, as it focuses on the process and technique used rather than the final genetic material of the organism (Brosset, Noiville 2019: 197; Noiville 1998: 217).

The processual definition of GMOs is confirmed by Article 3(1) of the GMO Directive on exemptions, read with Annexes I A and I B. Indeed, Article 3(1) exempts from the obligations of bodies obtained by certain techniques/methods (Dederer, Hamburger 2019: 146; Gutwirth, van Dijk 2020: 125). Precisely, some techniques are included as GMOs and regulated by the directive (Annex 1A) while others are considered as GMOs but are exempt from these obligations (Annex 1B).

Since the GMO Directive, New Breeding Techniques (NBT) (or also called NGT) have diversified since the mid-2000s (Gutwirth, van Dijk 2020: 125; Brosset, Noiville 2019: 197). We define NBT as follows:

> Methods that allow for the development of new varieties in a faster and more precise manner than do conventional breeding techniques, by modifying the DNA of seeds and cells, allowing for a number of limitations of conventional breeding to be overcome (Zimny *et al.* 2019: 56).

The term NBT refer to a wide range of techniques and methods to genetically modify plants, animals or human embryos (Zimny *et al.* 2019: 56); Morange 2017: 30): RNAdependent DNA methylation, Zinc finger nucleases (ZFNs 1, 2, 3), Site-Directed Nucleases (SDNs), Oligonucleotide directed mutagenesis (ODM), Reverse Breeding, Intragenesis and cisgenesis, TALENs and, CRISPR-Cas systems (see definitions: Menz *et al.* 2020: 1-2; Whelan, Martin, Lema 2015: 253; Braun 2017: 90).

These new techniques can lead to three types of plants: the plants without modifications (Wild type), those with specific mutations in their genomes (SDN 1 and SDN2), and those with large insertions of exogenous DNA (SDN 3) (Menz *et al.* 2020: 2; Schaart *et al.* 2016 438). In a way, some techniques enrich classical transgenesis with new tools; while others (such as site-directed mutagenesis) are completely different because they do not involve the insertion of a foreign gene into the organism but focus on targeted regulation of the expression of one or more genes in that organism (Menz *et al.* 2020: 1; Brosset, Noiville 2019: 197). These new techniques can have multiple applications for the plant sector: tolerance against herbicides, fight against hydric and salinity stress, change of taste or volume and improvement of conservation (Zimny *et al.* 2019: 51; Brosset, Noiville 2019: 197).

These new techniques are developed within an old normative system, which leads to uncertainty and controversy (Menz *et al.* 2020: 2). Most legislation (national and international) does not explicitly refer to new genome editing techniques, considering the novelty and diversity of these products (Menz *et al.* 2020: 2; Hartungand, Schiemann 2014: 742). Most regulations in this area refer to the commercialisation of conventional GMO (Menz *et al.* 2020: 2-3). Several controversies have emerged as to whether NBTs fall within the scope of EU legislation (Menz *et al.* 2020: 11-13; Eriksson 2018: 358). Before the Court was asked to rule on the issue in 2018, several legal controversies were raised about the legal status of these techniques (Menz *et al.* 2020: 11-12). At stake in the classification of regulated or unregulated GMOs is whether these techniques will have to undergo numerous and rigorous assessment and authorisation procedures, which will hinder their placing on the market (Zimny *et al.* 2019: 56; Lusser *et al* 2011).

4.1.3 Obligations of the GMO Directives

The GMO Directive lays down several obligations, with a threefold objective: to ensure safety for human health and the environment, the free and informed choice of the consumer of GMOs and the harmonisation of EU market (article 1, recital 4-11; Zimny *et al* 2019: 51). The Member State is responsible for the authorisation/notification of contained GMOs and field trials at the national level (Dederer, Hamburger 2019: 143). The authorisation is done at European level for the placing on the common market, in a process that involves the Member States and the EU institutions (Dederer, Hamburger 2019: 143).

In illustration and on food GMOs, a company must submit a scientific assessment to the national authority of its Member State for the marketing of a GMO (art. 5§5 Regulation 2003a; Dederer, Hamburger 2019: 143). The applicant provides a scientific assessment containing all available and relevant information on the risks to human, animal and environmental health (Dederer, Hamburger 2019: 143). This EU application is forwarded to the European Food Safety Authority (EFSA) which will carry out the health and environmental risk assessment (Zimny *et al.* 2019: 51; Dederer, Hamburger 2019: 143). During this evaluation procedure, the public is informed via the Commission's website and national bodies can send their comments (Zimny *et al.* 2019: 51-54). Finally, the Agency publishes safety assessment reports on GMOs and guidelines on the methodology for the assessment of applications for authorisation of GMOs to the Commission and the Member States (EFSA 2022). National forums are invited to submit their comments on GMOs during the evaluation periods.

Based on the EASA's opinion, the Commission presents a draft decision to the Member States, which vote on it by qualified majority (Zimny *et al.* 2019: 51). If the draft does not receive the necessary votes, the Commission takes the final decision (Zimny *et al.* 2019: 51). The authorisation is limited to ten years, renewable after a new evaluation (Regulation 2003a, art. 7). They are then subject to traceability, labelling and monitoring requirements (Dederer, Hamburger 2019: 143). To this end, the Commission is listing all GMOs with marketing authorisation in a database (Dederer, Hamburger 2019: 143). Although these GMO products must be labelled, there are some notable exceptions: products with less than 0.9% GMO content, or animal products fed with GMOs (Zimny *et al.* 2019: 51; Regulation 2003a, art. 7).

After the authorisation, a monitoring (both GMO Variety-specific and general) is mandatory (GMO Directive art. 23, 26; Zimny *et al.* 2019: 51). Initially valid throughout Europe, a Member State may adopt a measure to restrict or temporarily introduce the cultivation of a GMO on its territory based on new information concerning the risk to human health or the environment (Zimny *et al.* 2019: 51). In this case, the need to maintain these measures is examined at European level (GMO Directive art. 23, 26; Zimny *et al.* 2019: 51; Dederer, Hamburger 2019: 144-145).

As detailed here, this regime is complex and restrictive (RQ2). Indeed, under EU regulation, a GMO must undergo a rigorous safety assessment to be approved. As a result, GMO approvals are lengthy and costly in many countries. In the European Union, the procedure costs around 11-17 million euros and takes on average 6 years (Zimny

et al. 2019: 51; Menz *et al.* 2020: 2; EuropaBio 2019). In addition, most Member States have restricted or banned cultivation on their territory for biosafety reasons: only Spain and Portugal still cultivate GMOs (Menz *et al.* 2020: 2; ISAAA 2019). The CJEU judgement of 25 July 2018 will address these obligations, and whether they apply to NBTs.

4.2 The judgement of 25 July 2018 and the cases of NBTs

There have been several debates as to whether the products obtained by these NBTs fall within the scope of the obligations of the GMO directive (Gutwirth, van Dijk 2020: 123). Delivered in the Grand Chamber on 25 July 2018, the ruling of the CJEU *Confédération paysanne*, answers a preliminary question from the French Conseil d'État, concerning the scope of this derogation from the obligations laid down in the GMO Directive (CJEU 2018; Gutwirth, van Dijk 2020: 123; Vives-Vallés, Collonier 2020: 1813). The initial request did not focus on NBTs, but on certain herbicide-resistant crops obtained by mutagenic techniques (in the broad sense) (Vives-Vallés, Collonier 2020: 1813; Purnhagen *et al.* 2018: 799). However, as recognised by the Conseil d'État, the conclusions of Advocate General Bobek and the judgment itself, the judgment has a wider scope (on GMO regulation) and concerns all kinds of NBT (CJEU 2018 §21; Vives-Vallés, Collonier 2020: 1815). For some academics, this broader scope has led to a certain exaggeration of the scope of the judgment (Vives-Vallés, Collonier 2020: 1815; Wanner *et al.* 2019: 90).

4.2.1 The Parties' Argument

The ruling was initiated in 2015, when the not-for-profit organisation *Confédération Paysanne* (along with eight other organisations) called on the French Prime Minister to ban the cultivation and sale of herbicide-resistant varieties created through genetic engineering techniques (*in casu* mutagenesis). First, as far as the applicants (Confédération paysanne) are concerned, they are acting against organisms obtained via mutagenesis, which they see as "hidden GMOs" because their unclear status has exempted them from the obligations of the directive (CJUE-AG 2018 §21, 27; Brosset, Noiville 2019: 197). They point to the health and environmental risks of mutated varieties (CJEU-AG 2018 §21-27). For the defendant (the Minister of Agriculture), the pleas are unfounded, since the risks arise from the farmers' practices, rather than from the product itself (CJUE 2018 §20-21; CJUE-AG 2018 §55; Brosset, Noiville 2019: 1997). Furthermore, the Minister argues that mutations obtained by the new techniques of directed mutagenesis result in a product (outcome) like other products whose mutations would be spontaneous, random or unintentional (and that this could be eliminated during varietal selection by crossbreeding techniques.

4.2.2 Questions before the Court

Although the Conseil d'État put 4 questions to the Court, in essence, the questions asked led to a double reflection: on the one hand, it is mainly a question of

whether these new mutagenesis techniques fall within the scope of the directive? Therefore, are organisms produced by mutagenesis techniques exempt from the obligations of the directive (under Article 3 and Annex IB)? The Court will answer that organisms obtained by mutagenesis are GMOs within the meaning of the directive and that they cannot benefit from the exemption (CJUE 2018 § 54; Gutwirth, van Dijk 2020: 131). Hence, the Court of Justice held that "organisms obtained by means of techniques/methods of mutagenesis constitute genetically modified organisms within the meaning of that provision" (CJUE 2018 § 86), as the directive must include organisms from the different techniques existing at the time of its adoption. Other subsidiary questions were put to the Court, but the answer to the first questions rendered them obsolete (Garnett 2019: 4; Brosset, Noiville 2019: 197).

4.2.3 Opinion of Advocate General

The solution presented by the Court goes against the opinion of its Advocate General (AG), which is not frequent (Craig, de Búrca 2015: 61). In his opinion, the AG proposes a literal and express analysis of the GMO directive (CJUE-AG 2018 §56; Gutwirth, van Dijk 2020: 125; Vives-Vallés, Collonier 2020: 1816). Indeed, it will first address the generic definition of GMOs in the Directive (Article 2§2) and then its exemptions (Article 3 and Annex IB).

The AG will first qualify organisms obtained through mutagenesis as GMOs within the meaning of the directive, since they meet the material criteria set out in Article 2§2 of the GMO Directive (CJUE-AG 2018 §54, 57-67; Gutwirth, van Dijk 2020: 125; Garnett 2019: 4).

As regards exemptions, the AG considers that the directive is clear: Annex 1B exempts all mutagenesis techniques "on condition that they do not involve the use of recombinant [desoxyribo]nucleic acid molecules" (rDNA) (CJUE-AG 2018 § 56, 78-79; Gutwirth, van Dijk 2020: 125-126; Garnett 2019:4). Since this is the case for NBTs that do not use rDNA, the AG considers that they should benefit from the exemption (CJUE-AG 2018 § 85; Garnett 2019: 4). On the basis of a strict and literal interpretation of the GMO Directive, Advocate AG considers that the scope of the exemption should not be restricted by criteria other than those already laid down in the Directive (i.e. the use of rDNA) (CJUE-AG 2018 §79-80, 101-105; Gutwirth, van Dijk 2020: 125, 133). Indeed, it will reject other distinguishing criteria that would restrict the scope of the exemption (and thus extend the scope of the GMO Directive's obligations). Firstly, the AG considers that the exemption also covers techniques which emerged after the date of adoption of the directive (CJEU-AG 2018 § 87; van der Meer *et al.* 2021: 1). In his view, the requirement in Annex IB for the use of rDNA is an indication of the legislator's intention to integrate technological developments (CJEU-AG 2018 § 81). Secondly, the AG considers that the precautionary principle alone does not justify a restrictive interpretation of the scope of the exemption (CJEU-AG 2018 § 88). Earlier in his observations, he recalls that the precautionary principle allows the different actors (Member States, the Commission or companies) to adopt provisional meas-

ures (non-discriminatory, objective and proportionate) to *prevent* the real consequences of the alleged risks from becoming fully apparent (CJEU-AG 2018 § 48-51). However, this precautionary principle does not apply to hypothetical risks and evidence of the risk should be provided (CJEU-AG 2018 § 49). In essence, the AG considers that there is not enough knowledge to prove that NBTs pose a risk to health and the environment, and that the precautionary principle does not justify additional measures (CJEU-AG 2018 § 53; CJEU 2017 § 53). Thirdly, the AG rejects the principle of a frozen interpretation, instead of a dynamic interpretation, according to which exemptions must be limited to techniques authorised at the time of the directive (CJEU-AG 2018 § 94). Moreover, the precautionary principle cannot justify a frozen interpretation of the directive (CJEU-AG 2018 § 77, 102; Garnett 2019: 4). Fourthly, the AG goes against the argument of the applicants who want to exclude safe mutagenesis techniques based on recital 17 (CJEU-AG 2018 §74). This recital affirms the will to exclude from GMO obligations those techniques "which have conventionally been used in a number of applications and have a long safety record" (CJEU-AG 2018 § 92). There is no need to restrict the scope of the exemption for the AG, as Annex IB was inserted after this recital was written and without reference to it (CJEU-AG 2018 § 94; Garnett 2019: 4). Fifthly, the AG considers that the Court should confine itself to the text and not interpret *contra legem*. If such an interpretation is to be defended, it would be the role of the legislator (CJEU-AG 2018 § 105).

As a result of his opinion, he will consider NBTs as GMOs, although they fall within the scope of the exemption of the GMO Directive. AG Bobek considers that NBTs are mutagenic techniques which do not mobilise rDNA molecules, and therefore should be eligible for the exemption provided for in Article 3 of the Directive (CJEU-AG 2018 § 107; Gutwirth, van Dijk 2020: 125; Garnet 2019: 4; Somsen 2018: 701). Ultimately, he will argue for a literal reading of the scope of the exemption, and for not adding other elements that would imply limiting the scope of the exemption. Thus, the precautionary principle alone cannot justify a *contra legem* interpretation.

4.2.4 The Court's Decision

The judgment of the Court of Justice will consider that organisms obtained by mutagenesis fall within the scope of the GMO Directive (Article 2 §2) and, contrary to the conclusions of the Advocate General, that they do not enjoy the exemption from the obligation (Article 3 and Annex 1B) (Dederer, Hamburger 2019: 140-141; Garnet 2019: 4; Somsen 2018: 701). To arrive at this result, the Court followed its classical methods of interpretation (teleological, systemic, and literal) to analyse the definition of GMOs with the spirit and general scheme of the EU Directive (Neframi 1972: 327; Bengoetxea 1993: 144; Zimny *et al.* 2019: 54; van der Meer *et al.* 2021: 13-16). In this case, EU environmental legislation aims to "protect human health and the environment" rather than incentivise innovation (Garnett 2019: 5).

Regarding the qualification of GMOs, the Court will confirm that organisms obtained by these mutagenesis methods/techniques fall within the scope of the GMO

Directive (CJEU 2018 § 29-30; Brosset, Noiville 2019: 197). A key element of the discussion comes from the definition of the GMO Directive: "altered in a way that does not occur naturally by mating and/or natural recombination" (Gutwirth, van Dijk 2020: 129-133; GMO Directive, art. 2§2). This definition concerns the result, the technique used or both (EC 2011 §4.1; Sprink *et al.* 2016: 1493; van der Meer *et al.* 2021: 9; Dederer, Hamburger 2019: 150; Gutwirth, van Dijk 2020: 129):

- The process of altering the genome is unnatural (process-based) or
- additionally, the result of the altering of the genome is unnatural (product-based) (Dederer, Hamburger 2019: 149).

The Court will implicitly follow a process-based interpretation (CJUE 2018 § 29-30; Brosset, Noiville 2019: 197; Dederer, Hamburger 2019: 150). In this sense, the Court argues that organisms obtained by targeted mutagenesis undergo a process of genome modification that is not natural and are therefore GMOs (no matter what is the final result) (CJUE 2018 § 29, 48; Dederer, Hamburger 2019: 150).

This product/method distinction as a criterion for identifying GMOs is important (van der Meer *et al.* 2021: 13; *contra*: Gutwirth, van Dijk 2020: 129). Indeed, contrary to the Court's interpretation, several countries exporting products obtained by NBT have relaxed their regulations considering the final product (USDA 2022; Whelan, Martin, Lema 2015: 53-65; van der Meer *et al.* 2021: 7). Firstly, the United States bases its regulation on the claimed genetic and biochemical characteristics of the final product rather than on the method of production of that product and the risks involved (van der Meer *et al.* 2021: 7). In this respect, the product criterion is retained by the United-Kingdom government in its proposal to legalise GMOs: the method is different, but the final product would be a plant similar to one that could be obtained by "natural" techniques (Grohamnn *et al.* 2019: 1; Menz *et al.* 2020: 13-14). Finally, this is also the direction the Commission seems to be taking in its draft revision of the directive (voy. infra).

As suggested by the AG, the Court relies on the economy of the GMO Directive (i.e., exemptions from the obligation for techniques considered to be GMOs) to qualify these mutagenesis techniques/methods as GMOs within the meaning of the Directive (CJUE 2018 §27-38, 54; CJEU-AG 2018 §67; Garnett 2019: 5).

Since organisms obtained by mutagenesis techniques/methods are considered GMOs within the meaning of Article 2 §2 of the GMO Directive, the next question was whether they fall within the scope of the exemption from the obligations of the GMO Directive under Article 3 and Annex I B (Dederer, Hamburger 2019:150). In the Court's view, organisms obtained by techniques/methods of mutagenese cannot be exempted from obligations (CJEU 2018 §58), and in this sense differs from the opinion of AG Bobek (*voy. supra*). Two reasons are given by the Court:

Firstly, it refers to Recital 17 of the Directive on the conditions under which GMOs should be excluded from the obligations (CJEU 2018 §44-47; Dederer, Hamburger 2019:150; Gutwirth, van Dijk 2020: 125-128). In this case, the directive provides for an exclusion for: "organisms obtained through certain techniques of genetic modifica-

tion which have conventionally been used in a number of applications and have a long safety record" (CJEU 2018 §46-57). However, the Court considers that NBTs should not benefit from this exception regime (CJEU 2018 §48; Zimny *et al.* 2019: 54). Indeed, the Court interprets the Directive in the light of its *ratio legis*: the legislators' objectives were to ensure the effectiveness of the principle of precaution while tolerating certain techniques that existed prior to the directive (Brosset, Noiville 2019: 211; Gutwirth, van Dijk 2020: 125-128; Brosset 2018: 219-225).

Hence, this exception is reasoned and justified given that this was the case for traditional mutagenesis referred to by the GMO Directive at the time of its conception (CJEU 2018 § 48-54; Gutwirth, van Dijk 2020: 129; Zimny *et al.* 2019: 54; Garnett 2019: 5). In fact, the directive had provided for a list of exceptions (Annex I B) for mutagenesis means whose safety had been proven for a long time with an established history. Some of the research had been going on since the 1980s and therefore before the directive was drafted (Custers 2017: 221). This is the result of the legislator's intention, which is reflected in the spirit of the directive. It is therefore appropriate to adopt a "frozen" interpretation to limit the scope of Recital 17 and the exemption from obligations (CJEU 2018 § 51). As a result, the Court considered that, of all the mutagenic techniques (scientifically speaking), only those in use at the time of the adoption of the directive, and which have been established as "safe", can enjoy the exemption of Article 3 and Annex 1B, interpreted in the light of recital 17 of the GMO Directive (CJEU 2018 § 51; *contra*: CJUE-AG 2018 § 68-78).

Secondly, the Court adds that the risks of these new techniques/methods are seen as similar to those resulting from the use of GMOs by transgenesis (CJEU 2018 §48; Schleissing, Pfeilmeier, Dürnberger 2019: 10). The Court associates NBTs with GMO regulation considering their similar effects (CJEU 2018 § 49). The Court notes that any release of these new GMOs (even if experimental) may reproduce in the environment, have irreversible effects on the environment and cross-national borders. This is precisely what the directive seeks to avoid (CJEU 2018 §49-51).

To summarise, the Court considers that the system of exceptions (art. 3 combined with annexe I B) must be interpreted strictly to respect the safety objective and the principle of precaution (CJEU 2018 §43, 48-51). This results in three categories of organisms: Firstly, non-GMOs; Secondly, obligation-exempt GMOs (i.e. obtained via traditional techniques of random mutagenesis); Thirdly, obligation GMOs, among which organisms obtained by NBT are included (Vives-Vallés, Collonier 2020: 1814; Urnov *et al.* 2018: 800). The Court notes that NBTs were developed after the GMO Directive (2001), and that their risks to health and the environment have not yet been assesse (CJUE 2018 §54; van der Meer *et al.* 2021: 6; Zimny *et al.* 2019: 54). The precautionary principle affirmed by the directive must therefore be applied throughout the evolution of techniques in this area (GMO directive, art. 1; CJUE 2018 §52). The exemptions must be interpreted narrowly, and Recital 17 only refers to techniques "which have conventionally been used in a number of applications and have a long safety record" (Vives-Vallés, Collonier 2020: 1819; Spranger 2015: 25).

On February 7, 2020, the French *Conseil d'État* confirmed this interpretation and called on the government to take steps to bring French legislation into line with the ruling and the GMO Directive (Vives-Vallés, Collonier 2020: 1820; CE 2020). In the meantime, based on this judgment, the French Tribunal de Grand Instance has decided that, in addition to genome editing, organisms obtained through classical *"in vitro"* mutagenesis technique must also comply with GMO regulations (Menz *et al.* 2020: 4). This decision based on the interpretation of the ruling risks damaging the common market (as France will regulate GMOs more than other member states) and is still under discussion (Menz *et al.* 2020: 12; Bartsch *et al.* 2020: 1-4).

In the end, the judgment of the Court of Justice has had major practical consequences for Member States and industry (Schebesta 2020: 373). The ruling makes it clear that any release and placing on the market of products produced using NBT (directed mutagenesis, genome editing) must comply with the requirements of the GMO Directive in the European Unio (Gutwirth, van Dijk 2020: 127-129). Therefore, explicit or tacit agreements between companies and public authorities concerning NBT are now prohibited (Menz *et al.* 2020: 12; Somsen 2018: 701-718). It seems that without additional regulatory measures, which would imply separate approval procedures for certain NBT products, the products of precise mutagenesis could be difficult to market in the EU (concerns research and development: legal and extra-legal obligations) (Gutwirth, van Dijk 2020: 127). However, others may consider that the impact of the judgement has been overestimated, and that the application of certain NBT techniques (OMD, SDN1 and SDN2) may fall outside the scope of the GMO obligations under certain conditions (Vives-Vallés, Collonier 2020: 1820; van der Meer *et al.* 2021: 17). In all cases, stakeholders agree that legislative clarification would be appropriate.

4.2.5 Reception of the judgment: critics and new GMO regulation

This judgement is particularly interesting in view of the scientific, political and economic criticism it has received (Dederer, Hamburger 2019: 150; Vives-Vallés, Collonier 2020: 1813; Gutwirth, van Dijk 2020: 127; Martin 2019: 132; Callaway 2018: 16). Although some legal and scientific actors were more measured, the ruling has deeply disappointed a certain scientific community, who did not hesitate to describe this judgment as absurd or unscientific (Garnett 2019: 5; Gutwirth, van Dijk 2020: 129; Leonelli 2021: 184; Purnhagen 2019: 1; Purnhagen, *et al.* 2018: 799-800).

More precisely, the product/method issue crystallises several tensions in the field of industry and innovation: some actors consider that these techniques are safe and should not be subject to heavy European regulation (Gutwirth, van Dijk 2020: 127; VIB 2022; ALLEA 2020); while others point out that these NBTs produce the same unintended effects that do not occur naturally (Gutwirth, van Dijk 2020: 132-135; Haeussler 2020 : 5–9; Gaj, *et al.* 2013: 397–405; Fu *et al.* 2013: 822–826).

Indeed, using scientific studies, some argued in the opposite direction, claiming that the "final product" cannot be distinguished depending on how it was produced (whether it was a mutagenesis-free method or by genome editing) (EC 2019; Menz *et*

al. 2020: 14; Gutwirth, van Dijk 2020: 129). For others, the product argument is not convincing, and they denounce it (Gutwirth, van Dijk 2020: 136; Millstone, Brunner, Mayer 1999: 525).

Since the ruling, there is a call to put GMOs back on the political and legislative agenda, from scientists, advisory bodies (VIB, German Bioeconomy Council), The European Commission's Group of Chief scientific Advisors European Commissioner for Health and Food Safety (Gutwirth, van Dijk 2020: 127; Vives-Vallés, Collonier 2020: 1814; Urnov *et al.* 2018: 800-802; EC 2019: 6 ; Bioökonmierat 2018). Indeed, the Commission's Group of Scientific Advisors has identified the scientific limitations of the current legislation and recommends in their statements to amend the GMO Directive (EC 2019: 6). Considering the CJEU ruling, the Council of the European Union (Council) asked the Commission in October 2019 to submit a study to revise the GMO regulation (Menz *et al.* 2020: 12; van der Meer *et al.* 2021: 3). More precisely, the Council asked the Commission to submit a proposal considering the results of the study (van der Meer *et al.* 2021: 3; Council 2019). The Commission has launched a consultation of stakeholders in early 2020 on the technical status and impact of 'new genomic techniques' (NGTs, like NBTs), and publish its study on April 2021 (van der Meer *et al.* 2021: 3; EC 2021b). The study concerns the use of NGTs *"which have emerged or have been developed since 2001"* for plants, animals and micro-organisms in agri-food, industrial and pharmaceutical sectors (EC 2021b: 2-7).

This study had several objectives: clarification of the legal status of organisms that have been produced by NBTs, regarding GMO regulation; a summary of research and innovation in this field, including risk assessment; a consultation of stakeholders and Member States on the opportunities and risks of NGTs; and, finally, information on public dialogue, national surveys and ethical aspects (EC 2021b: 6).

The conclusions of the study are as follows: First, NGTs have developed rapidly in many regions outside Europe (EC 2021b: 8-18-25). Secondly, the EU regulatory framework is inadequate and difficult to implement (EC 2021b: 25). In this case, the study points to the difficulties of detecting and differentiating NGT products that do not contain any foreign genetic material, as the European Network of GMO Laboratories had already stated so pointed (ENGL 2019; Grohmann *et al.* 2019: 2).

The study concludes that the legislation needs to be adapted to scientific and technological progress (EC 2021b: 59). Indeed, the study considers that it is unjustified to apply different rules for end products that present similar risks (conventional cultures vs. NGT cultures) (EC 2021b: 23-24). Thirdly, the regulatory framework is inadequate for research into NGTs, which is of growing interest in the EU (EC 2021b: 59). Fourth, NGTs can contribute to the EU's sustainable agri-food (green deal and farm-to-fork strategy) and pharmaceutical (faster and cheaper drug development) objectives (EC 2021b: 4-6, 51-59). However, the study notes that the main concerns are related to safety and the environment, notably on the impact of these organisms on biodiversity and on cohabitation with biological cultures. In this respect, the study points out that NGTs should not harm organic crops (EC 2021b: 27). For EFSA, the risks of NGTs are similar to organisms obtained by conventional breeding, targeted mutagen-

esis or cisgenesis (EC 2021b: 29). However, other NGT techniques do not have sufficient studies to attest to their safety (EC 2021b: 31). Finally, the study highlights the need to inform the public about NGTs and to assess their views (EC 2021b: 4).

The Council has now asked the Commission to present a new proposal, if appropriate: "in view of the outcomes of the study, or otherwise to inform the Council on other measures required" (EC 2021b). In this case, the Commission is committed to initiating a science-based policy on plants produced by NGTs.

Having reached the end of our study of legal technique and analytical theory on the regulation of GMOs in Europe (RQ2), and after a sociological analysis concerning the invocation of science in politics and law (as far as the case of GMO regulation in Europe is concerned), we would like to end our chapter by proposing a broader reflection with legal philosophy on the roles and functions of the "modes of existence" of each discipline this hybrid situation.

4.3 Common world and modes of existence

Having constructed a theoretical framework (chapter 1) and a case study on GMOs (chapter 2, sections 1 and 2), we will confront our theories with our analysis and propose a section on the philosophy of law by proposing an alternative path. This will be inspired by the concept of the regime of truth, and will take up the theories of "modes of existence" (RQ1) (Souriau 1943; Latour 2013: 357; Latour 2010: 256; McGee 2015: 122-196).

In our view, the judgment thus disavowed by a certain scientific and industrial community is highly relevant in two respects. Firstly, the Court of Justice's judgment represents a hybrid case that highlights the interaction between scientific, political and legal disciplines. But most important, this decision fulfils the "felicity conditions" of a judgment according to the existence mode of law (Gutwirth 2021a: 24; Fossier, Gardella 2006). Hence, the legitimacy of legal reasoning depends on compliance with the procedural requirements of the legal field in question (and must not be subordinated to any scientific opinion) (Gutwirth, van Dijk 2020: 127). Equivalently, to be valid, a scientific judgement must respond to the body of rules derived from the scientific domain to its "mode of existence" (Gutwirth, van Dijk 2020: 127; McGee, 2015: 160). According to Gutwirth and Van Dijk, the judgement must not be scientifically correct, but legally correct:

> Law, science and politics have different constraints and conditions of success, which cannot be interchanged or hierarchized. A legal decision needs to first be understood from a legal perspective, which is not to say that it won't have consequences for science, politics, ethics or economy (Gutwirth, van Dijk 2020: 127).

Conversely, to criticise a judgement for not considering the consequences for science, politics, economics and especially morality would be a "category error" (McGee 2015: 4, 55, 137, 160; Fossier, Gardella 2006; Gutwirth, van Dijk 2020: 127). To be clear, the lawyer can be guided by science as a basis for reasoning. However, he cannot be forced to do so, on pain of making a category error.

Thinking in terms of a mode of existence will imply a different approach to the classical definitions of law, politics and science which have the tendency to reduce the law to society and its infrastructure without focusing on its proper function (Latour 2010: 256; Gutwirth 2013: 108). *A contrario*, it will be necessary to study how the law is made in practice, to define the constraints that oblige lawyers to act in a singular way and to investigate how the law produces its own "truths" and "false". This implies taking seriously the register of creativity, of hesitation, that actors wield in their modes of existence (Gutwirth 2021a: 17-18; Latour 2013: 5-11; Latour 2010: 179, 219, 244). Indeed, the approach to modes of existence is more topical (de Sutter 2018: 229; de Sutter, McGee 2012: 14), paying attention to the constraints, doubts, and ontological fields summoned by the actors when they practise a discipline. According to Latour, a practice is defined by the set of constraints and beliefs to be followed as a practitioner, as a lawyer or as a scientist (Gutwirth 2021a: 6). Consequently, the mode of existence of a discipline is expressed through its "ontological fields", its "regime of enunciation", and its constraints (Gutwirth 2013: 108). According to the modes of existence approach, to make law is to summon and bring into existence another world, which legally brings into existence the things it grasps (Hermitte 1998: 17-38; Gutwirth: 2013: 108). For example, when we look for the legal regime of GMOs, we are going to make the legal GMO exist in a common world (McGee 2015: 147-148).

In these conditions, the environment form a "common world", an "articulation of the regime of truth" or an "ecology of practice", where the disciplines are interrelated (Gutwirth 2021a: 5; Stengers 2009: 117, 146). These multiple concepts designate the situation where several disciplines (with their actors, their practices, their conditions of felicity and their truths) will take hold of hybrid objects/subjects with several dimensions (Gutwirth 2021a: 5). Therefore, if we can distinguish the 'modes of existence' of different disciplines (science, politics, law), these registers articulate each other and form objects with several modes (Gutwirth 2021a: 3, 13, 17). By way of illustration, GMOs are hybrids because they are characterised by the modes of existence of law, science, agri-food economics and politics (Gutwirth 2021a: 3). In these circumstances, when the lawyer has to respond to external mobilisations - i.e. a hybrid case with big political and economic implications - the lawyer is not free and is forced to follow different rules of practice of law (Gutwirth 2021a: 2-3).

The analysis of the modes of existence will thus incite us to be attentive to the internal success regime of law: its own conditions of felicity (Gutwirth 2021a: 2-3; Stengers 2008: 14). This approach is similar to Foucault's regimes of truths: there is a singular set of obligations to be respected in order to bring out scientific or legal "truth" (Gutwirth 2021a: 6). By respecting the rules of legal practice, by observing its ontological fields and its regime of enunciations, the subject will "make law" and build a legal truth (Gutwirth 2021a: 14). By respecting the conditions of felicity of a discipline, we can act as a "true" scientist or "true" jurist and, therefore, bring about a type of truthfulness appropriate to the discipline (Gutwirth 2021a: 6). On the contrary, the scientist's or lawyer's actors who refuse to meet these requirements will lose the scienticity or legality of their actions.

Following these conditions of felicity makes it possible to bring about a type of truthfulness (its "true", its "false"). For example, "Science" establishes one type of "truthfulness", which is incompatible with the others. In the case of law, what is judged must be taken as the truth and must not be confused with what is actually true (hence the adage: *res judicata pro veritate habetur*) (Gutwirth 2021a: 16; McGee 2015: 49; Latour 2010: 235; Latour 2013: 129). This judicial truth links the general rule and the singular and establishes a new qualification or interpretation to find a solution to conflicts (voy. 3.1; Gutwirth 2021a: 25; Latour 2010: 196-197, 254). In this sense, truth does exist in law (as it does in science), but it is articulated in a different regime of truth. Indeed, science responds to a different temporality; on the one hand, the law seeks a solution here and now to stop a conflict; on the other hand, science is self-correcting, prospective, and diachronic (Papon 2020: 225-240; Latour 2010: 239-244). This legal truth is therefore different from scientific truth. It has other purposes: legal security, conflict resolution and social peace (McGee 2015: 296; Perelman, Olbrechts-Tyteca 2008:554; Gutwirth 2001: 21-26).

In conclusion, science, law and politics constitute distinct regimes of truths and practices with different objectives. Thus, rethinking law, science and politics as modes of existence allows us to highlight their different social functions, their specific constraints and singular truths and the consequences of their articulation (Gutwirth 2021a: 10). When we confuse their purposes, rules and functions, then we make category errors. However, these modes of existence form a common and interrelated world. Hybrids also attest to the coexistence of these modes of existence (McGee 2015: 296). In this common world, where modes of existence coexist, the great theoretical division between nature and politics must be overcome (Latour 2010: 242). Theorising on the functions of law, Alain Supiot had argued that:

> Law is not the expression of a truth revealed by God or discovered by science; and it is not simply a tool which could be judged on the basis of its efficiency (efficient for whom?). Like the measuring instruments in Dürer's Melencholia, its role is to come as close as possible to an accurate and just representation of the world, in the knowledge that this can never be achieved absolutely (Supiot 2017: 23).

Indeed, for Latour:

> It is precisely because there are no longer two distinct domains of reality, that we should be all the more careful in distinguishing the complementary functions of lawyers and of researchers. It is now essential that science should not be asked to judge, and that law should not be asked to pronounce truth (Latour 2010: 242) (RQ1).

5. Conclusion

In this master's thesis, we had two RQs: What roles, functions and risks are involved in using a scientific argument in politics and law? (RQ1) What are the uses of scientific arguments in the political and legal implication of GMO regulation? (RQ2).

Our first chapter presented an interdisciplinary theoretical framework combining philosophy of law and philosophy of science related to RQ1. We have chosen for

a truth-in-construction thesis, and thus develop the idea of a truth regime (Section 1). We then demonstrated the problems of an appeal to an authority of truth discourses (scientific *in casu*, but this may concern religion): from the critiques of 'knowledge-power' (Section 2) and science in action (Section 3). The second chapter has taken this theoretical framework and applied it to the case study of GMO regulation (RQ1, RQ2). We presented the legal framework of GMOs and the issue of NBTs (Section 1). We then analysed the ruling of the Court of Justice of the *Confédération Paysannes* on the status of NBTs (CJUE 2018). This judgment has been highly criticised by a range of actors (scientists, industrialists, jurists, politicians), notably on the grounds that it is unscientific (Section 2, RQ2). However, and by adopting a reading of the modes of existence, we understand that legal reasoning has other roles and functions than scientific reasoning (Section 3).

Taking these two RQs into account, we have two conclusions *ceteris paribus*: Firstly, we want to remain critical of this use of scientific discourse to put pressure on political and legal bodies. As seen earlier with our theoretical reflections on science, the approaches presented here do not contribute to the constitution of robust, reliable and rectifiable knowledge (RQ1)n (Audren, De Sutter 2008: 77-88; Dewey 1954). The innovation of NBT does not stem from a neutral and disinterested science, but is governed by a set of intercepting actors, in collaboration with scientific, interested industries, public institutions that send economic interests. In this way, we believe that it is more a matter of using the rhetoric of scientific truth to put pressure on the political and legal spheres, coming from actors with interests in the matter (RQ1, RQ2) (Gutwirth, van Dijk 2020: 129). Secondly, while judgement is subject to various scientific criticisms and controversies, it should be noted that judgement must meet the conditions of success of law (i.e., to be legally correct) and not of science, economics or politics (RQ1, RQ2). Regardless of political, economic or even scientific controversies, the legal question is concluded here. The Court has presented an interpretation that is logical, convincing in law, and consistent with the negotiating history of the directive (Gutwirth, van Dijk 2020: 128; van der Meer *et al.* 2022: 5; Spranger 2015; 25; Purnhagen *et al.* 2018: 799). According to Gutwirth, the judgment is legally correct, and any criticism of it must be made on legal grounds (RQ1). The criticism that the judgement is not scientific (whatever that means) is irrelevant as the judgement had to answer a legal question and not a scientific one. If the legal status of GMOs is to be changed, no scientific study will be relevant to the Court at the time of the judgment (directive (Gutwirth, van Dijk 2020: 130). Instead, it will be necessary to change the register and turn to the political sphere. As the Court notes, changing the legal status of GMOs will require a legislative (and therefore political) process to amend the GMO Directive directive (RQ2) (Gutwirth, van Dijk 2020: 130). The appeal to science will be welcome, but again, science cannot replace the political register, nor can it replace the legal register (RQ1).

List of abbreviations

AG - Advocate General

CJEU - Court of Justice of the European Union

CRISPR-Cas9 - Clustered Regularly Interspaced Short Palindromic Repeats - Associated protein 9

DNA - Desoxyribonucleic acid

EFSA - European Food Safety Authority

EU - European Union

GMO - Genetically Modified Organism

GMO Directive (the) - Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2021 on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC [2001] OJ L 106

NBT - New breeding techniques

NGT - New Genome techniques

ODM - Oligonucleotide directed mutagenesis

rDNA - Recombinant [Desoxyribo]Nucleic Acid

RNA - Ribonucleic acid

RO - Research Objective

RQ - Research Question

SDNs - Site-Directed Nucleases

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Georges Mink, *Titulaire de la Chaire de Civilisation européenne*
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De Europa et le Collège d'Europe à Natolin se lancent pour la quatrième fois dans la publication des meilleurs mémoires de fin d'études réalisés par les étudiants, cette fois-ci de la promotion 2021-2022 ayant eu pour patronne la juriste « Éliane Vogel-Polsky ».

À chaque fois, il s'agit d'un échantillon de travaux qui se démarquent par leur qualité intrinsèque et par la diversité de leurs centres d'intérêt, avec un point commun : celui d'être réalisés dans le cadre du programme interdisciplinaire d'études européennes du Collège d'Europe à Natolin.

Ce dernier, en offrant aux étudiants de chaque promotion l'occasion d'exprimer leurs talents, leur savoir, et enfin, leur engagement européen, joue un rôle incontournable dans la formation sur l'UE et pour l'UE.

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