



**Association
of Russian Lawyers**



**Kutafin Moscow
State Law University (MSAL)**



**Association
of Russian Diplomats**

TOPICAL ISSUES PROBLEMS OF MODERN LAW AND ECONOMICS IN EUROPE AND ASIA

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M. A. Egorova, I.V. Khalevinskiy

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For teachers, researchers and practitioners, government officials, employees of diplomatic agencies, students, undergraduates, graduate students of law and economics, as well as for all those interested in the problems issues of law and economics.

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Foreword

The modern world is developing rapidly, and the speed of its transformation is growing every day. Under the influence of new technologies, innovations and approaches, new problems also appear. These challenges arise in all spheres of public life, and many of them were unthinkable some time ago.

Most of the current problems require immediate and strong response. And what is important to realize is that solving a large number of modern society problems is impossible without fundamental reforms in the legal sphere, both at the national and global levels. Many legal norms have become outdated and no longer correspond to modern economic and socio-political realities.

With the comprehensive implementation of digital technologies into all spheres of human life and the transformation of traditional ways of doing things, the issue of forming a regulatory and legal framework for regulating relations in areas closely related to digital technologies is becoming especially urgent. The adaptation of legislation to the new digital realities is not going fast enough, and its improvement will be an important mission for many decades to come. This applies to the vast majority of areas not only of inter-human, but also international relations. E-commerce, the protection of personal data, investment and antitrust legislation, protection of the quality of goods and services are just a few of the areas in which fundamental and large-scale reforms are to be carried out.

Prospects for further economic growth of both individual countries and the world as a whole are inextricably linked to legal regulation. Legal regulation should contribute to strengthening the economy and stimulating its main engines. Adequate and rational legislation should be aimed at ensuring the smooth functioning of market structures, entrepreneurship and commerce, protecting the rights of buyers and interests of the society, equality of market actors.

The solution of many of these problems can be found at adjacent areas of various legal systems. Many economically developed countries already have some positive experience in building legal models for regulating various groups of social relations related to the implementation of digital technologies. This experience should be critically interpreted, analyzed and implemented in relation to each national jurisdiction, taking into account the specific economic relations inherent in each state, and also in connection with the peculiarities of national legal systems. These questions form the basis of this book.

This monograph will help to highlight the most pressing problems of modern law. The process of resolving existing problems and responding to emerging challenges will require the mobilization of enormous efforts and resources and is likely to take several decades, but this is inevitable and vital in terms of both scientific and technological progress and the sustainable development of all mankind.

*Best regards,
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Chapter 1.

Convergence of economics and law

About contemporary issues and the movement of the legal paradigm

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Abstract. From an evolutionary perspective of law, constant small changes tend to accumulate and to manifest themselves within sudden and more fundamental changes, which can be termed “legal paradigm shifts”. Such legal paradigm shifts occur when a legal system has reached a “tipping point” where no single legal norm is left unturned and fundamental premises, principles, concepts or the like will become fundamentally altered. This chapter presumes that such a tipping point in the global legal system may be imminent and that the necessary preparations in law therefore must be taken to mitigate the potentially devastating effects and consequences of such drastic changes. To this end, the present chapter turns to fundamental (or basic) research in science and law to identify the principal changes that must be introduced in law and legal science to help solve many urgent global problems or even secure the survival of humanity and the planet.

Keywords: Law, Legal Science, Legal Paradigm Shifts, Fundamental (Basic) Research, Applied Research, Legal Theory and Legal Practice.

Introduction

The name given to that one dramatic moment in an epidemic when everything can change all at once is the Tipping Point¹.

In the history of humanity, it is vital and inevitable – from time to time – to address and to return to the fundamental causes of problems encountered throughout the evolutionary process. This process is vital as change requires regular adaptation to changes in context, and it is inevitable because if no changes are being made, changes will necessarily impose themselves by a destructive – or at least uncontrollable – force. In such circumstances and from a genetic perspective, the two available alternatives are either adapt to change or accept extinction due to change. The same is true for law and for both science as a whole and for the narrower field of legal science. In science, the necessity for inquiries into the building blocks and fundamental premises is usually framed by the term “fundamental [or basic] research”. Although considered to be “without any particular application or use in view”², fundamental research may provide the answers to various open questions when preparing for imminent paradigm shifts. In law too, there are moments where the legal system in place has become obsolete or ineffective in view of novel problems and challenges. It is then when a legal system reaches a tipping point after which no single legal norm is left unturned and fundamental premises, principles, concepts or the like will become fundamentally altered. Unfortunately, in the past, most such changes were brought upon by crises and related destructive forces and were followed by major legal paradigm shifts.

The present times are replete of signs of such dramatic moments, indicating that such a tipping point is imminent. In fact, the present time, termed the age of Anthropocene, is characterised by the recognition that the human impact on the Earth System has become a recognisable and perhaps even decisive force for the survival of both humanity and the

¹ Malcolm Gladwell, *The Tipping Point: How Little Things Can Make a Big Difference* (Boston: Little, Brown and Company, 2000) at 9.

² OECD, *Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development* (Paris: OECD Publishing, 2015) at 50.

planet³. Other signs of existential threats in our world today are visible in numerous military conflicts and humanitarian crises as well as generally in numerous anomalies recorded in politics, the economy, science, the environment, global health epidemics, widespread poverty and widening inequality to mention but a few⁴.

As a special kind of the paradox of power⁵, humanity is thus now in a position where it has a recognisable impact on the planet but at the same time seems to use this power not to save but to destroy it. As another related paradox of global governance, there is a debate about the future of global governance, which aims at the establishment of a truly global platform or legal order based on which global affairs can be tackled efficiently and peacefully. Unfortunately, the debate is deprived of a necessary global platform on which such deliberations can take place. In view of these two paradoxes, it is therefore no coincidence that overall, the prospects for global governance in the decades ahead were said to lie in the ability “to discern powerful tensions, profound contradictions, and perplexing paradoxes”⁶. Similarly, from a more economic perspective, the present time was also termed “The Age of Paradox”, which requires “a new way of thinking about our problems and our futures”⁷.

For law, both change and contradictions pose serious challenges to its integrity and notably the rule of law as a means to provide legal certainty and predictability. First, as for change, the challenge has been outlined as creating “a fundamental problem for law; namely, how [law can] preserve its integrity over time, while managing to address the newly emerging

³ See Wolfram Mauser, “Global Change Research in the Anthropocene: Introductory Remarks” in Eckart Ehlers and Thomas Krafft (eds), *Earth System Science in the Anthropocene* (Berlin: Springer, 2006) 3 at 3.

⁴ See also United Nations, *Transforming Our World: The 2030 Agenda for Sustainable Development*, General Assembly A/RES/70/1 (21 October 2015) at 5-6.

⁵ See generally George Kunz, *The Paradox of Power and Weakness: Levinas and an Alternative Paradigm for Psychology* (Albany: State University of New York Press, 1998).

⁶ See James N. Rosenau, “Governance in the 21st Century” (1995) 1(1) *Global Governance* 13 at 13 [*Italics added*].

⁷ See Charles Handy, *The Age of Paradox* (Boston: Harvard Business School Press, 1995) at 11.

circumstances that continually arise throughout our history”⁸. Second, contradictions clash with a largely binary conception of law, which distinguishes legal from illegal, valid from void or guilty from innocent, and often lead to paradoxes expressed in “circular arguments”, which have been viewed as “*petitio principii* forbidden by the iron law of legal logic”⁹. On a general note, these problems and trends have been described under the title “*Law in the Times of Oxymora*”¹⁰, where they manifest themselves as a rise of so-called “essentially oxymoronic concepts”, i.e. contradictions manifest notably in the form of oxymora and paradoxes¹¹. Put briefly, law in the present seems to have contracted an epidemic disease, where it no longer appears capable of curing the ills of society when law’s functional role is understood in one sense as a “social medicine”¹².

Hence, metaphorically speaking, this chapter is concerned with what to do when the doctor her/himself has fallen ill of the disease s/he was meant to cure? Or, in other words, what to do with law, when – paralysed by rapid change and a rising number of contradictions – it is no longer able to provide justice and perform the role it is meant to play? It is also concerned with reevaluating and reinforcing the constructive and essential role that law can play in designing and deciding the future of humanity as a whole.

To begin with, the chapter departs from the advice by George P. Fletcher, who wrote, “If we wish to avoid disabling contradictions, we must reach a deeper understanding of the legal premises that guide our thinking”¹³. In this spirit and to identify the most serious contemporary problems of law as symptoms for the ills of the present and future

⁸ See Mark L. Johnson, “Mind, Metaphor, Law” (2007) 58(3) *Mercer Law Review* 845 at 845.

⁹ See Gunther Teubner, “Introduction to Autopoietic Law” in Gunther Teubner (ed), *Autopoietic Law: A New Approach to Law and Society* (New York: de Gruyter, 1988) 1 at 1.

¹⁰ See Rostam J. Neuwirth, *Law in Times of Oxymora: A Synaesthesia of Language, Logic and Law* (London: Routledge, 2018).

¹¹ See also Rostam J. Neuwirth, “Essentially Oxymoronic Concepts” (2013) 2(2) *Global Journal of Comparative Law* 147.

¹² See Pierre Lepaulle, “The Function of Comparative Law with a Critique of Sociological Jurisprudence” (1922) 35(7) *Harvard Law Review* 838 at 838.

¹³ George P. Fletcher, “Paradoxes in Legal Thought” (1985) 85(6) *Columbia Law Review* 1263 at 1292.

global community, Section 1 first enquires into the implications of the distinction of fundamental versus applied research in science and in law. Subsequently, to avoid reaching a tipping point in the form of an uncontrollable virulent attack on the well-being of all people everywhere on this planet, Section 2 discusses the major legal problems and required “legal paradigm shifts” that need to take place in the recent past so as to avoid disaster and possibly the end of the human species together with the planet as a whole. The chapter concludes by revisiting the main changes that need to take place in the law in view of an ever faster pace of change, notably changes to legal language and legal reasoning.

Fundamental Research in Science and Law

“Is law a science, a humanity, or neither?”¹⁴

Science as a whole and different fields of scientific inquiry have been found to frequently and increasingly meet with significant contradictions, which in linguistic terms are often expressed in the form of rhetorical figures jointly known as “essentially oxymoronic concepts” or individually as oxymoron, enantiosis and paradox¹⁵. As examples of each of the three, the relation between simplicity and complexity can be expressed by the oxymoron of “simplicity”¹⁶, the enantiosis of “complex simplicity”¹⁷, or the paradox of complexity (and simplicity), which asks why we have more questions the more answers we find¹⁸. These three concepts are almost synonyms, with the oxymoron being the “show-off among figures of speech”, because it is “a paradox compressed into a single self-contradicting phrase”¹⁹. Most importantly, they all – albeit to varying

¹⁴ See Richard A. Posner, *The Problems of Jurisprudence* (Cambridge: Harvard University Press, 1990) at 1.

¹⁵ See Rostam J. Neuwirth, *Law in Times of Oxymora*, supra note 10 at 11-6.

¹⁶ See e.g. Jeffrey Kluger, *Simplicity: Why Simple Things Become Complex (and How Complex Things Can Be Simple)* (New York: Hyperion, 2008).

¹⁷ See e.g. Andrew Long, “Complexity in Global Energy-Environment Governance” (2014) 15(2) *Minnesota Journal of Law, Science and Technology* 1055 at 1105.

¹⁸ See e.g. Kenneth L. Mossman, *The Complexity Paradox: The More Answers We Find, the More Questions We Have* (Oxford: Oxford University Press, 2014) at xii and 3.

¹⁹ See Helen Vendler, *The Music of What Happens: Poems, Poets, Critics* (Cambridge: Harvard University Press, 1988) at 242.

degrees of intensity – cause unsettling, contradiction-based conflicts in a mind trained in dualistic thinking and binary logic. The reason is that anyone wanting to discern one phenomenon from its opposite is going to be puzzled by notions like “glocalisation”²⁰, “fragemegration”²¹, and “deflationary inflation”²² and similar paradoxes like those of “globalisation”²³ or “happiness”²⁴, or the Easterlin paradox²⁵.

Yet across all scientific disciplines, the occurrence of paradoxes and oxymora has been confirmed, as summarised in the following paragraph:

But early in the twentieth century, mathematicians began to discover paradoxes that cannot be ignored. These paradoxes occur in the very foundation of mathematics, on which natural science rests. One can even build machines, or computers, that embody these paradoxes. These paradoxes are thus far from mere games, and they reach much further than human language. The paradoxical tensions at which I have just hinted occupy much the same place: they are built into the foundation of the world. *They are everywhere*²⁶.

As a possible paradox on its own, the omnipresence of paradoxes clashes with the widespread prevalence of dualistic thinking and “either ... or ...” thinking. The mode of dualistic thinking seems deeply rooted in our behaviour and belief and is extremely hard to shift²⁷. In trying to

²⁰ See e.g. Habibul H. Khondker, “Globalisation to Glocalisation: A Conceptual Exploration” (2005) 13(2) Intellectual Discourse 181.

²¹ See e.g. James N. Rosenau, *Along the Domestic-Foreign Frontier: Exploring Governance in a Turbulent World* (Cambridge: Cambridge University Press, 1997) at 99-117.

²² See e.g. Paul Mattick, “Economics, Politics, and The Age of Inflation” (1978) 8(3) International Journal of Politics I at 40.

²³ See e.g. Dani Rodrik, *The Globalization Paradox: Democracy and the Future of the World Economy* (New York: W. W. Norton & Company, 2011).

²⁴ See e.g. Mike W. Martin, “Paradoxes of Happiness” (2008) 9(2) Journal of Happiness Studies 171.

²⁵ See Richard A. Easterlin, “Does Economic Growth Improve the Human Lot? Some Empirical Evidence” in Paul A. David and Melvin W. Reder (eds), *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz* (New York: Academic Press, 1974) 89.

²⁶ See Andreas Wagner, *Paradoxical Life: Meaning, Matter, and the Power of Human Choice* (New Haven: Yale University Press, 2009) at 3 [*Italics added*].

²⁷ See Gabriel Segal, “Poverty of Stimulus Arguments Concerning Language and Folk Psychology” in Peter Carruthers, Stephen Laurence and Stephen Stich, *The Innate Mind: Foundations and the Future*, vol 3 (Oxford: Oxford University Press, 2008) 90 at 101.

understand why it is difficult to change, one encounters the question of whether such a mode of dualistic thinking is innate or acquired. Some go so far to argue that human thought processes are “subserved by two distinct mechanisms” and that “humans have, in effect, two separate minds”²⁸. By contrast, it was also argued that the human nature itself is paradoxical, meaning that people “act in ways which are often contradictory, indeed self-contradictory”²⁹. This would mean that there could be a paradoxical connection between nature and the human condition, as outlined in the following paragraph:

Paradoxes abound in nature and in the realm of the human condition. Paradoxes have been evident in fields of science – from plant biology to human biology to physics – and in areas of human endeavour, ranging through political, literary and social activities³⁰.

If there exists indeed a paradoxical connection between objective scientific phenomena and the subjective human condition, then paradoxes themselves should perhaps be the focus of scientific attention. This focus could yet be another indicator for an imminent paradigm shift, which fundamental research would have to inaugurate and prepare for. This is also supported by the observation that there may be a close link between change and contradiction, as it was found that paradoxes and anomalies are continuously being created because “the world is constantly changing”³¹. More still, the more the perception of change seems to accelerate, the more paradoxes in the form of essentially oxymoronic concepts are being created³². The causal connection between change and contradiction expressed through said rhetorical figures has been described as follows:

²⁸ See Jonathan S. B. T. Evans and Keith Frankish, *In Two Minds: Dual Processes and Beyond* (Oxford: Oxford University Press, 2009) at v.

²⁹ See Colin Talbot, *The Paradoxical Primate* (Exeter: Imprint Academic, 2005) at 1.

³⁰ See Narinder Kapur et al., “The Paradoxical Nature of Nature” in Narinder Kapur (ed), *The Paradoxical Brain* (Cambridge: Cambridge University Press, 2011) 1 at 1.

³¹ See Richard E. Nisbett, *The Geography of Thought: How Asians and Westerners Think Differently . . . and Why* (New York: Free Press, 2003) at 175.

³² See Neuwirth, *Law in Times of Oxymora*, supra note 10 at 144 (“More specifically, in an age of acceleration of the perception of change, changes in language are also found to be accelerating. Together these factors favor the creation of neologisms, notably in the form of portmanteau words, which are often oxymora.”)

Most of all, these essentially oxymoronic concepts, as both the cause and result of an acceleration of the perception of change by an ever faster oscillation between opposites functioning as contrasts, seem to question the general understanding of reality as created by space and time (or, at least, our present understanding of them)³³.

The rise of paradoxes – and oxymora for that matter – not only provides a serious challenge but also a good opportunity as the importance of paradoxes for science in particular was said to lie in their useful function of revealing “possible gaps in prevailing theories”³⁴ or “instances where current knowledge may be deficient”³⁵. Paradoxes are also said to have led to significant progress or that “where there is progress, there is paradox, and both fuel each other”³⁶. In the end, their potential and significance in science are not to be underestimated. To the contrary, paradoxical phenomena were said to “offer powerful opportunities to test models and conceptual frameworks, and to enable true ‘*paradigm shifts*’ in certain areas of scientific inquiry”³⁷.

Given the frequency of oxymora and paradoxes in scientific discourse, matching former findings and usages in the arts, it is perhaps time to adopt an “oxymoronic paradigm” in scientific thinking in preparation for the next scientific paradigm shift. This may be warranted by the frequent use of essentially oxymoronic concepts in the arts and their more recent rise in numbers in science, in law and even in daily discourse.

Thomas Kuhn understood paradigms to be “universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners”³⁸. Thus it should be obvious that it is time to adapt scientific achievements when their time has come. Ideally, the adaptation should happen based on a sincere, open-minded and

³³ See Neuwirth, *Law in Times of Oxymora*, supra note 10 at 162.

³⁴ See Dean I. Radin, *The Noetic Universe: The Scientific Evidence for Psychic Phenomena* (London: Transworld Publishers, 2009) at 3.

³⁵ See Kapur et al., “The Paradoxical Nature of Nature”, supra note 30 at 1.

³⁶ See Margaret Cuonzo, *Paradox* (Cambridge: The MIT Press, 2014) at 210.

³⁷ See Kapur et al., “The Paradoxical Nature of Nature”, supra note 30 at 1 [*Italics added*].

³⁸ Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 3rd ed (Chicago: The University of Chicago Press, 1996) at x.

active engagement by members of the scientific community rather than progressing, as it was called, “mainly funerals, not by reason and logic alone”³⁹. Thomas Kuhn also stated that the advent of a new paradigm “is foreshadowed in the structure that extraordinary research has given to the anomaly”⁴⁰. Or inversely, every new paradigm is already contained in the existing one, at least partially, just as every vaccine against a disease contains a partial or smaller dose of the venom that caused it in the first place.

In this respect, an oxymoronic scientific paradigm, however, clashes with some major aspects of the current scientific paradigm as they surface in the notion of fundamental research itself. First of all, oxymora and paradoxes tend to combine and yoke together most heterogeneous ideas expressed by antagonistic concepts⁴¹. As a first step, they may thus pose an inherent criticism of the increasing disintegration of the unity of science, manifesting *inter alia* in a growing trend towards specialisation. They also critically challenge the widely held belief in the separation of theory from practice or applied from basic research.

For instance, the Organisation for Economic Co-operation and Development (OECD) offers the following definition of “basic research”:

Basic research is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view⁴².

In line with the prevalence of dualistic thinking, this definition reflects a belief that sees basic research as being opposed to applied research, with the latter being defined as “the innovation of marketable products and processes”⁴³. It disregards – as was written – that the understanding of the atom resulted ultimately in the production of nuclear power⁴⁴.

³⁹ See Radin, *supra* note 34 at xxi.

⁴⁰ Kuhn, *The Structure of Scientific Revolutions*, *supra* note 38 at 89.

⁴¹ See also Samuel Johnson, *The Lives of the Most Eminent English Poets* (London: John Murray, 1854) at 20.

⁴² Frascati Manual 2015, *supra* note 2 at 50.

⁴³ See Lutz Arnold, “Basic and Applied Research” (1997) 54(2) *FinanzArchiv / Public Finance Analysis* 169 at 169.

⁴⁴ See S. Ramanan, “Fundamental Research and Social Relevance” (1971) 6(22) *Economic and Political Weekly* 1071 at 1071.

The distinction between applied and basic research is not only relevant for research but is also applied to career choices as it has considerable consequences in the labour markets for scientists⁴⁵. The term “basic research” also has a particular role to play in science policy, where it is also used synonymously with, or to replace the older notion of, “pure science”⁴⁶.

The fundamentals underlying the entire debate appear problematic given that “science” alone is a highly contested concept; there “is no consensus about what it is and some maintain that the question itself is mistaken since there is no ‘object’, science”⁴⁷. For instance, the contested nature of science can be exemplified by a basic assumption, namely whether it is assumed that “natural laws have held true in all places and at all times”⁴⁸. Equally, one may ask if law is a science or not. And if it is the former, then what is its relation and role within science as a whole? In this respect, a serious paradox between law and science was encountered by virtue of a recent series of cases brought before different tribunals. These cases were called the “black hole cases” and were not only a serious matter of justice and injustice but equally a matter of life and death of humanity and the planet. These cases concerned motions for injunctions aimed at halting the tests to be carried out by the Large Hadron Collider (LHC) at the European Organization for Nuclear Research (CERN) in Geneva. In short, some members of the scientific community argued to the courts that they feared that the tests would not create deeper insights into the building blocks of the universe but instead would create “a ‘micro black hole’ into which the Earth would fall”⁴⁹. The paradox between science

⁴⁵ See Rajshree Agarwal and Atsushi Ohshima, “Industry or Academia, Basic or Applied? Career Choices and Earnings Trajectories of Scientists” (2013) 59(4) *Management Science* 950.

⁴⁶ See e.g. Jane Calvert, “What’s Special about Basic Research?” (2006) 31(2) *Science, Technology, & Human Values* 199 at 202 and Sabine Clarke, “Pure Science with a Practical Aim: The Meanings of Fundamental Research in Britain, circa 1916–1950” (2010) 101(2) *Isis* 285 at 286.

⁴⁷ See George Ritzer and J. Michael Ryan (eds), *The Concise Encyclopedia of Sociology* (Malden: Wiley-Blackwell, 2011) at 517.

⁴⁸ See Mark Booth, *The Secret History of the World* (New York: The Overlook Press, 2008) at 118.

⁴⁹ *Sancho v. United States DOE*, 578 F. Supp. 2d 1258 at 1261 (9th Cir. Haw., 24 August 2010); see generally Eric E. Johnson, “The Black Hole Case: The Injunction Against the End of the World” (2009) 76(4) *Tennessee Law Review* 819.

and legal science was found in the paradoxical reversal of the usual roles of judges and scientists, putting judges in the role of “experts” deciding on whether the LHC experiments are capable of destroying the whole planet or not, while scientists were playing the role of legal counsel. Luckily, the tests eventually resulted in the discovery of the Higgs boson, and the world did not vanish into a black hole. However, this may serve as a warning for future advances in science and technology, which may not be adequately tackled without the control by law and legal science.

Similar paradoxes can be found within law and legal science alone. Law too is frequently divided between pure law and law in context⁵⁰, between legal theory and legal practice or between law in books and law in action⁵¹. The same divide is even found applied to single legal instruments like “legal fictions”⁵² or different fields like “international law”⁵³ or “private law”⁵⁴. Even “legal education”, as the common basis of the formation of jurists, is often being divided into theoretical and practical law⁵⁵. Yet, the Ontario Superior Court of Justice termed “pure law” an oxymoron because “the law always needs a context within which it is to be considered”⁵⁶.

For both science and law, the definition and understanding of “basic research” therefore seems too narrow. Instead, basic research should

⁵⁰ See e.g. Philip Selznick, “‘Law in Context’ Revisited” (2003) 30(2) *Journal of Law and Society* 177.

⁵¹ See e.g. Jules L. Coleman, “Legal Theory and Practice” (1995) 83(7) *Georgetown Law Journal* 2579 and Roscoe Pound, “Law in Books and Law in Action” (1910) 44(1) *American Law Review* 12.

⁵² See e.g. Maksymilian Del Mar and William Twining (eds), *Legal Fictions in Theory and Practice* (Cham: Springer International Publishing, 2015).

⁵³ See e.g. Thomas J. Biersteker et al., *International Law and International Relations: Bridging Theory and Practice* (London: Routledge, 2010).

⁵⁴ See e.g. Michael Bryan, *Private Law in Theory and Practice* (London: Routledge, 2007).

⁵⁵ See e.g. Noya Rimalt, “Legal Education: Between Theory and Practice” (2000) 24(1) *Tel Aviv University Law Review* 81 and Gerald E. LeDain, “The Theory and Practice of Legal Education” (1961) 7(3) *McGill Law Journal* 192.

⁵⁶ See Ontario Superior Court of Justice, *Jackson v. Vaughan (City)*, 2010 ONSC 969, 13–14 (2010) and Ontario Superior Court of Justice, *Silveira v. Ontario (Minister of Transportation)*, 2011 ONSC 4272, 22 (2011).

also be understood as “summarizing individual and detailed research findings and combining them into deeper inquiries into the imminence of “paradigm shifts”, i.e. the necessity to rethink, reformulate and further research the basic assumptions applied to the scientific process, such as disciplinary classifications, taxonomies, methodologies, or basic concepts. Such understanding of the scientific process, it is argued, is better suited to avoid reaching a tipping point where changes impose themselves rather than being proactively implemented to avoid the negative consequences brought about by a sudden and uncontrolled emergence of change through paradigm shifts.

For this reason, it is crucial to also examine the most serious modern or contemporary problems encountered in the world through the lens of law. These problems, like the ability to destroy the planet several times over with nuclear weapons or the numerous ones reflected in the Sustainable Development Goals (SDGs)⁵⁷, underscore the urgent need to cast some light on the most common fundamental assumptions about the methods used in law, which may paradoxically cause or cure some of the most serious problems in the world today. These assumptions being those of the divisions into legal theory and legal practice, into law being both backward- and forward-looking, soft and hard, fact and fiction, substance and process, economic and political, or being based on dream or reality, to mention but a few. In the present time, law (like science), as both science and practice, has contracted an epidemic disease, which manifests itself in numerous symptoms called “global problems”, which, at present, law when understood as a social medicine⁵⁸, proves unable to cure. Time too appears unable to cure it, as humans seem to be running out of time given that researchers have found evidence suggesting that some changes in the environment are too rapid to be met by an adequate adaptation to a changing environment⁵⁹.

⁵⁷ Transforming Our World, *supra* note 4.

⁵⁸ See Lepaulle, *supra* note 12 at 838.

⁵⁹ See e.g. Steven C. Sherwood and Matthew Huber, “An adaptability limit to climate change due to heat stress” (2010) 107(21) PNAS 9552 and Toby Fountain et al., “Predictable allele frequency changes due to habitat fragmentation in the Glanville fritillary butterfly” (2016) 113(10) PNAS 2678.

Selected Legal Problems and Legal Paradigm Shifts: *The Butterfly Effect*

[M]illions of idle human hours must always pass before a truly historical, decisive moment in history makes its appearance⁶⁰.

Given the urgency of securing the efficient, just and sustainable governance of global affairs based on the rule of law in the near future, it is important to ponder the major existing legal problems in order for the legal community to read the signs for necessary legal paradigm shifts to take place. First, however, it may be useful to briefly touch upon the meaning of “legal paradigm shifts” as derived from past experiences. A major obstacle in such effort is that there exist no comprehensive and comparative records of what could be termed a “global legal history” or that at least a legal history written from a global instead of a mostly national perspective is unavailable. Such reflections about law and legal scholarship globally, however, were found to be important because of ongoing transformations in the world’s legal systems⁶¹. Yet a survey of the global legal history is absent, given that “there is neither a consensus as to what this history is, nor what objectives this legal historiography pursues, or even how it relates to other disciplines”⁶².

In terms of a classification of legal paradigm shifts, it would be possible to distinguish legal paradigm shifts which have their causes rooted in law or in fact. The former category would include cases where the law itself has become invalid (e.g. sunset legislation)⁶³ or was incomplete due to “leftovers”, i.e. matters to be resolved in future legislative efforts (e.g. the so-called Amsterdam or Nice Treaty leftovers in the European Union’s treaty reforms or various issues in the GATS to be addressed in

⁶⁰ Stefan Zweig, *Decisive Moments in History: Twelve Historical Miniatures* (Riverside: Ariadne Press, 1999) at 5.

⁶¹ See also Thomas Duve, “Global Legal History: A Methodological Approach” (2017) *Oxford Handbooks Online*; available at: <http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199935352.001.0001/oxfordhb-9780199935352-e-25> (date accessed: 10 March 2018).

⁶² *Ibid.*

⁶³ See e.g. Article 5 of the Macau Basic Law (MBL); see also Dan R. Price, “Sunset Legislation in the United States” (1978) 30 *Baylor Law Review* 401.

future WTO negotiation rounds)⁶⁴. The latter category would refer to legal paradigm shifts found in causes related to facts and the context, such as changes in technology (e.g. invention of electricity or computers requiring changes in the criminal code)⁶⁵ or societal values (e.g. abolition of slavery or introduction of equal suffrage for women)⁶⁶.

Such classification, however, would again mean to fall back into dualist thinking, which “trades accuracy for simplicity”⁶⁷ and which – by separating law from fact – would prevent us from understanding the closer relations between law and its context. In this regard, it was stated that “legal paradigm shifts do not occur in vacuum”⁶⁸. Hence law cannot and should not be isolated from its context for long, or “pure law” like “pure science” can be considered an oxymoron. In fact, even international law, as laid down in Article 38 of the Statute of the International Court of Justice, reflect a more differentiated approach.

As a result, another way would be to adopt a casuistic approach of isolating moments in history, which can be considered milestones in the development or a specific legal system were set. Such moments could be all kinds of codifications, from the local to the global level, such as the *Code Napoleon* in 1804 or the *Declaration of Human Rights* in 1948. They can also cover more specific or more general fields, such as international trade law in the case of the GATT 1947 or the broader field of public international law in the case of the 1945 United Nations Charter. However, codifications have the problem that they also depend on the paradigms

⁶⁴ See e.g. Mark Gray and Alexander Stubb, “The Treaty of Nice – Negotiating a Poisoned Chalice?” (2001) 39 *Journal of Common Market Studies* 5 at 8-9 and see Articles X (Emergency Safeguard Measures), XIII (Government Procurement), XV (Subsidies) or XIX (Negotiation of Specific Commitments) General Agreement on Trade in Services (GATS).

⁶⁵ See e.g. the decision of the German Reichsgericht in 1899; RG, 01.05.1899 – Rep. 739/99; and Richard C. Hollinger and Lonn Lanza-Kaduce, “The Process of Criminalization: The Case of Computer Crime Laws” (1988) 26 *Criminology* 101.

⁶⁶ See e.g. Slavery Abolition Act 1833, 3 & 4 Will.4 c.73; available at: <http://www.legislation.gov.uk/ukpga/Will4/3-4/73/data.pdf> (date accessed: 10 March 2018).

⁶⁷ See Bart Kosko, *Fuzzy Thinking: The New Science of Fuzzy Logic* (New York: Hyperion, 1993) at 21.

⁶⁸ See Michael S. Greve, *The Demise of Environmentalism in American Law* (Washington: The AEI Press, 1996) at 124.

prevalent at the time⁶⁹. They also appear too narrow as there exist other sources of law, such as soft law or customary law, which take time to form their legally binding nature. In this scenario, the difficulty would be to identify the exact cause leading to a certain legal effect, i.e. a norm, law or treaty to be adopted and enforced. Here we encounter problems associated with the so-called butterfly effect, which, generally speaking, states that a small issue may have great effects, like a butterfly flapping its wings in Brazil causing a tornado in Texas⁷⁰.

Transferred to the legal realm, the butterfly effect would raise questions about whether one legally relevant act may have wider legal repercussions, like whether the repeal of the Glass-Steagall Act in 1999 may have caused the global financial crisis in 2008⁷¹. Or like Rosa Parks's refusal to vacate a seat on a public bus in 1955 may have caused the US Supreme Court to declare bus segregation laws unconstitutional⁷². In allusion to the quote from Stefan Zweig, one could say that numerous legal cases must be decided or legal decrees passed before a truly decisive "constitutional" moment in legal history can take place.

The butterfly effect also means it is often difficult to clearly establish a causal link between a cause and an effect but, in view of the above, it is safer to assume that events are connected rather than not. Again, translated into the legal realm, it means that the trend must be to step up efforts to optimise the links between different legal subjects, legal instruments, public entities or international organisations as well as legal regimes in the best possible way. This resonates with the view of the function of the comparative method in law to make lawyers "see their subject as a whole"⁷³ and not merely (interpret a law literally and within a given territorial context).

⁶⁹ See e.g. H. Patrick Glenn, "The Grounding of Codification" (1998) 31 U.C. Davis Law Review 765.

⁷⁰ See Edward Lorenz, "The Butterfly Effect", in Ralph Abraham and Yoshisuke Ueda (eds), *The Chaos Avant-Garde: Memories of the Early Days of Chaos Theory* (Singapore: World Scientific, 2000) 91 at 91.

⁷¹ See e.g. M. Shabir Korotana, "The Impact of the Repeal of Glass-Steagall Act of 1933 in the Context of the Current Financial Crisis" (2012) 13 *Journal of World Investment & Trade* 618.

⁷² See Robert Aitken, "Rosa Parks: An American Icon" (2003) 29 *Litigation* 47 and *Gayle v. Browder*, 352 U.S. 903 (1956).

⁷³ See Arthur K. Kuhn, "The Function of the Comparative Method in Legal History and Philosophy" (1939) 13(3) *Tulane Law Review* 350 at 361.

At the global level, the need for a more holistic approach is *inter alia* supported by the so-called trade linkage debate, which consists of numerous individual pairs of “trade and ... problems”⁷⁴. It is a debate that is largely caused by the accidental institutional separation of the international trading regime of the General Agreement on Tariffs and Trade (GATT 1947) (caused by the failure of the International Trade Organization (ITO) to materialise) from the wider public international legal regime under the aegis of the United Nations⁷⁵. As the term “linkage” and the connector “and” (rather than *or*) indicate, the debate is about increasing the connections and closing the gaps caused by the institutional fragmentation of international law.

A similar trend can be noted in legal science as a whole, which appears to move towards greater integrity as it was shown to progress from “law and ... issues”, via “law as ...” issues to eventually reach a higher level of integration in terms of oxymoronic concepts⁷⁶. In this respect, it was also noted that generally “paradoxes are the new core concepts utilized in the contemporary controversies on law and society”⁷⁷.

As summarised by the notion of “global mnemonic law”, which builds upon an analogy between the brain and the legal system, it was stated that “a future global legal order needs to create a seamless web of legal paths connecting all legally relevant subjects, as brain cells (neurons) are connected with each other via synaptic connections”⁷⁸. The brain-legal system analogy also finds support in the following findings:

Even so, people draw boundaries and divide the world up into many separate games. It’s easy to fall into the trap of analyzing these separate

⁷⁴ See e.g. Joel P. Trachtman, “Trade and ... Problems, Cost-Benefit Analysis and Subsidiarity” (1998) 9 *European Journal of International Law* 32 and Frank J. Garcia, “Trade and Justice: Linking the Trade Linkage Debates” (1998) 19 *University of Pennsylvania Journal of International Economic Law* 391.

⁷⁵ See John H. Jackson, *World Trade and the Law of GATT* (Indianapolis: The Bobbs Merrill Company, 1969) at 51.

⁷⁶ See Neuwirth, *Law in Times of Oxymora*, *supra* note 10 at 64-6; see also Rostam J. Neuwirth, “Law and Magic: A(nother) Paradox?” (2015) 37(1) *Thomas Jefferson Law Review* 139.

⁷⁷ See Gunther Teubner, “Global Bukowina: Legal Pluralism in the World Society” in Gunther Teubner (ed), *Global Law Without a State* (Dartmouth: Brookfield, 1997) 3 at 12.

⁷⁸ Neuwirth, *Law in Times of Oxymora*, *supra* note 10 at 228.

games in isolation – imagining that there’s no larger game. The problem is that mental boundaries aren’t real boundaries – *there are no real boundaries*⁷⁹.

The finding that boundaries are merely mental constructs also coincides with paradoxes being said “to emerge where dichotomies reign and where knowledge and understanding are insufficient”⁸⁰. They also appear where a kind of “information overload” occurs, for instance in the form of great complexity⁸¹. For the same reason, Benjamin N. Cardozo may have termed the legal paradoxes rooted in “the reconciliation of the irreconcilable, the merger of antitheses, the synthesis of opposites” as the greatest problems of law⁸².

Exemplified by concrete problems, these challenges can be found in numerous attempts for greater integration or closer cooperation between different countries. For instance, in the concrete case of the BRICS countries (Brazil, Russia, India, China and South Africa), it was argued that the “perceived diversity of the group” would pose a serious obstacle for closer cooperation between members of the group⁸³. Similar problems were found also in the context of the *Belt and Road Initiative* (BRI) launched in 2013, where it was stated that it is difficult “to run a project in a foreign country, given different cultures, legal systems and other institutions and policies, let alone manage cross-border projects running through so many countries with different political systems and social briefs⁸⁴. The same argument was extended to the legal field, which is why it will “also require

⁷⁹ See Adam M. Brandenburger and Barry J. Nalebuff, *Co-opetition: A Revolution Mindset That Combines Competition and Cooperation: The Game Theory Strategy That’s Changing the Game of Business* (New York: Doubleday, 1996) at 234.

⁸⁰ See Neuwirth, *Law in Times of Oxymora*, supra note 10 at 88.

⁸¹ See Nicholas Rescher, *Aporetics: Rational Deliberation in the Face of Inconsistency* (Pittsburgh: University of Pittsburgh Press, 2009) at 86.

⁸² Benjamin N. Cardozo, *The Paradoxes of Legal Science* (New York: Columbia University Press, 1928) at 4–5.

⁸³ See Lucia Scaffardi, “BRICS, a Multi-Centre “Legal Network”?” (2014) 5 *Beijing Law Review* 140 at 141 and Rostam J. Neuwirth, Alexandr Svetlicinii and Denis De Castro Halis, “Introduction” in Rostam J. Neuwirth, Alexandr Svetlicinii and Denis De Castro Halis (eds), *The BRICS-Lawyers’ Guide to Global Cooperation* (Cambridge: Cambridge University Press, 2017) 1 at Fn 4.

⁸⁴ See Yiping Huang, “Understanding China’s Belt & Road Initiative: Motivation, Framework and Assessment” (2016) 40 *China Economic Review* 314 at 321.

international co-operation to develop a trans-national legal system that will create rules and regulations that are consistent and enforceable along the entire route”⁸⁵. Additionally, it was also found to be difficult to further integrate the different integrated projects, such as the BRI with the Eurasian Economic Union⁸⁶.

At the multilateral level, the same phenomenon poses a global problem known as the “Spaghetti Bowl”, which refers to various possible overlaps or conflicts between different regional free trade agreements and their overall impact on the efficiency of multilateral trade rules⁸⁷. Even within a highly integrated polity, such as the European Union, the challenges in the form of legal diversity posed for a deeper integration are being discussed⁸⁸.

Still, for the entire world, the diversity in law has been found to be “compatible with all major legal traditions”.⁸⁹ This is also supported by the observation that “the transplanting of individual rules or of a large part of a legal system is extremely common”⁹⁰. Therefore, an openness towards other legal systems is warranted by reality and needs to be strongly encouraged, particularly with the rise of various innovative developments, like new information and communication technologies but also business practices based on electronic commerce or the commercial exploitation of outer space, which transcend and defy territorial boundaries.

As another important issue, there exists a second kind of butterfly effect, which can be related to the intensifying acceleration of the pace of

⁸⁵ See Peiyue Li et al., “Building a New and Sustainable “Silk Road Economic Belt” (2015) 74(10) *Environmental Earth Sciences* 7267 at 7269.

⁸⁶ See Alexandr Svetlicinii, “China’s Belt and Road Initiative and the Eurasian Economic Union: “Integrating the Integrations”” (2018) *Public Administration Issues* 7.

⁸⁷ See e.g. David A. Gantz, “The Spaghetti Bowl Revisited: Coexistence of Regional Trade Agreements Such as NAFTA with the Trans-Pacific Partnership” (2017) 48(2) *Georgetown Journal of International Law* 557.

⁸⁸ See e.g. Horatia Muir Watt, “European Integration, Legal Diversity and the Conflict of Laws” (2004) 9 *Edinburgh Law Review* 6.

⁸⁹ See H. Patrick Glenn, *Legal Traditions of the World: Sustainable Diversity in Law*, 3rd ed (Oxford: Oxford University Press, 2007) at 359.

⁹⁰ See Alan Watson, *Legal Transplants: An Approach to Comparative Law* (Charlottesville: University Press of Virginia, 1974) at 95.

change. Already, the dawning epoch of the Anthropocene was mentioned as a period where human activities are both accelerating and more significantly impacting the Earth's environment⁹¹. With an acceleration of the evolutionary process also comes new serious challenges. The first is survival; as it was mentioned, adaptation or extinction are the two dominant options in the process of evolution. However, recently it was shown that humanity and the planet it is inhabiting may be running out of time. The reason is that time itself appears to pass more quickly, as it is being discussed in terms of an acceleration of change.⁹² For a specific kind of butterfly in Finland, namely the Glanville fritillary butterfly, the adaptation process was too slow, and it has now gone extinct. The reasons given were that the evolutionary changes were "not strong enough to fully compensate for the direct adverse effects of environmental change"⁹³. A similar danger may be posed to humanity should global warming increase and surpass a certain level where humans would no longer be able to deal with the heat stress⁹⁴.

For law, the second butterfly effect manifests itself first in the problem of coping with change and possible even an accelerating pace of change, which was outlined as follows:

The omnipresence of change throughout all human experience thus creates a fundamental problem for law; namely, how can law preserve its integrity over time, while managing to address the newly emerging circumstances that continually arise throughout our history⁹⁵.

When law fails to adapt to the pace of change, it may risk of undermining the rule of law's objectives of providing legal certainty and legal predictability. More drastically, it may lead to law going extinct in a situation of legally systemic chaos, which was defined as follows:

⁹¹ See Eckart Ehlers and Thomas Krafft, "Managing Global Change: Earth System Science in the Anthropocene" in Eckart Ehlers and Thomas Krafft (eds), *Earth System Science in the Anthropocene* (Berlin: Springer, 2006) 5 at 5-7.

⁹² See also James Gleick, *Faster: The Acceleration of Just About Everything* (New York: Vintage Books, 2000) at 6.

⁹³ See Fountain et al., *supra* note 59.

⁹⁴ See Sherwood and Huber, *supra* note 59.

⁹⁵ See Johnson, "Mind, Metaphor, Law", *supra* note 8 at 845.

“[S]ystemic chaos,” in contrast, refer[s] to a situation of total and apparently irremediable lack of organization. It is a situation that arises because conflict escalates beyond the threshold within which it calls forth powerful countervailing tendencies, or because a new set of rules and norms of behavior is imposed on, or grows from within, an older set of rules and norms without displacing it, or because of a combination of these two circumstances⁹⁶.

There are many more possible scenarios, such as artificial intelligence reducing and eventually replacing legal professionals altogether.⁹⁷ More optimistically, it was stated that artificial intelligence and related changes will mean that around two decades from now, “the legal profession will have changed beyond recognition”⁹⁸. The faster pace of change not only has implications for the legal profession but also raises questions of how the law and lawyers will react to it and the possibly devastating consequences deriving from it. From the link between law and the technology field comes the following advice:

A metaphor that suggests that law simply needs to “move faster” is unhelpful and, if it leads anywhere, is likely to result in rushed and poorly conceived responses⁹⁹.

In fact, the consequences of rushing into poorly drafted laws and norms has already been felt for a long time and been critically discussed under the term “deluge of norms” and other similar concepts¹⁰⁰. In this

⁹⁶ See Giovanni Arrighi, *The Long Twentieth Century: Money, Power and the Origins of Our Time* (London: Verso, 1994) at 31.

⁹⁷ See also John O. McGinnis and Russell G. Pearce, “The Great Disruption: How Machine Intelligence Will Transform the Role of Lawyers in the Delivery of Legal Services” (2014) 82(6) *Fordham Law Review* 3041.

⁹⁸ See Richard E. Susskind, *Tomorrow’s Lawyers: An Introduction to Your Future*, 2nd ed (Oxford: Oxford University Press, 2017) at 184 and 184-196.

⁹⁹ See Lyria Bennett Moses, “Agents of Change: How the Law “Copes” with Technological Change” (2011) 20(4) *Griffith Law Review* 763 at 788.

¹⁰⁰ See e.g. Andreas Heldrich, “The Deluge of Norms” (1983) 6(2) *Boston College International and Comparative Law Review* 377; see also John H. Barton, “Behind the Legal Explosion” (1974–1975) 27(3) *Stanford Law Review* 567 and Bruno Oppetit, “Les tendances régressives dans l’évolution du droit contemporain” in Jean-François Pillebout (ed), *Mélanges dédiés à Dominique Holleaux* (Paris: Litec, 1990) 317 at 317.

regard, changes to legal thinking and legal language will be necessary. Even though it is argued that legal language changes more slowly than common language¹⁰¹, changes are inevitable. In this regard, it serves as an important reminder that “law changes as language changes – perhaps because language changes”¹⁰². Yet, language changes faster than its grammar and its underlying logic¹⁰³. Given the rise of oxymora and paradoxes, it will not only be crucial to change the language but also the deeper layers, namely the logic and underlying cognitive modes of legal thinking and reasoning. Such changes – as hard as they may appear – are necessary because, as Oren Perez aptly concluded, in law “our problem does not lie in the paradox, but in a certain logical and anti-paradoxical state of the mind which has become prevalent”.¹⁰⁴ This is also necessary for the elaboration of a common legal language, which is not one single language, a *lingua franca*, but instead a broader understanding about how to deal with differences in legal norms or legal systems and with contradictions in general¹⁰⁵.

Such common cognitive language will have to develop in parallel to cognitive changes in perception, which in their combination are essential for greater coherence and consistency in both law and policymaking¹⁰⁶. This in particular, as today often a danger posed to the sustainable success of a law or policy comes from an incoherent pursuit or inconsistent implementation of laws and policies. It means that laws or policies directly conflict with or unnecessarily duplicate each other. The danger of conflicts increases the need for greater coherence as does the growing complexity,

¹⁰¹ See Koen Lemmens, “The slow dynamics of legal language: Festina lente?” (2011) 17(1) *Terminology* 74.

¹⁰² See the Foreword by Adolph S. Oko in Nathan S. Isaacs, *The Law and the Change of Law* (Miami: Hardpress, 2012) at 6.

¹⁰³ See Neuwirth, *Law in Times of Oxymora*, supra note 10 at 124.

¹⁰⁴ Oren Perez, “The Institutionalisation of Inconsistency: From Fluid Concepts to Random Walk” in Owen Perez and Gunther Teubner (eds), *Paradoxes and Inconsistencies in the Law* (Oxford: Hart Publishing, 2006) 119 at 143.

¹⁰⁵ See Andrew Halpin and Volker Roeben (eds), *Theorising the Global Legal Order* (Oxford: Hart, 2009) at 6 and Neuwirth, *Law in Times of Oxymora*, supra note 10 at 5, 187, 202, 209 and 251.

¹⁰⁶ See also Neuwirth, *Law in Times of Oxymora*, supra note 10 at 234-243.

which derives from broader trends of convergence, especially in but not limited to economic, industrial and technological terms¹⁰⁷. In view of this problem, the following useful recommendations have been given:

Rather than piecemeal legal change, social law reformers stress the importance of social context, legal paradigm shifts and moving beyond the traditional bounds of “law” as a cure for social problems¹⁰⁸.

This paragraph not only stresses coherence but also greater interdisciplinary, which brings a return to the questions, which we often classify as falling within the bounds of fundamental (or basic) research. However, one must remember that fundamental research was found to lower “the cost of inventions in that field” and that it is capable of making “applied research and development more productive”¹⁰⁹. By the same token, it should answer possible doubts about the overall and added value that just, efficient and consistent laws bring to the society they are supposed to serve and the global community as a whole.

Conclusion

*In every moment of her duration Nature is one connected whole; in every moment each individual part must be what it is, because all the others are what they are; and you could not remove a single grain of sand from its place, without thereby, although perhaps imperceptibly to you, altering something throughout all parts of the immeasurable whole*¹¹⁰.

¹⁰⁷ See e.g. Sang M. Lee and David L. Olson, *Convergenomics: Strategic Innovation in the Convergence Era* (Farnham: Gower, 2010), Fabio Ancarani, and Michele Costabile, “Coopetition Dynamics in Convergent Industries: Designing Scope Connections to Combine Heterogeneous Resources”, in Saïd Yami et al. (eds) *Coopetition: Winning Strategies for the 21st Century* (Cheltenham: Edward Elgar 2010) 216 and Rostam J. Neuwirth, “Global Market Integration and the Creative Economy: The Paradox of Industry Convergence and Regulatory Divergence” (2015) 18(1) *Journal of International Economic Law* 21.

¹⁰⁸ See Moses, *supra* note 99 at 772.

¹⁰⁹ See Vito Tanzi, “The Impact of Basic Research on Inventions” (1964) 13(2) *Challenge* 23 at 25-6.

¹¹⁰ Johann Gottlieb Fichte, *The Vocation of Man* (London: Chapman, 1848) at 25-6.

The present time can be broadly described as having a faster pace of change, greater complexity and a rising number of contradictions caused by the growing convergence of formerly separated or even opposing phenomena. These various characteristics cause many serious problems of a global scale. The problems are inextricably linked and manifest themselves in a recent trend of linguistic changes, which was recorded notably in the scientific and legal language. This trend began at the end of the past millennium and has been described as the rise of “essentially oxymoronic concepts”, i.e. mostly oxymora and paradoxes, which reflects the present time as “*The Age of Paradox*”¹¹¹ or, translated into the legal realm, as the one of “*Law in the time of Oxymora*”¹¹².

Forming a paradox itself, these linguistic changes appear as both the cause and effect of numerous serious problems threatening every individual as well as humanity and even the planet as a whole. It therefore seems that, in the Anthropocene, humanity (and science as a tool to serve its well-being and survival) is about to reach a tipping point where its impact on the Earth can lead to its gradual or instant destruction unless it manages to proactively prepare for the prevention of such calamity. It is in view of reaching such a tipping point that a paradigm shift appears imminent and necessary, which is why fundamental questions about life need to be revisited and critically rethought. This is also the primary task of fundamental research in science and in legal science. Fundamental research is often falsely considered an activity “without any particular use in view” but, this time, may actually prove to be vital for the survival of humanity.

For law, if it wants to preserve its role as a “social medicine”, i.e. to function as a tool to cure ills in society as a whole, then it will need to be willing to fundamentally reconsider some of its “iron laws” and “basic principles”. The most principal need for a reconsideration is at the cognitive level of legal reasoning and thinking, which must not abandon its strong binary or dualistic orientation but at least expand it to allow for an “infiltration into law of a more experimental and flexible

¹¹¹ See Handy, *supra* note 7.

¹¹² See Neuwirth, *Law in Times of Oxymora*, *supra* note 10.

logic”¹¹³ or even a new logic altogether¹¹⁴. This goal can be achieved by analysing, familiarising and introducing different modes of oxymoronic or paradoxical thinking into different stages of the law-making processes, beginning with legal education and ending with the enforcement of laws¹¹⁵.

Fostered by an acceleration of change and the convergence of technologies and industries, the rise of essentially oxymoronic concepts, like glocalisation, simplicity or coepetition, oxymoronic thinking will develop further as well. As a consequence, new approaches to law and legal thinking will emerge, while old ones will decline in importance if not disappear. For instance, the term “glocalisation”, combining the different levels of local and global, will assist in helping to understand the intrinsic problems caused by cyberspace, as a “placeless place”¹¹⁶ beyond a merely territorial conception of law. “Simplicity”, will help us to rethink the relation between all kinds of opposites, like small and big, individual and collective, or public and private (international) law. It will hopefully transform and improve access to law in general and legal remedies in particular. It means to establish a global legal order, which treats every single legal act as a part of the whole system and every single human being as a voice in the global governance system. Lastly, coepetition in economic and in regulatory terms will change the way we perceive competition and cooperation by establishing optimised levels of balance between different competitors, not aiming at prevailing over the other but instead enhancing each other to realise the objectives set by the global community.

Finally, these three and other oxymoronic legal concepts will also help to tackle the challenges of an acceleration of change, as they have the advantage of “condensing the ever faster oscillating extremes or contrasts between two different poles of our perception into one” and thereby help to drastically facilitate the communication and eventually also regulation

¹¹³ See John Dewey, “Logical Method and Law” (1924) 10(1) *Cornell Law Quarterly* 17 at 26.

¹¹⁴ See H. Patrick Glenn, “Choice of Logic and Choice of Law” in H. Patrick Glenn and Lionel D. Smith (eds), *Law and the New Logics* (Cambridge: Cambridge University Press, 2017) 162.

¹¹⁵ See also Neuwirth, *Law in Times of Oxymora*, supra note 10 at 171, 179, and 229-30.

¹¹⁶ See Pierre Lévy, “Collective Intelligence, a Civilisation: Towards a Method of Positive Interpretation” (2005) 18(3/4) *International Journal of Politics, Culture, and Society* 189 at 197.

of highly dynamic processes¹¹⁷. These constitute some conditions which law will have to meet in the decades ahead if the rule of law were to play a role in a sustainable and peaceful process of human evolution.

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¹¹⁷ See Neuwirth, *Law in Times of Oxymora*, supra note 10 at 171, 179, and 123.

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