

The Rule of Law and the Law of Nature

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Summary

Traditionally, the understanding of the Greek notion of νόμος, especially concerning the notion as it was conceived in Athens, has been hindered by a tendency to project modern interpretations of the law onto the ancient mentality and praxis. The first confusion comes from the exclusive identification of νόμος with the modern concept of law, which originates in the Roman tradition and has substantial semantic and practical differences with the Greek notion. The paper presents a diachronic consideration of the concept of *nomos* and explains how the word acquired the different meanings that led to its classical function, especially in the Athenian democracy, as 1. order that organizes the behaviour of the individual and the society, 2. the democratic notion of “rule of law”, 3. the notion of “the law of nature” and its relationship with our concept of “natural law”, and 4. the democratic and Platonic notions of rule of law, their differences and similarities. The central hypothesis of the paper is that the semantic kernel of *nomos* is not only linked to the concept of “distribution”, or rather “just distribution”, but also to the notions of “order” and “repetition” in the different fields of human action through the idea of the hierarchic distribution of values in human society. Finally, the paper points to Plato’s concept of “rule of law” and its value for us, underlining the danger of some philosophical positions, such as perfectionism, as involving a revival of totalitarian ideas.

Introduction

In his opus on the history of the formation of some of the main concepts of our contemporary mentality, Rudolf Eucken heads the chapter on the law with the following motto of the Chinese philosopher Confucius:

To know that you know what you know and to know that you do not know what you do not know, this is the true science.¹

1 R. Eucken, *Geschichte und Kritik der Grundbegriffe der Gegenwart*, Leipzig 1878, p. 115.

This is just the central problem of hermeneutics, the mother of all knowledge, especially scientific knowledge. Karl Popper's fundamental work for understanding Plato's political philosophy² considers as the major gnoseological mistake of Plato's doctrine the belief in an equivalence between natural and social laws, i.e. that development in society occurs based on rules similar to the laws which exist in nature. In what follows, I shall try to show that the modern concept of a law of nature has its origin in the classical notion of law. The idea of regularity and repetition, which are the core of the contemporary notion of natural law, is a projection of the perception of social regularity. Traditional Greeks believed that this regularity comes from the superior design of the gods, insofar as what happens in the natural world is also a reflection of this divine will. This is a very complex issue that I cannot consider here in the depth it deserves. My intention is much humbler: I want only to point to the fact that the idea that the natural world is composed of a totality of regular, repetitive and predictable phenomena is a projection of a political concept which originated, at least to the point I can follow it, in the reality of the Greek polis.

I must also anticipate that this hypothesis is not entirely original. In his scholarly impressive contribution *Antike Vorstufen des modernen Begriffs des Naturgesetzes* Wolfgang Kullmann maintains:

Die Metapher von göttlichen Regeln und Gesetzen, die nach Analogie menschlicher Gesetze das ganze kosmische Geschehen einschließlich der menschlichen Angelegenheiten bestimmen, stammt aus der archaischen Zeit Griechenlands. Wir finden sie schon bei Hesiod, dann besonders deutlich bei Heraklit. In der Zeit der Sophistik wird dieser Gedanke zugunsten einer strikten Trennung von Natur und Kultur ... zurückgedrängt. In der klassischen Philosophie von Platon und Aristoteles und in der aristotelischen Naturwissenschaft wird die Welt als ewig und ungeworden betrachtet und die Vorstellung von Gesetzen, nach denen sie lebt, als zu metaphorisch aufgegeben.³

2 K. Popper, *The Open Society and Its Enemies*, London 1945.

3 W. Kullmann, *Antike Vorstufen des modernen Begriffs des Naturgesetzes*, in: O. Behrends – W. Sellert (eds.), *Nomos und Gesetz. Ursprünge und Wirkungen des griechischen Gesetzesdenkens. 6. Symposium der Kommission „Die Funktion des Gesetzes in Geschichte und Gegenwart“* (Abhandlungen der Akademie der Wissenschaften in Göttingen. Philologisch-Historische Klasse, 209), Göttingen 1995, p. 107 (= *id.*, *Naturgesetz in der Vorstellung der Antike, besonders der Stoa. Eine Begriffsuntersuchung*, Stuttgart 2010, p. 136). This hypothesis had been defended before by R. Eucken, *Geschichte und Kritik der Grundbegriffe der Gegenwart*, Leipzig 1878.

Kullmann traces an evolution of the concept of the law of nature in which the main contribution is attributed to the Stoics and the Christian thinkers. He describes a history of the idea based mainly in the textual occurrences of the word *nomos* and sometimes in the idiom ὁ τῆς φύσεως νόμος and its variants. Contrary to Eucken's and Kullmann's opinions, this paper tries to show that the way that leads to the modern notion of a law of nature⁴ has its origin in Plato and the Academic tradition, including Aristotle and his school.

1. Preliminary methodological issues

Before beginning with the subject, I would like to advance some hermeneutical precisions:

1. One of the main obstacles for the interpretation of the origin of the notion of “natural law” lies in the usual confusion between the actual concept of “the rule of law”, i.e. the order ruling in a given society that lives following its laws and customs and the theoretical formulation of the concept of “the rule of law” (ἀρχὴ τῶν νόμων; νόμος δεσπότης).⁵ Indeed there are many expressions similar to the one occurring in the famous fragment 169a (Snell-Maehler) of Pindar, but I am referring here to the theoretical determination of the concept.

2. The same statement is valid for the law of nature: one thing is to recognize and to work with the regularities and limitations existing in nature, and a completely different issue is the theoretical formulation of the notion of “natural law”. In this case, it is not enough to refer vaguely to “laws of nature”.

3. Greeks have never had a theoretical notion of natural law in a modern sense; therefore, we cannot limit our research to the occurrences of the idiom “law/s of nature”. However, although they did not have a similar concept, they established the foundation for the long development of the idea.

4. A further point is the projection of contemporary views in an ancient text. I am primarily referring to the opposition between law and nature. In general, it is assumed that these terms have the same meaning as they have today. Although there was a certain contradiction between both words, in

4 I understand a “law of nature” or a “natural law” as a general statement about necessary and regularly occurring processes which are independent of the will of human beings.

5 As seems to be the case in, e.g., M. Ostwald's (*From Popular Sovereignty to the Sovereignty of Law. Law, Society, and Politics in Fifth-Century Athens*, Berkeley – Los Angeles – London 1986.) and H. J. Gehrke's (*Der Nomosbegriff der Polis*, in O. Behrends- W. Sellert [eds.], *Nomos und Gesetz. Ursprünge und Wirkungen des griechischen Gesetzesdenkens*. 6. *Symposium der Kommission „Die Funktion des Gesetzes in Geschichte und Gegenwart“* [Abhandlungen der Akademie der Wissenschaften in Göttingen. Philologisch-Historische Klasse, 209], Göttingen 1995, pp. 13–35) contributions.

some cases very pointed as for Plato's Callicles in the *Gorgias*, it does not necessarily mean that the whole conventional order of society and the whole of nature were conceived as opposed, even contradictory, as a whole, as could be believed according to some interpretations based on the well-known book of Heinemann.⁶

5. It is too often forgotten that Greek society is the product of a long historical evolution, especially in the case of the norms regulating the interrelation of the members of the community. Anthropological, sociobiological, and behavioural research among many other disciplines has already demonstrated that the essential elements determining human behaviours, like imitation, repetition and the so-called ratchet effect, are indeed pre-human and already exist in hominids and in a limited way in apes in general. The same can be stated about the contamination in customs, behaviours, and knowledge produced by the contact between the Mediterranean peoples. Plato observed this fact.

6. It is also often presumed that the history of ideas, if not history in general, exhibits a continuous, homogeneous and unidimensional progress without reversals, changes, contaminations, etc. This is not always the case, and in the field that I am considering here, there was never straightforward progress; among other reasons, because different conceptions about the law of nature coexisted throughout the whole of antiquity and there was no Hegelian *Aufhebung* in proper sense.

7. Two characteristics distinguish the modern concept of natural law: (a) its repeatability and (b) its mathematically formulatable structure. By (a), I understand the fact that every natural law can be repeated, i.e. confirmed, in an experiment. With (b) I am referring to the conviction that every natural law can be expressed in mathematical formulae, which reflect its regularity.

The expositions about the origin of the idea of natural law suppose that an independent and progressive discovering of natural causation has taken place. At least among the classicists, this supposition goes together with the conviction that this process has taken place only in the classical world, especially in Greece at a late historical stage or in Rome without the influence of other civilizations. These premises raise vast and complex issues, which I cannot develop in this paper. I shall mainly limit my task to showing the significance of the Academic tradition in the process of understanding the external world on the basis of mathematical relations.

6 F. Heinemann, *Nomos und Physis. Herkunft und Bedeutung einer Antithese im griechischen Denken des 5. Jahrhunderts*, Basel 1945; cf. É des Places, *Nature et loi*, in: *L'Antiquité Classique*, 16, 1947, pp. 329–336.

2. The conceptions of natural law in the classical world

I do not suppose that there is a progressive discovery of natural causation by the Greeks. I take as given that hominids, like other animals, had a relatively clear perception of causation, or at least, they saw that some phenomena are followed by others and used these observations to build up their culture. Greek culture is the result of millennia of evolution, and as such, they knew that there were regularities in society and nature. In classical times these repetitions were described by the word νόμος, which was applied both to society and to nature. My hypotheses are:

1. In the Greek and Roman world, there existed three lines or approaches to the regularities in nature which coexisted until the end of antiquity.
2. These approaches can be characterized as (a) the traditional, religious belief, (b) the materialistic conception and (c) the mathematizing one.
3. These lines contaminated one another.
4. (c) was an answer to (b). It also attempts to transcend (a) through a new theoretical formulation and reunite the human and natural world through the incorporation of the advances in the knowledge of nature.

The notion and the semantic core of *nomos* in Athens had a very interesting evolution. The word acquired a meaning contaminated by the former expression used at Athens for designing the written laws, *thesmos*, i.e. the rule issued by a higher authority, may this authority be the political power or the god.⁷ Something similar happened with the meaning of the Homeric *themis*.⁸ Originally *nomos* designated a custom, i.e. a regularly repeated social or human action. The semantic core of *nomos* is not only linked to the concept of “distribution” – rather, “just distribution” – as its kinship with the verb νέμω shows, but also to the notions of “order” and “repetition” in the different fields of human action through the idea of the hierarchic organization of society according to values founded on divine will.⁹ These social and human behaviours were transmitted through imitation. The implied determinations of the word *nomos* are therefore three: authority, repetition, and imitation.

7 P. Chantraine, *Dictionnaire étymologique de la langue Grecque. Histoire des mots*. Paris 1999, p. 432.

8 *Ibid.*, p. 428.

9 V. Ehrenberg, *Anfänge des griechischen Naturrechts*, in: *Archiv für Geschichte der Philosophie* 35, 1922, p. 120.

a) The traditional, religious belief

The idea that the cosmos is ordered according to laws emanating from Zeus can already be found in the reflection of the chorus in Aeschylus' *Prometheus bound*.

νέοι γὰρ οἱ-
 ακονόμοι κρατοῦσ' Ὀλύμ-
 που, νεοχμοῖς δὲ δὴ νόμοις
 Ζεὺς ἀθέτως κρατύνει

*New helmsmen master the Olympus.
 and Zeus rules with new laws
 without attending to the old norms*¹⁰
 (Aeschylus, *Prom.* 149 f.)

Even if the authorship of the piece and its date of composition are uncertain, it belongs without question to the fifth century. It supplies a noteworthy testimony to a time in which the classical opposition between law and nature was at its peak. Another passage states that Zeus governs with his laws (ἰδίοις νόμοις, 403). Although it cannot be denied that these laws are valid for the whole cosmos, including for nature and for gods, it is clear that they are conceived according to the social rules, and they are valid insofar as they express the will of Zeus. The chorus is explaining Prometheus' punishment. The whole natural order is conceived in a similar way to the order ruling human affairs.

It is not that Athenians did not perceive the existence of natural regularities, but rather that the sources always show a political conception of them, i.e. society and nature follow the same rules. The passage states, therefore, that the new laws are the result of Zeus' victory over Cronos. The validity of the new norms is based on an act of force. Consequently, they are not eternal and can be changed following the will of the master.

It is unnecessary to multiply testimonies about the divine foundation of the laws. It is enough to indicate that the Greeks conceived these *nomoi* as being valid for the whole of humanity, for example the burial of the dead in battle (Isocrates, *Panath.* [12],169), or for both men and beasts, for example love for one's parents (Demosthenes, *Contra Aristog.* I,[25],65). The universal

¹⁰ The translation of ἀθέτως is difficult, because there is a pun with a reference to the old norms (θέμιστες or θεσμοί) and the introduction of new regulations or norms, of a very different character (νόμοι), i.e. the complete destruction of the old order existing in the world and the beginning of a new one. In any case the usual translation (“despotically”) introduces a rebellious nuance that does not exist in the text.

validity of these laws is a political or, rather, a moral one. Although they are projected onto nature, they cannot be considered natural laws in the modern sense.

These testimonies indicate how erroneous it is to project a supposed evolution onto the history of the notion of the law of nature.¹¹ It is noteworthy that the distinction between natural and political laws, i.e. written laws, is not as strict as the usual interpretation could lead us to believe. Some principles present in the unwritten laws are also adopted in the written penal law, e.g. the distinction between intentional and unintentional crime (Demosthenes, *Pro cor.* [18],275). The belief that these unwritten norms are in some sense innate (Menander, *Sent.* 491 Meineke) does not represent a further step. Because of their universal validity, the unwritten laws are also called common law.¹² A well-known passage of this phenomenon can be found in the Aristotelian *Rhetoric*:

νόμος δ' ἐστὶν ὁ μὲν ἴδιος ὁ δὲ κοινός· λέγω δὲ ἴδιον μὲν καθ' ὃν γεγραμμένον πολιτεύονται, κοινὸν δὲ ὅσα ἄγραφα παρὰ πᾶσιν ὁμολογεῖσθαι δοκεῖ.

The law is particular or general. In particular, I mean the written law following which a state is administered; by general, the unwritten regulations which appear to be universally recognized (Aristotle, *Rhet.* I,10,1368b7–9).¹³

It is remarkable that the expression κοινὸς νόμος, which later is again specified with a minor variation in the same book (I,13,1373b4–9), was taken by Aristotle as being very common. It is still more remarkable that Plato, so far as I know, never used it. The Pseudo-Platonic *Minos* gives a strong version of this approach, which extends the notion of a unique kind of law valid for all people mechanically. This theory probably existed in Socratic circles. However, the most significant version can be found in Cicero, who identifies this law which is valid everywhere with reason itself (i.e. *De leg.* I,6,18–19). As has already been remarked, in *On the Nature of the Gods* (*De nat. deor.* I,14,36) Cicero attributes a similar doctrine to Zeno the Stoic. However, this identification of law with reason was already achieved by Plato, who characterizes the law as νοῦς.¹⁴

11 The contrary interpretation can be found in W. Kullmann *Antike Vorstufen*, p. 55 et passim

12 Demosthenes, *Contra Aristocr.* (23),61: 7–8 παρὰ τὸν κοινὸν ἀπάντων ἀνθρώπων; Chrysippus SVF III,4.

13 Translation by J. H. Freese, *Aristotle in 23 Volumes*, XXII: *Rhetoric*, Cambridge – London 1926.

14 Cf. F. L. Lisi, *Einheit und Vielheit des platonischen Nomosbegriffes. Eine Untersuchung zur Beziehung zwischen Philosophie und Politik bei Platon*, Königstein – Taunus 1985, pp. 75–84 with bibliography.

The close relationship between rationality and law is a common belief in the Greco-Roman philosophical tradition. It reaches its highest expression in the Stoic conviction of a universal law created and governed by the supreme god, as it appears in Cleanthes' *Hymn to Zeus*. Zeus' rule over everything is accompanied by law (νόμου μετὰ πάντα κυβερνῶν; *SVF* I,537,121,35). The universe obeys his rule willingly, while Zeus keeps it in his immutable hands (ἀνικήτοις ἐνὶ χερσίν, 122,5 f.). The law of nature permeates the whole cosmos, and like the political law, it has a moral projection.¹⁵ Human beings are an imitation of the gods (μίμημα), as Cleanthes says in the *Hymn to Zeus*, and both share in *logos*, which is the actual law according to nature. According to a testimony of Arius Didymus preserved by Eusebius (*SVF* II,169), this *logos* rules the universe from eternity and is also called *heimarmenê* (cf. *SVF* II,937). The *heimarmenê* embraces the whole world (Plutarch, *De fato*, 569e). It appears in this passage as a superior law of nature that pervades all phenomena occurring in the physical and human world. As we shall see below, the term is crucial for the development of our idea of natural law. To sum up: the universe is conceived like a polis, in which God is the lawgiver, and the laws of nature are the expression of his will (Plutarchus, *De Stoic. repug.* 1044c).

It is difficult to present a coherent exposition of Christian thinkers. However, for them, God is not subordinated to the laws of nature, but the laws of nature to God, and He can change them, as happened after the deluge.¹⁶ Their vision is far away from our concept of natural law and stays still within the religious tradition. In general, they follow the Stoic notion of a world ruled by God as a universal lawgiver on whose decrees depend all existing human social norms (Origen, *Contra Cels.* V,40). According to Kullmann,¹⁷ a passage of the *Commentary on Psalm 148* of Johannes Chrysostomus implies a qualitative change, i.e. the beginning of the modern conception of natural law:

Καὶ τὸ δὴ θαυμαστόν, οὐχ ὅτι διακρατεῖ μόνον, οὐδὲ ὅτι ἐστήκασιν ἀκίνητοι οἱ νόμοι τῆς φύσεως, ἀλλ' ὅτι καὶ χρόνον οὕτως ἄπειρον.

And it is astonishing not that only he rules, nor that the laws of nature remain immutable, but that they do so for an infinite time (Johannes Chrysostomus, *PG* LV,487,19–21).

15 W. Kullmann, *Antike Vorstufen*, p. 60.

16 Cf. Gregory of Nazianzus, *De pauperum amorem* (Or. 14,27 = *PG* XXXV,893); *In diem natalem Christi* (*PG* XLVI,1136,1–4); *Opus suppletorium*, 50,1 Jaeger. Cf. W. Kullmann, *Antike Vorstufen*, pp. 94 ff.

17 W. Kullmann, *Antike Vorstufen*, p. 96.

A superficial consideration of the passage shows that Chrysostomus' conception does not leave the traditional ground, consisting in the belief in the existence of a superior entity, which legislates the natural laws in a way similar to political legislators. God acts as king and legislator of the universe. The similarity is remarkable even in the use of the terminology.¹⁸ The immutability of the natural laws is the only point, which apparently changes. However, they continue to be contingent since they depend on the will of God.¹⁹ It is not different from the promise made by the Demiurge to his creature in Plato's *Timaeus* (41a7–b6). How far Chrysostomus' notion of the laws of nature is from our own can be observed in his *Commentary to Psalm 142*. The natural laws can be pulled down from their foundations (PG LV,448,39 f.). The fact that these laws are the ones with which God rules the world (PG LV,452,52) and consist in the ten commands given to Moses (PG LV,457,27–29) also shows that the Christian notion of natural laws is not related to our present concept. They are above all ethical and religious precepts. Apparently, Kullman confuses the modern idea of natural law with the use of the word νόμος among Christian authors. φυσικὸν νόμον is not necessarily a “natural law” in our sense, but refers to a law emanating from God (e.g. Moses' commandments; cf. Johannes Chrysostomus, *Ad populum Antiochenum* [Hom. 12] Migne; PG IL,134,56). In the *Commentary to the Letter to the Romans* (PG LX,502,15), Chrysostomus employs *physikos nomos* in general but applied in parallel with Moses' ten commandments and the command given by God to Adam and Eve. In *To those who have been seduced* (chapter 8), the natural law is identified with an existing unwritten law directly enacted by God and prior to the Ten Commandments. This conception of natural laws is above all of ethical character.²⁰

All these quotations show a vision which still remains on the traditional Greek ground. The Greeks believed that the same kind of laws ruled gods, the cosmos, and society. According to Christian thinkers, there was a superior law emanating directly from God, on which the particular laws of the different peoples depend. In this conception, there is not a clear differentiation between natural law and the law of nature (cf. Origen from Alexandria *Contra Cels.* V,37,1–11,40). The Christian adoption of the Greek terminology and ideas reaches as far as accepting the identification of the Christian God with the Platonic Demiurge (Eusebius, *Praep. Evang.* VII,9,3–4). Kullmann assigns a still more significant role to the work of Basil of Caesarea, who in his *Hexae-*

18 Cf. the use of the variations of κκαταείν in the passage of Aeschylus' or Cleanthes' Hymn to Zeus (SVF I,537,122,4).

19 Chrysostomus expresses similar views in *In Epist. I ad Thimot.* (PG LXII 508,30–38).

20 More passages are indicated by W. Kullmann, *Antike Vorstufen*, pp. 97 f.

meron (V,1,2; VII,3,156b, 156c, 157a) offers a teleological version of the laws of nature.²¹ However, impartial consideration of Basil's description of his commentary on the animal and vegetal world shows that the text does not go beyond what Aristotle had achieved in his biological works. On a passage of the *Praeparatio Evangelica* (VII,10,1-4) Kullmann maintains, "daß, anders als in der Stoa, der Naturgesetzgeber nicht bloße Metapher ist".²² I wonder what it can mean that the legislator of nature is metaphoric in one case, but not in the other (cf. Johannes Chrysostomus, *In epist. I ad Tim. [Or. 1-18] PG LXII,508,32-38*).

It has become evident, I hope, that the conviction that human society and the natural world were ruled by similar laws depending on the will of the supreme divinity was present from the beginning until the end of antiquity.²³

b) The materialistic view

With "the materialistic view", I am referring exclusively to the atomistic philosophy.²⁴ Contrary to Kullmann's supposition, Greeks had already achieved a vision more proximate to our concept of natural law in the fourth century B. C. Demosthenes, e.g. expressed the supremacy of law and order in nature:

ὅλως δ' οὐδὲν οὔτε σεμνὸν οὔτε σπουδαῖον εὐρήσομεν ὃ μὴ νόμου κεκοινώ-
νηκεν, ἐπεὶ καὶ τὸν ὅλον κόσμον καὶ τὰ θεῖα καὶ τὰς καλουμένας ὥρας νό-
μος καὶ τάξις, εἰ χρη τοῖς ὀρωμένοις πιστεῦειν, διοικεῖν φαίνεται.

We shall not find at all anything outstanding or extraordinary which does not take part of law, since the order of the law²⁵ seems to guide the whole world, the heavenly bodies and the seasons, if we must trust what we see (Demosthenes, *Contra Aristog.* 2[26],26 f.).

It is worth remarking that Demosthenes' testimony does not make the law ruling natural events dependent on the will of a god. On the contrary, the law represents an order in which external reality participates. Lucretius also defends the existence of objective natural laws in his poem *On the Nature of Things*. The Roman poet uses different names for the principles sanctioned by nature that rule becoming: *foedera naturai* (I,586; II,301; V,56, 924) and *leges naturai* (V,58 f.), etc.²⁶ Cicero (*Pro Scauro*, 5), Vergil (*Georg.* I,60; *Aen.* I,69) and

21 W. Kullmann, *Antike Vorstufen*, pp. 91 ff.

22 *Ibid.*, p. 89.

23 This statement does not mean that after antiquity the belief disappeared.

24 Stoics and other philosophical schools were also materialists, but I do not include them here.

25 I take νόμος καὶ τάξις as a hendiadys.

26 W. Kullmann, *Antike Vorstufen*, p. 72, states that the concept of scientific law has in Lucretius a strong metaphoric sense that does not exist in the modern notion. Nevertheless, the modern

Ovid (*Metam.* X,353) also used the word *foedus* to designate the natural laws as unchangeable principles that govern becoming. That points to a usual, straightforward, understandable meaning of these terms among Roman intellectuals. As in the case of the Greek authors, the metaphor comes from social reality. Seneca follows the Stoic view in his *Natural Problems*. He also uses the expressions *leges naturae* and *constituta naturae*. His use of both concepts is based on the parallelism macro-/microcosmos,²⁷ and compares natural processes with developments in the human body, which he also considers natural laws (*Natur. qaest.* III,15,3). Seneca believes that the whole of nature proceeds through *constituta*, “laws” or “ordinances” (III,16,3–4; cf. 29,4), which are already in the seeds of beings (III,29,3–4). This concept is similar to the Lucretian *semina rerum*.

These streams originate at the end of the classical time and also survive until the end of antiquity. I could not discover a similar notion of necessary natural laws independent of the divinity among the Christian authors.

c) The mathematizing approach

The idea that there are some unwritten principles shared by all people and others related only to particular civilizations or communities lies, probably, at the origin of the antinomy nature/law.²⁸ In this opposition, nature was understood as the universal, immutable and unchangeable norm, while the law was conceived as particular, arbitrary, changing and relative. Both referred to social norms. When some circles mentioned the law or laws of nature, they were not referring to natural laws in the modern sense, but speaking metaphorically of supposed natural legislation, where the strongest could exercise arbitrary power. However, only some small intellectual circles maintained such a position in Athens. Not even all Sophists can be included in this radical critique of the order existing in the polis. Plato, who had a significant role in transmitting the vision of some philosophical tendencies, mainly materialists and relativists, tried to reinforce the traditional image of the unity between the order existing in nature and in the human world. He defended the correlation of both spheres and, like Aristotle, defended a politics according to nature. Nevertheless, the debate had no relation to the problem

concept is also used metaphorically, since it too comes from the social concept of law. A better interpretation offers R. Eucken, *Geschichte und Kritik*, pp. 15 f. R. Kl. Reich, *Der historische Ursprung des Naturgesetzesbegriff*, in: *Festschrift E. Kapp zum 70. Geburtstag am 21. Januar 1958 von Freunden und Schülern überreicht*, Hamburg 1958, pp. 121–134, located in this Lucretian passages the origin of our concept of natural law.

27 W. Kullmann, *Antike Vorstufen*, p. 73.

28 In this way, I am opposing the usual interpretation that anthropological “researches” or contact with other peoples were what produced this opposition. Greeks have always had continuous contact with other peoples and were very conscious of the existing differences.

of the existence of natural laws in our sense. The Greeks acknowledged the existence of natural regularities, but they did not arrive at a formulation of the concept of natural law. Nevertheless, several determinations of our notion have their origin among the Greeks. In this sense, Plato contributed in a decisive way to the modern conception of natural law through:

1. the mathematizing of philosophy as the researches of the so-called Tübingen Schule, and especially of Konrad Gaiser, have shown,²⁹
2. the theory of Forms,
3. the extension of the use of word νόμος to natural phenomena, and
4. the radicalization of the notion of the rule of law.

(1) In the history of the emergence of the notion of natural law, the Pythagoreans probably occupied a significant position. A passage of Aristotle hints in this direction:

Μεγέθους δὲ τὸ μὲν ἐφ' ἓν γραμμή, τὸ δ' ἐπὶ δύο ἐπίπεδον, τὸ δ' ἐπὶ τρία σῶμα·καὶ παρὰ ταῦτα οὐκ ἔστιν ἄλλο μέγεθος διὰ τὸ τὰ τρία πάντα εἶναι καὶ τὸ τρις πάντη. Καθάπερ γάρ φασι καὶ οἱ Πυθαγόρειοι, τὸ πᾶν καὶ τὰ πάντα τοῖς τρισὶν ὥρισται· τελευτή γάρ καὶ μέσον καὶ ἀρχὴ τὸν ἀριθμὸν ἔχει τὸν τοῦ παντός, ταῦτα δὲ τὸν τῆς τριάδος. Διὸ παρὰ τῆς φύσεως εἰληφότες ὥσπερ νόμους ἐκείνης, καὶ πρὸς τὰς ἀγιστείας χρώμεθα τῶν θεῶν τῷ ἀριθμῷ τούτῳ.

A unidimensional magnitude is a line, while a bidimensional one is a surface, and a three-dimensional, a body. There is no other kind of magnitude beyond these, because the “trice” extends in all directions. For, as also the Pythagoreans say, the three determines the world and everything, since beginning, middle and end have the number of the universe, and they believe that it is the number of the triad. Therefore, since we have taken this number from nature as its law of it, we also use it for the cult of the gods (Aristotle, *De caelo*, I,268a7–15).

Despite the mixture between mathematical and superstitious language, it is clear that the Pythagoreans gave the first step on the long path leading to our concept of natural law. However, according to the existing testimonies, Plato presented the most comprehensive understanding of reality on mathematical terms. Mathematizing is one of the central characteristics of the modern concept of natural law. Platonic philosophy, especially his oral

²⁹ K. Gaiser, *Platons ungeschriebene Lehre. Studien zur systematischen und geschichtlichen Begründung der Wissenschaften in der Platonischen Schule*, Stuttgart 1968².

teaching, is the demonstration of his interest in giving a mathematical explanation of the whole of reality. The mathematical character of the physical and the political world also occurs in his written work, and especially in the *Timaeus* and even in the *Laws*. Plato offers numerous passages in which both mathematical and regular aspects of the physical world are manifest.³⁰

(2) Plato tried to transcend the opposition between law and nature. He proceeded to extend the notion of *nomos* to the whole of reality and to root it in the intellect. The clearest exposition of this approach occurs in the refutation of materialism in the tenth book of the *Laws*. He offered a very complex and nuanced approach to nature, which in its different connotations applies to every field of reality. Plato formulated for the first time in a coherent way the idea that nature was ruled by laws (cf. *Leg.* X, 892b3–8). The highest meaning Plato has given to *physis* is the union of the natural disposition and the form³¹ contained in the law and transmitted through education. Not only human beings but also the whole of reality is submitted to the harmony and regularity of the mathematical structure of the law, where the Ideas have the same function as the law in the human sphere. As the Ideas are mathematically defined, so is their reflection, our world. The only difference is that in our world the kind of *chora* introduces a principle of movement, multiplicity, and change that is not present in the ideal world, as it is manifest in the allegory of the line at the end of the sixth book of the *Republic* (VI, 509d6–511e5).³²

(3) However, there are much fewer occurrences of the idiom νόμος ὁ τῆς φύσεως applied to the natural world. It occurs related to particular natural phenomena. For instance, in the *Phaedrus* (250e–251a), sodomites practice a *nomos* against *physis*, since they follow the *nomos* of quadrupeds. In the description of the blood diseases, Timaeus mentions those disorders produced by the intake of food against the laws of nature (83d–e). In the *Critias* (121b–c), the main character of the dialogue mentions that Zeus rules ἐν νόμοις. It is about the traditional representation of Zeus' governance, already present in Hesiod and Aeschylus among others. The distinction between human and natural phenomena is not yet fulfilled, as happens in all deistic beliefs: God can change the ordinary course of natural events for helping or punishing human beings. Nevertheless, the essential aspect with the highest impact

30 It is impossible here to detail the importance of Plato's thought in the construction of a mathematical model for the interpretation of reality. This issue has been studied in detail by K. Gaiser, *Platons ungeschriebene Lehre*, esp. pp. 325–331, for the significance of Plato's oral philosophy for the mathematical understanding of nature.

31 I understand as "form" the norm of behaviour contained or transmitted by the *nomos*. Cf. F. L. Lisi *Einheit und Vielheit*, pp. 179–181.

32 Cf. F. L. Lisi, *República VII 517a8–521c1*, in: *Emerita*, 82, 2018, pp. 233–252.

lies on a field that for Plato belongs to *physis*, even if for us it is strange, namely the laws of destiny (νόμοι τῆς εἰμαρμένης; *Tim.* 41d–42e, 90e–92c; *Leg.* X,904c–905c; *Phaedr.* 248c–249d; etc.). This conception has had its most decisive impact on the Stoics and the philosophy depending on them. The laws of destiny regulate the world of nature not only in reincarnation but also in the whole of becoming, as the myth of the *Statesman* (269c4–274e4) tells us. Nevertheless, they are still related to the moral world. In antiquity, the unity between moral and natural spheres was permanent as it is today for most of people with a religious belief. My punishment or reward depends on my behaviour, and this behaviour can also have consequences for natural phenomena, in myself or my circumstances with positive or negative influences. Although this human colouration is manifest, it is undeniable that these are the first occurrences of the word law applied in a modern sense to the natural world.

The word *nomos* has the most numerous occurrences in the Platonic corpus. This fact shows the significance that Plato gave to the concept of regular repetition of phenomena in the human and natural world. He conceived both spheres as a unity, and he intended to overcome the opposition of *physis* and *nomos*. As it is shown in the X. book of the *Laws*, *nomos*, i.e. the ordered regular repetition of the phenomena, has priority over chaos and disorder. The law is god, as it is said in the *Laws*.³³ The *nomos* rules not only nature but also men, since the good ones follow the law of the city and the ordered movement of the world-soul in the sky, as the end of the *Timaeus* (89d2–90d7) proclaims. Human and natural spheres proceed according to mathematical proportions that determine the order of becoming.

(4) Among the preserved testimonies, Plato represents the first and highest acme of the theory of the rule of law. In the *Republic*, if the philosophers are above the law, it is because they are the incarnation of law, the true god of the community, as it is declared in the *Laws*. Everybody is the slave of the law, especially the rulers (*Leg.* IV,715c6–d6). The law rules over humans and over the universe, which has a mathematical structure so far as possible. Here actually begins not only modern politics, but also modern science. The law is the reflex of the immutable order of the World of Forms and political and natural law are no contradictory, but analogically related. Human beings can be happy only if they imitate the order of the cosmos. This means regularity, especially the regular repetitive movement of the universe, man and society as it happens in the seasons, the feasts and the behaviour of the individual. All of them imitate or, better, follow the cyclical movement of the stars.

33 Cf. F. L. Lisi *Einheit und Vielheit*, pp. 65–75.

Education is for Plato the continuous repetition of behaviours learned through imitation for introducing order in the cycles of the different kinds of souls. It is unnecessary, I believe, to insist on Plato's stress on research in astronomy, mathematics or other types of mathematical knowledge in the Academy. The conception of a world that regularly repeats and recalls the order of the ideal world is one of the main contributions to our vision of the law of nature. Another is the extension of the political ideal of the rule of law to nature, because in principle it puts the accent on the unrestricted sovereignty of order and repetition in the political sphere and considers it an imitation of the order existing in nature. As the Demiurge rules over reality, the law rules over the community. This position of the law in both society and the natural world had an enormous impact. It utters a very modern aspiration: to live according to nature. Plato has tried to unite both traditions, or rather to conciliate the new emerging approach to reality, which insisted on the importance of nature in human affairs, with the truth of the tradition. Unfortunately, I cannot follow this history in detail here. Still, I hope to have demonstrated not only that our notion of natural law has its roots in the social conception of the norm, but also that it determines in a tangible way how we perceive nature itself. The remaining question is, whether we really know what we think we know. In other words, whether the mathematical structure of reality is genuinely that or a mere projection of our social experience.

Conclusion

The first result of this brief panorama is that the historical analysis of the concept of natural law cannot be reduced to the occurrences of the idioms οἱ τῆς φύσεως νόμοι, *leges naturae* or similar expressions. More significant than these occurrences are clear references to regularities existing independently of man, which can be mathematically formulated. Secondly, it is manifest that there was no unidimensional evolution. On the contrary, different conceptions coexisted and coexist simultaneously, and their predominance changed in different periods.³⁴ Further, the mutual contamination certainly existed, and this is an issue that should be more precisely determined. The concept of natural law had a religious origin. It was a projection of the regularities existing in social and individual behaviour and related to moral principles of punishment and reward. It was a radicalization of the idea that

³⁴ Although the progress in the knowledge of natural phenomena is accompanied by a clear predominance of the scientific notion of natural law, the idea that God can work miracles is still present in theology and popular belief.

the gods had transmitted to humans the rules they had to respect in their relationship to them, to nature, and among themselves. With these norms, the gods ruled the cosmos in a way parallel to the world and human order. Finally, it is probably that this seminal perception of human regularities substantially determined how we perceive the external world and believe in the existence of an objective order which can be understood based on our aprioristic mathematical approach.