

# The AI spectrum under the doctrine of necessity: Towards the flexibility of the future legal praxis

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**Abstract:** Society is rapidly changing into an implicitus one. The main factor leading to this societal transition is the integration of artificial intelligence (AI), influencing all aspects of anthropocentric legal order. The deep concern to safeguard fundamental human rights under unforeseeable circumstances threatening hypostasis, leads those who are involved in the legal praxis to reorganize the legal system to ensure its functional continuity. To this purpose, a reliable extra-legal tool, such as the doctrine of necessity, is proposed, to validate the issue of AI development that falls outside the purview of any legal process, though, being necessary for society prosperity.

**Keywords:** artificial intelligence; doctrine of necessity; legal system; society

## 1. Introduction

Artificial intelligence (AI) being the future economic resource [1], the capability of managing it has become a critical issue. AI, which is not in compliance with regulatory standards and the fundamental principles of law, neither has a value for itself as an evolutionary research field, nor for the prosperity of a society, as a co-part of the entire socio-economic system.

Indeed, AI development promises to improve well-being and help address complex challenges in many sectors, such as healthcare [2], agriculture [3], criminal justice [4], financial services [5], marketing and advertising [6], transportation [7], education [8], scientific research [9], (i.e., AI promises to improve the astronomical imaging). Alongside benefits, AI development and integration raise public policy considerations [10], since AI-based society is perceived as an implicitus, that is confused, society, where necessity is its transformative force.

The meaning of necessity is often not clear, and varies according to the reference framework (e.g., societal or legal). However, it is generally considered as an intrinsic reaction to exogenous stimuli, which may be natural or artificial. More specifically, necessity in the societal context reflects a self-protective act, an entirely natural impulse allowing an individual to both adapt and survive in changing environments [11], while, in the legal context, it concerns the regulation of emergency cases in which human agents have intentionally caused damages to life and property, to avoid greater damages and losses—the so-called doctrine of necessity [12].

According to this doctrine, certain conducts that are prima facie prohibited by law may be permitted under exceptional circumstances, when are necessary to avert a greater harm. Hence, it is certain that the doctrine of necessity must be approached by

the legal praxis with extreme caution. In general, the doctrine is invoked when an illegal act is condoned to prevent a greater mischief [13].

The goal of this paper is to assess if the doctrine of necessity can be utilized to find reasonable guidelines for solving the ethical issue of the regulation of AI in integration scenarios in which some human rights violations emerged. This attempt may supply contemporary AI regulations with new perspectives, which could bring forth a new conception of the importance of lawful integration of AI into everywhere.

The rest of the paper is arranged as follows. Sections 2 and 3 conceptualize the term necessity in societal and legal context, respectively. Section 4 introduces the invocation of the doctrine of necessity in the light of an imaginary scenario, and in section 5, conclusions, as well as hints for future work, are given.

## **2. Necessity in the social context**

The term necessity is very often found in works about societal transformation [14] and it is inextricably linked to variables such as evolution [15] and invention [11]. Of course, necessity, evolution and invention are not tangible and measurable concepts like inflation or capital. They are just explanatory indexes of societal changes. Those are terms that describe certain aspects of a quasi-causal relation [16], and, more precisely, they are used to express the bidirectional connection between the cause (necessity) and the effect (evolution and invention). They are used to explain a twofold situation: emergent forms of innovation create new needs and needs is the starting point to innovate and precisely, this is evolution.

The meaning of necessity in the social context is often understood in ways that are deeply philosophical. In Philosophy, necessity expresses the principle according to which something must be so, by virtue either of logic or of natural law [17]. It is often opposed to chance and contingency [18]. The well-known ancient Greek philosophers, such as Plato and Aristotle, whose ideas still impact society, focused their attention on necessity, as an inherent feature of human nature and it is related with intelligence and force [11]. In other words, if something is being necessary simply means that it cannot be otherwise, under specific conditions. For instance, although zoom and apps like it and the grocery delivery service were all around, they weren't part of many people's routine, because people don't easily change the way they do things. There must be something that prompts them, and the pandemic just forced that [19].

In a nutshell, social transformations arise from changes in recognition of the necessity to address crises ranging from the reduction of natural resources and climate change to natural disasters and human privacy. It must be also pointed out that there is a semantic distinction between natural and artificial necessity. The former, which is synonymous to natural law, is seen as a building block of the latter, which refers to the creation of needs imposed by certain circumstances. For instance, food is a natural necessity of living entities, but government is an artificial necessity, according to Machiavelli, see in the study of Vadi [20]. The line between natural and artificial necessity is not always clearly established and their differentiation depends on the context (e.g., time, space, morality, law) [12]. Therefore, a necessity may be natural and so acknowledged by everyone, or artificial, which can be considered as a process

of creating new instances of nature, utilizing the logic continuity considering novel circumstances.

### **3. Necessity in the legal context**

Necessity in societal context has mainly an inner-behavioral dimension. It is nothing else than a self-protective act, an entirely natural impulse allowing an individual to both adapt and survive in changing environments. Hence, changes to individual behavior influence population dynamics, that is, societies [21].

A common path to govern the symbiosis of individual changes is by establishing a legal network, which can be considered as a complex system [22], since it involves heterogeneous external and internal entities, such as legal praxis, laws, principles, and the environment within which laws are enacted. On the one hand, regardless of any social changes, there is a core structure in the legal network which is based on fundamental principles. On the other hand, there are structural properties (e.g., rules) that are influenced as the society changes. For example, when new technology is introduced to society, new rules are required to regulate activities associated with this technology [23]. Governments and other groups participate in novel law-making, taking into consideration the hierarchy of legal system. For example, the Constitution of a State holds a superior position in the legal hierarchy and can be amended under specific conditions described in the same Constitution. The Statute Law of a state holds a next position and can develop over time as new rules are adopted and existing rules are amended or repealed [24]. Judges, lawyers, and jurists interpret those rules under the light of the fundamental principles of law. These principles are “jus cogens” general norms of international law [25], which are hierarchically superior to other rules and are universally applicable since they protect fundamental values of society.

There is no doubt that the main purpose of a state is its self-preservation and continuation to guarantee society prosperity. Its deep concern is to safeguard its constitutional law under exceptional circumstances and emergency cases, which arise due to changes or novice entities introduced in existing societal context. State continuation and self-preservation are used as synonyms for necessity. In this view, self-preservation constitutes “a unilateral action taken in response to a situation of grave and imminent peril affecting the essential interests of the responding state” [26]. The self-preservation and the continuation of a state, as well as the pressing need to find solutions for factual unforeseeable situations, led the legal praxis to develop the doctrine of necessity. It is not a universally acceptable principle of law, such as the doctrine of natural justice, which includes two basic principles. The first one “*nemo iudex in causa sua*” is a rule against bias and the second one “*audi alteram partem*” says that no person shall be condemned without being heard [27].

Contrary to general principles of law, the doctrine of necessity is an extra-legal tool which is invoked to justify acts that fall outside the purview of the law, and, at the same time, are necessary to preserve State continuity. Necessity in the legal context is codified into Article 25 of the International Law Commission Draft Articles on State Responsibility [28]. This article equates necessity with defense. It states that necessity is invoked by respondent States primarily in times of crisis, as an excuse for the breach of an international law obligation, as part of litigation or arbitration proceedings.

In a few words, the legal doctrine of necessity is, really, the ability of a source of authority to justify an act not in conformity with law, but required in exceptional cases, where there is a grave danger either for the essential interests of a society as State or for the society as a whole community.

Historically, the doctrine of necessity has been invoked in times of crises, e.g., military, environmental, economic crisis [29], as well as in light of the current pandemic situation [30], where authorities adopted measures (i.e., restrictions, like lockdown, shut down of businesses and borders, etc.), which result in breaches of international law, to safeguard public health.

#### **4. The doctrine of necessity to validate AI development**

“A large planetary object called ‘AI-Dark Energy’ is racing towards the Earth. In the year 2122, a group of prominent scientists, including AI-experts, monitor the development of the bizarre phenomenon and they predict that the collision will take place over the next hundred years, resulting in deactivation of the northern hemisphere, which will dramatically change the natural and societal scenery. After fifty years of research, in 2172, the scientists’ team found that the only solution to avoid the unexpected danger is the AI development. Having this in mind, researchers worked hard for many years and, finally, in 2222, they managed to save the Earth by changing the orbit of the invader planet, due to achievements in the AI field.” (Extract from Panagiotis’ essay on the future of earth in the hi-tech Epoch—a 12-year-old high-school student). This quotation could be worthy of a science-fiction movie. Enhancing the plot of the imaginary scenario, suppose that a group of people sues the group of AI experts for human rights abuses. The applicants argue that the rapid increase of AI has birthed an era of unemployment due to the displacement of human labor, thus resulting in breach of human rights to work. They also claim that AI algorithms have shown discriminatory tendencies, especially based on gender and race, thus violating the legal principle of equality. Furthermore, the complainants argue that the AI systems usage for surveillance purposes, such as the facial recognition system to record images of people inside vehicles entering and leaving a country, limits the right of freedom of movement. They, finally, argue that sudden technological shifts intrude into the lives of citizens and abuse their basic human right to privacy. At trial, the AI-experts raised the defense of necessity. They plead that concern about humanity was the only motive for their actions and that the damage they caused was minute compared to the impending catastrophe that they were attempting to avert. Should the court convict or acquit the AI-experts?

The question raises by the fictive scenario about the invocation of the doctrine of necessity to validate AI development is not purely hypothetical. On the contrary, it reflects issues that have already appeared in many studies [31,32].

According to the judicial authorities, the main crucial prerequisite for the application of the doctrine of necessity is an imperative and unavoidable need or exceptional threat against the citizens of the countries in need, and the non-existence of alternative.

In the case of the above scenario, governments around the world struggle to resolve the dilemma about how to tackle the emergency. Protecting humanity, by

investing in the AI development and integration, and sacrificing some human rights, or defending them by limiting the AI achievements. Governments of the countries of the northern hemisphere decided to recruit scientists to develop AI mechanisms to prevent the collision. But the ubiquitous nature of AI applications affects citizens all over the world. Thus, many human rights were violated, and some States have breached their obligations. The defendants, that is the group of AI experts, were found not guilty because they acted in good faith by performing his duty as scientists, and as the court held that such situation of absolute necessity (i.e., to prevent the deactivation of northern hemisphere) may be considered a defense against the charge of human rights violation.

The idea behind this fictitious scenario reflects the dilemma which represents the spectrum of modern ethical issues resulting from the use of AI in every aspect of human activity: AI-based growth without limits or limited growth without AI development. This dilemma is the product of structural and functional relations between societal and legal systems. The choice to give priority to one aspect of the dilemma over another reflects co-evolution systems demands. According to Systems Theory, systems evolve during their lifecycle and are not independent, are interrelated and in most cases also intertwined. Their interrelations are often not explicit and impose changes resulting in inconsistencies to one another due to their inherent features [33].

In a few words, to search for a way to validate AI development and integration is to search for a way to reform the strict legal praxis into a more flexible one, by using the doctrine of necessity as the appropriate mechanism, since it ensures a degree of flexibility. From the systemic point of view, flexibility is necessary for a system to have options to be able to cope with its dynamic environment [34]. From the legal point of view, flexibility allows the law to adapt to changing needs and it correlates with emergencies [35]. Reliance on necessity would add flexibility in law and thus, legitimacy to AI development.

## **5. Conclusions and future work**

In this paper, a philosophical discussion of “necessity” in society and law, is introduced. This attempt is made to draw clear distinctions between the different nuances of necessity, within societal and legal context. When one refers to necessity in a societal context, then one refers to either natural or artificial necessity, and that should be explicit connected with a human self-protective act to adapt or survive in changing environments. On the other hand, there is a place for the concept of necessity in the legal context, which is associated with the self-preservation of a State, or defense. Therefore, the notion of necessity has an analogy in the legal theoretical apparatus, which is strictly defined as the doctrine of necessity, so to avoid confusion with the universally acceptable principles of law. This extra-legal tool may function as particularly useful reference and stepping-stone for researchers conducting further studies on the co-evolution of social and legal systems. It reflects modern ethical issues resulting from the use of AI in every aspect of human activity: AI-based growth without limits or limited growth without AI development. This dilemma is the product of structural and functional relations between societal and legal systems. The choice

to give priority to one aspect of the dilemma over another reflects co-evolution systems demands.

According to Systems Theory, systems evolve during their lifecycle and are not independent, are interrelated and in most cases also intertwined. Their interrelations are often not explicit and impose changes resulting in inconsistencies to one another due to their inherent features. In this perspective, the doctrine of necessity in systems co-evolution demands is to be taken into account for future work. This will contribute to the understanding of AI and society co-evolution in two ways: (1) to find a general legal framework that validates technological advances in societal transformations and, (2) to identify the specific mechanisms that could link this knowledge to what is known in the legal praxis as reflexive law.

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