

Ethics Guidelines for Artificial Intelligence: Comparing the European and Chinese Approaches

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As Europe is a weaker actor mainly due to her digital underdevelopment, the EU is settling on the regulatory side of digital sovereignty. The article is to comparatively analyze the European and Chinese AI ethical guidelines considering the strategic and normative scope of the guidelines as well as their implications on the legal frameworks of AI both in Europe and China. In this field, the most important initiative in the EU was carried on by the High-Level Expert Group on Artificial Intelligence, which, in 2019, released the “Ethics Guidelines for Trustworthy AI,” a catalogue of principles as well as operative measures to achieve Trustworthy AI. In China, instead, the most important initiative was the “Beijing AI Principles” released in 2019 by the Beijing Academy of Artificial Intelligence, and the “Principles to Develop Responsible AI for the New Generation Artificial Intelligence:

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Developing Responsible Artificial Intelligence” released in 2019 by the New Generation AI Governance Expert Committee.

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I. EUROPE, CHINA AND THE AI: THE REGULATORY ISSUE

In the age of digital revolution, with the emergence of the digital sovereignty, the European Union (EU) has found itself caught in the middle, sandwiched between the two geopolitical protagonists in the digital realm—the US and China. As Europe is as a weaker actor mainly due to her digital underdevelopment, the EU is settling on the regulatory side of digital sovereignty.¹ A milestone in this regard is the EU General Data Protection Regulation (GDPR) adopted in 2016² and entered into force in all Member States from March 25, 2018. GDPR, on the one hand, bounds any company around the world that processes the personal data of the EU citizens, while, on the other hand, it is a cutting-edge comprehensive law providing strong guarantees to data subjects. GDPR will soon be a prestigious model to be transplanted to similar regulations in other jurisdictions.³

If GDPR is fully implemented, the EU can play a leading regulatory role through the “Brussels effect”⁴ in the field of Artificial Intelligence (AI), which is a key factor deeply affecting economies, societies and cultures at domestic and international level. In this regard, the European normative capacity should be fully expressed in the creation of a regulatory framework for ethical AI, which could both inspire other countries with European values and principles for developing and using AI “for good and for all.”⁵

As a matter of fact, the “Brussels effect” has also been displaying in China, especially in the field of data protection where the minimal regulatory approach followed in the beginning has been replaced by a well-structured regulatory framework in the digital realm. A single overarching data protection law was drafted modelled after the EU GDPR and arrived at its second version⁶ as a decisive step in this direction. The shift towards a stricter regulatory approach is one of the Strategic Objectives in the framework of the 2017 New Generation Artificial Intelligence Development Plan.⁷ According to this Plan laws and regulations have

to be flanked by ethical norms and standards. Therefore, the definition of the ethical framework becomes a crucial factor for the development of principles and guidelines for AI which can be co-shared in the global society.

The primary purpose of this research is to comparatively analyze the European and Chinese AI ethical guidelines considering the strategic and normative scope of the guidelines as well as their implications on the legal frameworks of AI both in Europe and China. This paper is composed of five parts including Introduction and Conclusion. Part two will compare the European and Chinese AI strategies and role of law and ethical standards. Part three will discuss the trustworthy AI in Europe as the ethical pathway. Part four will investigate the ethical framework for AI in China.

II. EUROPEAN AND CHINESE AI STRATEGIES AND THE ROLE OF LAW AND ETHICAL STANDARDS

The European Commission's AI strategy was officially launched with a Communication on AI in April 2018,⁸ which followed the "Declaration of Cooperation on AI."⁹ The strategy issued a warning about the risks associated with AI, stressing the importance of a regulatory effort to manage these risks as a main part of the EU AI strategy. As a matter of fact, the 2018 Communication, laying the foundations for a comprehensive AI strategy, has envisaged a European future leadership in developing and using AI "for good and for all," under the European "values" and "strengths" which can give answers "to the new ethical and legal question raised by AI."¹⁰

The Communication is based on the following three pillars: (1) boosting the EU's technological and industrial capacity for AI taken up by the public and private sectors of economy; (2) Preparing socioeconomic changes brought about by AI, addressing in particular the transformations in the labour market and the need to update the education and training systems of member states; and (3) Ensuring an appropriate ethical and legal framework for AI.¹¹

With respect to the third pillar, the European Commission, first of all, explicitly referred to Article 2 of the Treaty on European Union,¹² which lists the EU's founding values as respect for "human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging

to minorities” and a “society in which pluralism, non-discrimination, tolerance, justice, solidarity and equality between women and men prevail.”¹³ Then, the Commission quoted the EU Product Liability rules and GDPR which, at that time, had not yet come into force. Moreover, it proposed to adopt the Privacy Regulation and Cybersecurity Act and to work on the interactions between AI and intellectual property rights.¹⁴

Considering these aspects the Communication announced the draft of AI ethical guidelines, on the basis of the Charter of Fundamental Rights of the EU, in order to address the impact of AI on fundamental rights, including privacy, dignity, consumer protection and non-discrimination.¹⁵ Drafting the guidelines was assigned to a High-Level Expert Group on AI which released the Ethics Guidelines for Trustworthy AI.¹⁶

The new European Commission, led by Ursula von der Leyen in December 2019, further enhanced the EU AI strategy under the new established twin key priorities—the green and digital transitions. On February 19, 2020, the European Commission launched an ambitious, comprehensive package on the EU’s digital policy, including a White Paper on AI and a European strategy for data called, “A European approach to excellence and trust.”¹⁷ The package,¹⁸ which is both very assertive and comprehensive, marks another step forward in Europe’s quest to lead on “human-centric” AI and raises the question of “how to write the rules of AI according to an ethical and human rights agenda without hampering innovation or harming uptake of AI technologies in Europe.”¹⁹

In this direction, after a public consultation on the White Paper on AI running from February to June 2020 and the presentation of an Assessment List for Trustworthy AI (ALTAI) in July 2020,²⁰ the European Commission presented both a revised coordinated plan on AI and a proposal for a regulatory framework on AI on April 21, 2021.²¹

In China, a newly emerging AI superpower, meanwhile, the New Generation Artificial Intelligence Development Plan was released by the State Council in 2017.²² The Plan identifies AI as “the main driving force for China’s industrial upgrading and economic transformation.” This Plan outlined China’s AI policy objectives, delineating three major steps each of which refers to a series of targets, some of which are more defined, while others vaguer, leading China to be the world’s innovation center for AI by 2030.²³ A pillar of this strategy is to promote a healthy

and rapid development of AI through an “institutional arrangement” and the creation of an “inclusive international environment.”²⁴

In addition, the Plan outlined six supporting guaranteeing measures for AI development which are, in order, to: “Develop laws and regulations and ethical norms that promote the development of AI”; “Improve the key policies that support AI development”; “Establish standards and the intellectual property system for AI technology” (where privacy is mentioned); “Establish safety supervision and evaluation systems for AI” (where privacy is also mentioned); “Vigorously strengthen training for the labor force working in AI”; and “Carry out a wide range of AI science activities.”²⁵ In the timeline of the strategic objectives to be implemented in China by 2025 there is the initial establishment of AI laws and regulations and ethical norms and, by 2030, the accomplishment of more comprehensive AI laws and regulations, ethical norms and policy system.²⁶

The central role of the legal and ethical factors, recognized by this Plan implies stronger efforts not only in researching and drafting new laws, regulations and ethical frameworks on AI, but also in promoting an active participation in a global governance of AI and “deepen[ing] international cooperation in AI laws and regulations.”²⁷ Subsequently, these further initiatives on AI ethics and governance were launched in 2019, including the release, by the New Generation AI Governance Expert Committee established by the Ministry of Science and Technology (MOST), of eight governance principles for developing responsible AI for New Generation Artificial Intelligence.²⁸ In the meantime, a decisive shift towards the creation of a new regulatory framework aiming at sustaining the healthy development of AI was made. Following the 2017 Cybersecurity Law, the Data Security Law was approved in June 2021 and the Personal Information Protection Law²⁹ is on the way.

III. SHAPING TRUSTWORTHY AI IN EUROPE: THE ETHICAL PATHWAY

A. The Guidelines formulated by the High-Level Expert Group on AI

In the communication launching the Coordinated Plan on Artificial Intelligence,³⁰ the European Commission delineated the strategic framework designed to

boost the development and use of AI at the Union and national levels. Among the objectives and initiatives of the Plan, the Commission specifically aimed at developing ethics guidelines, so that “Europe can become a global leader in developing and using AI for good and promoting a human-centric approach and ethics-by-design principles.”³¹

Following this communication, the European Commission selected fifty-two experts, among academia, industry and civil society,³² in order to organize the High-Level Expert Group on Artificial Intelligence (AI HLEG). One of the assignments of the AI HLEG was to elaborate the Ethics Guidelines for Trustworthy AI,³³ a catalogue of principles as well as operative measures to achieve Trustworthy AI. By adopting a human-centric approach, the Guidelines state that AI should not be intended as an end in itself, but a tool for humanity and its common good in order to foster human welfare and freedom.³⁴ Therefore, this “human-centric approach” should not just be limited to protecting the single individual, but broadly cover the well-being of the social environment.

Given this extensive scope, the Guidelines are involved in all the stakeholders related to AI such as: developers, deployers (whether public or private organizations), end-users or, more in general, all the social institutions directly or indirectly affected by AI systems.³⁵

According to the AI HLEG, “trustworthiness” is a prerequisite of AI and needs to be tackled by using a holistic and systemic approach encompassing the system’s entire life cycle.³⁶ The notion of “Trustworthy AI” is built upon three key elements (defined as “components”) that AI should be: (1) lawful, i.e. complying with all relevant laws and regulations; (2) ethical, i.e. ensuring the respect of ethical principles and values; and (3) robust, both from a technical and social perspective, in order to avoid any unintentional harm.³⁷ The Guidelines, however, specify that they only take into consideration the last two aspects—the ethical and robust components, thereby leaving the component on lawful AI outside their scope.³⁸

The starting point to identify the ethical principles for AI are the fundamental rights as embraced in the EU Treaties, the EU Charter and international human rights law.³⁹ In order to ensure “Trustworthy AI” in all aspects and applications, the AI HLEG formulated four ethical principles, explicitly deemed to be imperatives, namely: (1) the respect for human autonomy, which aims at always keeping the individuals in full control and allowing human supervision over AI; (2)

the prevention of harm, which expresses the necessity to protect human dignity as well as mental and physical integrity; (3) fairness, which seeks to ensure equality among individuals and hold accountable the entity responsible for the decision made by the AI; and (4) the explicability, whose goal is to make the AI process transparent and its decisions explainable to those directly and indirectly affected.⁴⁰

After delineating the fundamental ethical principles, the Guidelines indicate a list of seven requirements that AI systems should present in order to be defined as Trustworthy. Those requirements are as follows:

- (1) human agency and oversight, which covers fundamental rights, human agency (to preserve user autonomy in the decision process) and human oversight (aiming at avoiding interference with human autonomy or other harm);
- (2) technical robustness and safety, which embraces resilience to attack and security (to prevent hacking), fallback plans and general safety in case of problems or errors, accuracy (to create well-formed development and evaluation processes that can support, mitigate and correct unintended risks from inaccurate predictions), reliability and reproducibility (to assure that the AI system works properly and express the same behaviour when repeated under the same conditions);
- (3) privacy and data governance, which is further specified as privacy and data protection (so that the data collected will not be used to unlawfully or unfairly discriminate individuals), quality and integrity of data (in order to avoid socially constructed biases, inaccuracies, errors and mistakes), and access to data (to regulate who is allowed to access data and under which circumstances);
- (4) transparency, in the sense of traceability (by documenting the data sets and the processes that generate the AI system's decision), explainability (to clarify the technical processes of an AI system and the related human decisions) and communication (focused on allowing humans to promptly know when they are interacting with an AI system);
- (5) diversity, non-discrimination and fairness, which means the avoidance of unfair bias (such as the removal of identifiable and discriminatory bias during the collection of data), accessibility and universal design (to provide an accessible technology to all people regardless of age, gender, abilities or characteristics), and stakeholders participation (to foster feedback from the people involved directly or indirectly);
- (6) environmental and societal well-being, identified as sustainability and environmental friendliness (to use resources responsibly and limit energy consumption, as well as the need to promote measures securing the environmental friendliness of the AI systems' entire supply chain), social impact (to avoid the deterioration of people's social skills when using AI), society and democracy (which includes a careful use of

- AI when applied in the political decision-making and electoral contexts); and
- (7) accountability, which embraces auditability (to assess algorithms, data and design processes by internal and external auditors), minimisation and reporting of negative impact, trade-offs in case of conflict between the requirements, and redress if any unjust adverse impact occurs.⁴¹

Besides listing all the requirements that should be fulfilled in the use and development of AI, the Guidelines attempt to provide some practical and operational measures in order to effectively implement the seven requirements. These measures include both technical methods to be incorporated in the AI system (such as, for example, testing and validation of the system in order to guarantee that the system acts as it was designed for throughout its entire lifecycle), and non-technical methods (such as, for example, the adoption of regulations, codes of conduct, or governance frameworks to ensure accountability).⁴²

Given this concrete approach, the last part of the Guidelines sets out an assessment list principally for deployers of AI systems, which exemplifies a tool to evaluate the realisation of Trustworthy AI.⁴³ This practical tool aims to support the organizations that voluntarily adopt the Guidelines to self-assess the trustworthiness of their AI systems by simply answering a list of questions regarding the actual implementation of the seven requirements.⁴⁴ The list of questions, as stated by the AI HLEG, is non-exhaustive and flexible since it is intended to be adapted according to the specific use of AI system.

Following the publication of the Guidelines, some authors praised the practical approach adopted by the AI HLEG, while others criticised several aspects of the Guidelines, namely the absence of a hierarchy of the ethical principles or the lack of regulatory measures to support their implementation.⁴⁵ In this regard, indeed, it has been stressed that in creating a framework for AI governance ethics and law should be complementary, as these two fields are both necessary, but neither one is sufficient.⁴⁶ However, as highlighted by the AI HLEG, several elements of Trustworthy AI are already covered by the existing EU legislation such as, for example, GDPR⁴⁷ or the consumer protection regulations.⁴⁸

Hence, the foremost issue is whether this legal framework is sufficiently comprehensive to deal with all the aspects related to Trustworthy AI. In this regard, in February 2020, the Guidelines were followed by the publication of the White Paper on Artificial Intelligence - A European approach to excellence and trust,⁴⁹

with which the European Commission pushed forward the creation of a solid EU regulatory framework on AI. Taking into account that the existing legislation did not specifically tackle issues such as transparency, traceability and human oversight, the White Paper has paved the way to a new regulatory phase.

B. Combining Law and Ethics: the EU Artificial Intelligence Act Proposal

Within the EU institutions, the Guidelines had quite a relevant impact at the level of not only policies, but also the regulatory framework.⁵⁰ In this vein, the most recent initiative launched by the European Commission is the proposal for a regulation concerning AI (so-called Artificial Intelligence Act).⁵¹ As expressly mentioned in the explanatory memorandum of the proposal, the specific objective is to develop “an ecosystem of trust by proposing a legal framework for trustworthy AI.”⁵²

In order for the legal framework not to be excessively strict and hinder the use and the development of AI, the Commission adopted a risk-based approach, namely the drafting of regulatory measures only for high-risk AI systems.⁵³ With reference to non-high-risk AI systems, instead, what is affirmed is only the possibility to adhere to the requirements provided in the regulation on a voluntary basis by adopting, for example, codes of conduct.

The proposal was profoundly inspired by the Guidelines. As expressly stated by the European Commission, the minimum requirements provided in the regulation represent the result reached by the AI HLEG. Indeed, in order to ensure a high level of protection of fundamental rights, the proposal makes some requirements provided in the Guidelines for high-risk AI systems mandatory. Specifically, Title III, Chapter 2 of the proposal for the regulation lays down detailed legal duties with regards to data and data governance, documentation and record keeping, transparency and information to users, human oversight, robustness, accuracy and security.⁵⁴

If examining the single provisions contained in the proposal for the regulation, the first requirement of the Guidelines-human agency and oversight-is set out in Article 14 (Human Oversight). In particular, this article requires a constant supervision of high-risk AI systems by a natural person during their use in order to prevent or minimize any risks to health, safety or fundamental rights. The specific purpose of the two measures suggested to ensure human oversight⁵⁵ is to guarantee that the individual in charge of the supervision is able to monitor and detect the systems or any failure of them, and consequently take necessary actions such as,

for example, intervening or interrupting the operation of the AI system (through, for instance, a “stop” button), or deciding not to use the system at all.⁵⁶

The second requirement of the Guidelines, technical robustness and safety, is specified in Article 9 (Risk Management System) which aims at both assessing potential risks associated with the use of AI systems by identifying and analysing the known and foreseeable risks during the entire lifetime of the AI system, and adopting suitable risk management measures accordingly. Moreover, Article 15 (Accuracy, Robustness and Cybersecurity) provides that high-risk AI systems need to be designed and developed so as to avoid errors, faults or inconsistencies (in particular those due to the interaction with natural persons or other systems)⁵⁷ and avoid vulnerabilities that may cause unauthorised third parties to alter their use or performance.⁵⁸

The proposal for the regulation deals with the third requirement of the Guidelines—privacy and data governance—in Article 10 (Data and Data Governance). It stipulates the need for high-risk AI systems with training of models by data to be developed on the basis of training, validation and testing data sets that meet the quality criteria indicated in paragraphs 2 to 5 of Article 10 (such as, for example, the establishment of appropriate data governance and management practices).

Lastly, with reference to the requirement of the Guidelines concerning transparency, the proposed regulation requires in Article 12 (Record-keeping) to add logging capabilities to high-risk AI systems in order to ensure a certain level of traceability of the AI system’s functioning during its lifecycle. Furthermore, Article 13 (Transparency and Provision of Information to Users) aims at ensuring that the operation of high-risk AI systems is sufficiently transparent to enable users to interpret the system’s output and employ it appropriately by providing, for example, instructions for use that include concise, complete, correct and clear information expressed in an accessible and comprehensible way to users.⁵⁹

It should be observed that the proposal does not identify the specific technical solutions required to realise the mandatory requirements. The European Commission clarified, in its explanatory memorandum, that this choice was precisely made to guarantee the necessary flexibility that allows to design and develop AI systems by considering each time the state-of-the-art and technological and scientific progress in this field and consequently choose the most appropriate solution.⁶⁰

IV. THE ETHICAL FRAMEWORK FOR AI IN CHINA

According to a research on China National Knowledge Infrastructure, which is the largest Chinese Academic database, the earliest discussion of ethical issues related to AI dates back to 2016.⁶¹ The written AI ethical rules were put forward as self-disciplined principles as well as official policies in China.

A. The First Steps towards Ethic Rules for AI

The Beijing AI Principles, which were released in May 2019 by the Beijing Academy of Artificial Intelligence (BAAI) along with others,⁶² are classified into three parts, such as Research & Development, Application, and Governance. As for “Research & Development,” the Principles emphasize “Do Good,” “For Humanity,” “Be Responsible,” “Control Risks,” “Be Ethical,” “Be Diverse and Inclusive,” and “Open and Share.”⁶³

As for “Application,” the Principles recommend: “Use Wisely and Properly,” “Informed-consent,” and “Education and Training.” As for “Governances,” the Principles are “Optimizing Employment,” “Harmony and Cooperation,” “Adaptation and Moderation,” and “Long-term Planning.”⁶⁴ Following the principle of “Be ethical,” AI R&D should take ethical design approaches to make systems trustworthy. This may include, but is not limited to, making the system as fair as possible; reducing possible discrimination and biases; improving its transparency, interpretability, and predictability; and making the system more traceable, auditable and accountable.⁶⁵ It has been commented that the Beijing AI Principles focus on serving the people following the traditional Chinese idea that “Harmony and Optimization Coexist” (和谐与优化共生).⁶⁶ Another aspect to be noted is that, from the content of the Principles, there emerges a close relationship between ethics and safety when it comes to the AI regulation in China. This could also be reflected in the organizational structure of BAAI since the main department explaining its principles is the research center for AI ethics and safety.⁶⁷

In August 2019, another group led by the Artificial Intelligence Industry Alliance of China (AIIA)⁶⁸ released the Joint Pledge on Self Discipline in the Artificial Intelligence Industry.⁶⁹ The Pledge established the principles of “Reliable and Controllable,” “Transparent and Understandable,” “Protect Privacy,” “Clarify Responsibilities,” and “Multiple and Comprehensive.” Later in September 2020,

AIIA, along with the China Academy of Information and Communications Technology, published the White Paper of AI governance, in which the role of ethics as soft law was once again emphasized.⁷⁰

B. Official Guidelines to Promote Ethical AI in China

In the Notice of the State Council on Issuing the Development Plan on the New Generation of Artificial Intelligence, the role of government in creating AI ethical rules was emphasized and ethical policies and regulations were listed as important parts in different sentences of the Plan.⁷¹ As a background, introduction highlights that AI is a disruptive technology which may impact on social ethics. Then, the Principles listed the role of government in transposing ethics into laws. Accordingly, in the following steps to govern AI, the mission of improving ethical rules for AI was clearly listed. In 2020, the ethical rules was initially establish in several areas. By 2025, there should be the preliminary establishment of AI laws, regulations, ethical norms and policy initiatives. Finally, more complete ethical rules should be established by 2030.⁷²

Part 5 of the Notice, which is about the application measures, stipulates that the multi-level judgment structure of ethics and the ethical framework of human-computer collaboration should be promoted to fulfill the tasks above described. Generally speaking, it is significant for the government to lead the establishment and promotion of AI ethic rules in China.

Following the Notice by the State Council, meanwhile, China established the New Generation AI Governance Expert Committee in 2019. The Committee, composed by experts from academia and the AI industry under the Ministry of Science and Technology, was tasked with recommending the policy for the AI governance.⁷³ In June 2019, it released the “Principles to Develop Responsible AI for the New Generation Artificial Intelligence: Developing Responsible Artificial Intelligence.”⁷⁴ Here, the following principles were named as rules in developing AI: Harmonious and Friendly, Fair and Just, Inclusive and Sharing, Respect privacy, Safe and Controllable, Shared responsibility, Open Collaboration, Agile Governance.⁷⁵

“Harmonious and Friendly” means that AI should promote the common wealth of the human community following the values as well as ethics of all. It should address: ensuring social safety; respecting human rights as a founding premise;

and avoiding misuse and abuse. As for “Fair and Just,” AI should promote fairness and justice, so that prejudice and discrimination should be eliminated. “Inclusive and Sharing” means AI should promote green and coordinated development. For this purpose, efforts should be made to eliminate the digital divide; shared development should be promoted; and orderly competition should be encouraged.⁷⁶ As for “Privacy,” the development of AI should respect and fully protect the individual’s right to know and to choose. “Safe and Controllable” means that AI should continuously improve transparency, interpretability, reliability, and controllability, and gradually achieve auditability, supervision, traceability, and trustworthiness. “Shared responsibility” means that all the entities in AI such as developers, users, and other related parties should have a high sense of social responsibility and self-discipline, and strictly abide by laws, regulations, ethics, and standards. “Open collaboration” means different entities in China as well as the whole world should work together to promote cooperation and formation of governance framework and standards. Finally, “Agile governance” means to identify and resolve possible risks in a timely manner, thereby ensuring that artificial intelligence always develops in a direction beneficial to humans.⁷⁷

In 2021, the Secretariat of National Technical Committee for the Standardization of Information Security published the “Cybersecurity Standard Practice Guide-Guidelines for Prevention of Ethical Security Risks in Artificial Intelligence,”⁷⁸ which is technically supported by the China Institute of Electronic Technology Standardization, Tsinghua University, Institute of Automation, and the Chinese Academy of Sciences. The Standard has four main parts, namely Scope, Terminology and Definition, Ethical Security Risks in Artificial Intelligence, and the Prevention measures. Part 3 lists five risks including out of control, social risks, risks related to infringement, discrimination and risks regarding liability. Part 4, the main part of the standard, lists the basic requirements as well as specific rules on different entities.⁷⁹

As for the basic requirements, the Standard should follow national values and laws; protect fundamental rights; respect the risks of AI; promote the establishment of the system in dealing with AI risks in cooperation with different entities; and disseminate the treatment measures. Furthermore, those are specifically listed as the rules to be respected by the researchers and developers, the designers, the deployers and applicators, and the final users. In general, preventing and tackling

ethical risks are recognized as critical parts in developing AI in China.⁸⁰

In addition, in July 2019, the 9th Meeting of Commission for Deepening Overall Reform of the CPC Central Committee passed the “Plan for the Establishment of the National Science and Technology Ethics Committee,” aiming at strengthening the overall planning and guidance and coordination, and promoting the construction of a comprehensive, well-oriented, standardized, and coordinated science and technology ethics governance system.⁸¹ Further, this Committee tries to play a leading role in regulating ethical principles in developing and applying new technologies such as AI.

C. Ethics and Law: The Most Recent Developments

Today, Chinese laws and judicial cases release increasing references to ethical principles in relation to the development and application of new technologies. This reference is more common for scientific research. In particular, the Law on Scientific and Technological Progress⁸² emphasizes that “the state will prohibit the scientific and technological research and development activities that will damage national security or public interests, or violate ethics” (Article 29). The new Chinese Civil Code, came into force on January 1, 2021,⁸³ provides that “medical and scientific research activities concerning human genes and human embryos, among others, shall be carried out according to the laws and administrative regulations, and relevant provisions issued by the state, without endangering human health, violating moral principles, or damaging public interests.”⁸⁴ Also, on June 10, 2021 China passed its Data Security Law which requires:

When conducting data processing activities, the entity should comply with laws and regulations, respect social norms and ethics, observe business and professional morality, act in good faith, perform data security protection obligations, and undertake social responsibilities, and shall neither compromise national security and public interest nor harm the lawful rights and interests of any organization or individual.⁸⁵

Judicial practice is also fostering a stricter relation between ethics and technology. In a recent case which is considered exemplary in this regard,⁸⁶ the Beijing Internet Court held that with the advancement of big data applications, artificial intelligence and other technologies, the operator of an e-commerce platform should also improve its supervision and management capabilities; improve the review and screening

system; better maintain the good order and competitive ecology of the trading platform; and guide and cultivate honest and trustworthy business ethics.⁸⁷

Until now China has not released any draft of comprehensive regulation on AI. There is a debate on this topic and the EU Draft Regulation has just been translated into Chinese.⁸⁸ Chinese legislators have been concentrating on filling the regulatory gaps in the field of data protection. Actually, the Data Security Law has been adopted on June 2021 and the draft of the Personal Information Protection Law was released and published for public comments in April 2021 and are expected to be approved by the end of 2021.⁸⁹ A subsequent step, according to several scholars, could be the elaboration of comprehensive regulation of AI embodying and specifying AI ethical rules,⁹⁰ where a balance between development and regulatory needs should be reached.⁹¹

V. CONCLUSIONS: BRIDGING ETHICAL PRINCIPLES AND LEGAL RULES IN THE AI ERA: A MULTIDISCIPLINARY TASK

Considering the “Ethics Guidelines for Trustworthy AI” and the “Principles to Develop Responsible AI for the New Generation Artificial Intelligence: Developing Responsible Artificial Intelligence” in a comparative perspective, we have observed that the EU ethical rules are fashioned in a more structured, detailed and practical manner by providing both technical and non-technical methods to achieve the trustworthiness of AI systems.⁹² The Chinese rules on AI ethics are even more general, consisting basically of a catalogue of seven principles, which provides a brief description and explanation.

If generally examining the content of the two documents we see that there is an overlap of key principles, such as the recognition of the need for AI to be fair and transparent. Furthermore, if comparing the European ethical rules with the Chinese ones, as specified in the seven requirements, many other common elements have been found such as privacy and data protection (or data security), sustainable development processes, reliability, and auditability. These principles appear to be in line with other initiatives, taken both at the private and public level worldwide, within the scope of AI ethics.⁹³

On the Chinese side, however, we have also recognized the reference to the classical words that set the scene within the Chinese narrative,⁹⁴ such as harmony and friendliness, and a greater emphasis on social responsibility, and group and community relations.

As far as the normative implications of the ethical principles is concerned, the US is fast overcoming of the selective regulatory approach and drafting a more comprehensive regulatory framework. The Artificial Intelligence Act, in which some of the ethical principles formulated (or, more precisely, some of the requirements) are supposed to be incorporated. In China, instead, the normative context is still lacking specific statutory references to the ethical rules adopted. The latest released rules in this regard are the “Cybersecurity Standard Practice Guide-Guidelines for Prevention of Ethical Security Risks in Artificial Intelligence,” which have been adopted by the National Technical Committee for Standardization of Information Security. However, it should be kept in mind that the State Council’s New Generation Artificial Intelligence Development Plan does propose the eventual general regulation of this field, providing for the establishment of a legal, ethical and policy system of AI regulation by 2025. In this context, there is an ongoing debate concerning the elaboration of a comprehensive regulation of AI embodying and specifying AI ethical rules.

In recent, the process for adopting a comprehensive regulation of AI has just started in order to enshrine the rules and standards of ethical principles. This process raises new challenges for legal scholars, first of all with regards to the growing and complex dimension of sources of law.

Ethical rules on AI do not yet have the binding force as statutory provisions. They belong to the realm of the “soft law” which is part of the contemporary legal framework,⁹⁵ shaped as an intertwined network of multilevel rules. In this course, it is fundamental to create appropriate channels of communication between the different parts of the normative orders.⁹⁶ AI represents a precious occasion in this direction. These channels, which can work both at national and international levels, should be built through a multidisciplinary effort. As has been outlined, AI systems are complex and advanced social and technical systems which call for a multidisciplinary approach to be adequately regulated.⁹⁷ There is the need to put AI designers and developers in communication with experts in law, sociology, and philosophy who still work on extremely separate tracks. All of them have to

be brought closer to address together the huge legal challenges of the rising AI era. Multidisciplinarity and interdisciplinarity are reshaping social institutions including legal education.⁹⁸ The creation of discourse frameworks between experts belonging to different disciplines and the formation of multidisciplinary and interdisciplinary minds are the pre-conditions to develop commonly shared, ethical based AI legal regulations.

AI gives us a chance to create a closer dialogue between cultures, academic fields and regulations. The EU and China are both on the way to creating an ethical-based legal framework. As legal scholars are interested in the dialogue and cooperation between different sides of the world, active changes will be in action with a new research agenda. This agenda for typical ethical scenarios in AI applications should be set up first, including decision-making processes from the judicial to the financial field.⁹⁹ These are crucial and exemplary because boundaries of classical legal categories and taxonomies are changing fast. The redefinition of taxonomical and conceptual frameworks is not merely a technical issue of law. It cannot be solved with creating new jurisprudential models to be mechanically transplanted everywhere.

The contemporary society is calling for jurists to be new creators of law from a fully global perspective. They are asked to seek and find laws all the more so by confronting knowledge on a wider basis and initiating interdisciplinary and intercultural dialogue. This is the value added that the AI ethics discourse will bring. It gives us an opportunity to build a binding conscience, which is still lacking in the world's diaspora of jurists. It is not just recognition that refers to vested interests, but awareness shared by women and men of science and practice, united by the certainty of the ontic value of law. They are also capable of shaping laws through the dialogue between technical knowledge and the combination of different types of ideals and visions, in a global scope which has the strength to rise above all sources of division.

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REFERENCES

1. Hobbs maintains: “Lacking the tech credentials to compete with China and the United States as a digital player, the EU instead began to shape the digital ecosystem by exercising its regulatory power to introduce extraterritorial rules binding all those who wished to interact with its single market and consumers.” See C. Hobbs, *Project note: in search of Europe digital sovereignty*, in EUROPE’S DIGITAL SOVEREIGNTY, FROM RULEMAKER TO RULEPOWER, IN THE AGE OF US-CHINA RIVALRY - ECFR/336 91 (C. Hobbs ed., 2020) https://ecfr.eu/wp-content/uploads/europe_digital_sovereignty_rulemaker_superpower_age_us_china_rivalry.pdf.
2. Replacing the 1995 Data Protection Directive which needed to be updated as it was belonging to another “era,” when the internet was in its infancy.
3. The lead taken by Europe on the issue of the legal protection of data is also linked to the competitive advantage of the lack of alternative legal models in the field. See W. Reinsch, *Must Third Countries Choose Between EU or U.S. Digital Trade Protection Preferences?*, Center for Strategic and International Studies Blog (July 11, 2018), <https://www.csis.org/blogs/future-digital-trade-policy-and-role-us-and-uk/must-third-countries-choose-between-eu-or-us>; E. Pernot-Leplay, *Eu Influence on Data Privacy Law: Is the U.S Approach Converging with EU Model?*, 18.1 COL. TECH. L. J. 104-5 (2019).
4. The “Brussels effect” has been identified as the European Union’s capacity to shape through its regulations the international business environment, and to define legal standards which influence other countries’ rules in crucial sectors, such as data protection, consumer health and safety, environmental protection, antitrust. See A. BRADFORD, *THE BRUSSEL EFFECT: HOW THE EUROPEAN UNION RULES THE WORLD* 25ff (2020).
5. “The EU’s sustainable approach to technologies creates a competitive edge, by embracing change on the basis of the Union’s values.” See the statements of the Communication from the Commission to the European Parliament, The European Council, The European Economic and Social Committee and the Committee of the Regions, *Artificial Intelligence for Europe*, COM (2018) 237, ¶ 1. For a comment on this aspect highlighted in the Commission document see A. Renda, *Artificial Intelligence: Towards a Pan-European Strategy*, in EUROPE’S DIGITAL SOVEREIGNTY, FROM RULEMAKER TO RULEPOWER, IN THE AGE OF US-CHINA RIVALRY 54-5 (C. Hobbs ed., 2020).
6. The second draft of the Personal Information Protection Law [中华人民共和国个人信息保护法], <https://npcobserver.com/wp-content/uploads/2020/11/Personal-Information-Protection-Law-2nd-Draft.pdf>. As China’s first comprehensive data protection legislation, it was released on April 29, 2021 for a second round of public consultation (The third and final draft will be released in October 2021). On the evolution of the Chinese regulatory framework of data protection, see E. Pernot-Leplay, *China’s Approach on Data Privacy Law: A Third Way Between the U.S. and the E.U.?*, 8 PENN. ST. J.L. & INT’L AFF. 49 (2020).

7. The New Generation Artificial Intelligence Development Plan [新一代人工智能发展规划], <https://www.newamerica.org/cybersecurity-initiative/digichina/blog/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017>.
8. European Commission, Artificial Intelligence for Europe (Apr. 25, 2018), <https://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-237-F1-EN-MAIN-PART-1.PDF>; Coordinated Plan on Artificial Intelligence (Dec. 7, 2018), <https://ec.europa.eu/digital-single-market/en/news/coordinated-plan-artificial-intelligence>.
9. European Commission, EU Member States Sign Up to Cooperate on Artificial Intelligence (Apr. 10, 2018), <https://ec.europa.eu/digital-single-market/en/news/eu-member-states-sign-cooperate-artificial-intelligence>.
10. *Supra* note 9. [Emphasis added]
11. *Id.* at 3.
12. *Id.* at 13.
13. Article 2 of the Treaty on European Union states: “The Union is founded on the values of respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities. These values are common to the Member States in a society in which pluralism, non-discrimination, tolerance, justice, solidarity and equality between women and men prevail.”
14. *Supra* note 9, at 14.
15. *Id.* at 14-5.
16. On this Group, *see* next paragraph.
17. European Commission, White Paper on Artificial Intelligence—a European approach to excellence and trust, <https://digital-strategy.ec.europa.eu/en/consultations/white-paper-artificial-intelligence-european-approach-excellence-and-trust>.
18. The issued shortly before most of Europe went into lockdown, includes two additional documents: the “European Strategy for Data” and “Shaping Europe’s Digital Future.”
19. E. Brattberg, R. Csernatoni & V. Rugova, Europe and AI: Leading, Lagging Behind or Carving Its Own Way? (2020), <https://carnegieendowment.org/2020/07/09/europe-and-ai-leading-lagging-behind-or-carving-its-own-way-pub-82236>.
20. High-Level Expert Group on Artificial Intelligence, The Assessment List for Trustworthy Artificial Intelligence (2020), <https://digital-strategy.ec.europa.eu/en/library/assessment-list-trustworthy-artificial-intelligence-altai-self-assessment>.
21. *See* Part IV of this work.
22. New Generation Artificial Intelligence Development Plan [新一代人工智能发展规划的通知], http://www.gov.cn/zhengce/content/2017-07/20/content_5211996.htm; <http://newamerica.org>.
23. *Id.*
24. *Id.* ¶ V.
25. *Id.*

26. *Id.* ¶ II.
27. *Id.* ¶ V.
28. *See* Part IV of this paper.
29. PRC Personal Information Protection Law [中华人民共和国个人信息保护法], whose second draft was released and published for public comments in April 2021 and is expected to be approved by the end of 2021, <https://npcobserver.com/wp-content/uploads/2020/11/Personal-Information-Protection-Law-2nd-Draft.pdf>.
30. *Supra* note 5, COM (2018) 795 final.
31. Coordinated Plan on Artificial Intelligence, ¶ 2.6.
32. Members of the academia covered several fields such as robotics, computer science, and philosophy, while those of industry included representatives from IBM, Google, Zalando, AXA. Meanwhile, member of the civil society represented Access Now, BEUC (Bureau Européen des Unions de Consommateurs), and ETUC (European Trade Union Confederation).
33. AI HLEG, Ethics Guidelines for Trustworthy AI (2019), <https://op.europa.eu/en/publication-detail/-/publication/d3988569-0434-11ea-8c1f-01aa75ed71a1>. The Ethics Guidelines for Trustworthy AI were released in April 2019, after the first draft, published in December 2018, was subject to an open consultation which generated feedback from more than 500 contributors. The other assignment of the AI HLEG was to deliver Policy and Investment Recommendations for Trustworthy AI, a document addressed to the EU institutions and Member States that contains 33 recommendations to guide AI towards sustainability, growth, competitiveness, and inclusion. *See* Policy and Investment Recommendations for Trustworthy AI, <https://digital-strategy.ec.europa.eu/en/library/policy-and-investment-recommendations-trustworthy-artificial-intelligence>.
34. *Id.* at 4.
35. The Ethics Guidelines for Trustworthy AI states: “By developers, we refer to those who research, design and/or develop AI systems. By deployers, we refer to public or private organisations that use AI systems within their business processes and to offer products and services to others. End-users are those engaging with the AI system, directly or indirectly. Finally, the broader society encompasses all others that are directly or indirectly affected by AI systems.” *See id.* at 14.
36. With reference to the notion of AI, in a separate document that accompanies the Ethics Guidelines for Trustworthy, the AI HLEG proposed a very detailed definition of AI: “Artificial intelligence (AI) systems are software (and possibly also hardware) systems designed by humans that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve the given goal. AI systems can either use symbolic rules or learn a numeric model, and they can also adapt their behaviour

by analysing how the environment is affected by their previous actions. As a scientific discipline, AI includes several approaches and techniques, such as machine learning (of which deep learning and reinforcement learning are specific examples), machine reasoning (which includes planning, scheduling, knowledge representation and reasoning, search, and optimization), and robotics (which includes control, perception, sensors and actuators, as well as the integration of all other techniques into cyber-physical systems)” See AI HLEG, A definition of AI: Main capabilities and scientific disciplines (2019), <https://digital-strategy.ec.europa.eu/en/library/definition-artificial-intelligence-main-capabilities-and-scientific-disciplines>.

37. *Supra* note 34, at 5.
38. *Id.* at 6.
39. Specifically, the AI HLEG suggested some families of fundamental rights pertinent for AI systems, such as respect for human dignity, freedom of the individual, equality, non-discrimination and solidarity. *Supra* note 34, at 10-1.
40. *Supra* note 34, at 11-2.
41. *Id.* at 14ff.
42. *Id.* at 20-3.
43. After the publication of the Guidelines, the assessment list went through a piloting phase during which over 350 organizations tested it and provided feedback. The final version of the Assessment List for Trustworthy AI (ALTAI) was then released in June 2020, <https://altai.insight-centre.org>.
44. The importance of this tool was further stressed by the AI HLEG in the Policy and Investment Recommendations in which it was proposed a mandatory obligation to conduct a trustworthy AI assessment for all the AI systems deployed by the private sector that potentially can have a significant impact on human lives. See AI HLEG, Policy and Investment Recommendations for Trustworthy AI (2019), at 40.
45. For details, see E. BRATTBERG, R. CSERNATONI, V. RUGOVA, EUROPE AND AI: LEADING, LAGGING BEHIND, OR CARVING ITS OWN WAY? 27-9 (2020).
46. N. Smuha, *The EU Approach to Ethics Guidelines for Trustworthy Artificial Intelligence*, 20 COMPUTER L. REV. 101 (2019).
47. *E.g.*, Articles 15 and 22 of the GDPR provide binding requirements to guarantee the transparency and the explainability of the AI systems. For details see A. Wulf & O. Seizov, *Artificial Intelligence and Transparency: A Blueprint for Improving the Regulation of AI Applications in the EU*, 4 EUR. BUS. L. REV. 622-3 (2020).
48. *E.g.*, General Product Safety Directive (Directive 2001/95/EC).
49. *Supra* note 5, COM (2020) 65 final.
50. Indeed, in the debate over the creation of a European regulatory framework for all the Member States, the absence of a common legislation was considered a possible risk to generate fragmentation in the internal market and consequently to undermine the

objectives of trust, legal certainty and market uptake. *See* the White Paper on AI, *supra* note 17).

51. *Supra* note 5, COM (2021) 206 final.
52. *Supra* note 50, at 1.
53. The proposal classifies AI in the three categories: (1) AI with an unacceptable risk; (2) AI with a high risk; and (3) AI with low or minimal risk. AI systems that create an unacceptable risk are prohibited since they are deemed to contravene the EU values such as the fundamental rights (the list is contained in Title II). According to Article 6 of the proposal, AI systems are considered high-risk if “(a) the AI system is intended to be used as a safety component of a product, or is itself a product, covered by the Union harmonisation legislation listed in Annex II; (b) the product whose safety component is the AI system, or the AI system itself as a product, is required to undergo a third-party conformity assessment with a view to the placing on the market or putting into service of that product pursuant to the Union harmonisation legislation listed in Annex II.” Moreover, the AI systems indicated in the Annex III of the regulation are also to be considered high-risk. *See* the proposal for the regulation, art. 6, ¶ 2.
54. The proposal for the regulation, arts. 10-15.
55. Article 14, paragraph 3 of the proposal for the regulation provides: “Human oversight shall be ensured through either one or all of the following measures: (a) identified and built, when technically feasible, into the high-risk AI system by the provider before it is placed on the market or put into service; (b) identified by the provider before placing the high-risk AI system on the market or putting it into service and that are appropriate to be implemented by the user.”
56. *Id.* ¶ 4.
57. The robustness of high-risk AI systems may be achieved by adopting technical redundancy solutions such as backup or fail-safe plans. *See id.* art. 15, ¶ 3.
58. The technical solutions need to cover measures for the prevention and control for attacks trying to manipulate the training dataset (data poisoning), inputs designed to cause the model to make a mistake (adversarial examples), or model flaws. *See id.* art. 15, ¶ 4.
59. This information includes, for example, the characteristics, capabilities and limitations of performance of the high-risk AI system (such as its purpose or the level of accuracy, robustness and cybersecurity), the human oversight measures, the expected lifetime of the high-risk AI system and any necessary maintenance and care measures to ensure the proper functioning. It is also important to mention that Article 11 (Technical documentation) requires to draft before the AI system is placed on the market or put into service the technical documentation that demonstrates the high-risk AI system complies with the requirements provided in Chapter 2 of the regulation.
60. *Supra* note 50, at 13.
61. Z. Zhai, *How Will "Strong Artificial Intelligence" Change the World? Prospects of the*

- Technological Progress and Application Ethics of Artificial Intelligence* [“强人工智能” 将如何改变世界-人工智能的技术飞跃与应用伦理], ACADEMIC FRONTIERS [人民论坛·学术前沿] 22 (2016).
62. Beijing AI Principles, [人工智能北京共识], May 25, 2019, <https://www.baai.ac.cn/news/beijing-ai-principles.html>; <https://www.baai.ac.cn/news/beijing-ai-principles-en.html>. As introduced on its official website, the Beijing Academy of Artificial Intelligence is a non-profit research institute dedicated to promoting collaboration among academia and industries, fostering top talents, and focusing on long-term research on the fundamentals of AI technology.
63. *Id.*
64. *Id.*
65. *Id.*
66. *See Beijing AI Principles Published* [人工智能北京共识发布], XINHUA NEWS, May 25, 2019, http://www.xinhuanet.com/tech/2019-05/25/c_1124540938.htm.
67. *Id.*
68. The China Artificial Intelligence Industry Development Alliance (AIIA) was jointly initiated by the China Academy of Information and Communications Technology and related units, and was supported by the Ministry of Science and Technology, the Ministry of Industry and Information Technology, and the Central Cyberspace Administration of China. Its mission is to further implement the requirements of the ‘Internet +’ Artificial Intelligence Three-year Action and to build a cooperation platform for government-industry-university-research and use. Until now, the number of member units has reached 706. Also, 10 working groups, 2 promotion groups, and 5 committees have been established to carry out pragmatic work in evaluation, open source, chips, security, and ethics. *See* the official website of AIIA, <http://aiaaorg.cn/index.php?m=alliance&c=index&a=about><http://aiaaorg.cn/index.php?m=alliance&c=index&a=about>.
69. AIIA, the Joint Pledge on Self Discipline in the Artificial Intelligence Industry [关于签署《人工智能行业自律公约》的倡议], Aug. 6, 2019, <http://aiaaorg.cn/uploadfile/2019/0808/20190808053719487.pdf>.
70. China Academy of Information and Communications Technology, The White Paper of AI Governance [人工智能治理白皮书] (Sept. 2020), http://m.caict.ac.cn/yjcg/202009/t20200928_347546.html.
71. State Council of PRC, New Generation of Artificial Intelligence [新一代人工智能发展规划], July 8, 2017, http://www.gov.cn/zhengce/content/2017-07/20/content_5211996.htm.
72. New Generation Artificial Intelligence Development Plan, pt. 2 (General Requirements), http://www.gov.cn/zhengce/content/2017-07/20/content_5211996.htm.
73. *See* the report of the Ministry of Science and Technology of PRC, New Generation AI Governance Expert Committee hold its first meeting, http://www.most.gov.cn/kjbgz/201903/t20190328_145889.html.

74. Principles to Develop Responsible AI for the New Generation Artificial Intelligence: Developing Responsible Artificial Intelligence [新一代人工智能治理原则-发展负责任的人工智能], http://www.most.gov.cn/kjbgz/201906/t20190617_147107.html. The English version is available at <http://www.chinadaily.com.cn/a/201906/17/WS5d07486ba3103dbf14328ab7.html>.
75. *Id.*
76. *Id.*
77. *Id.*
78. Cybersecurity Standard Practice Guide-Guidelines for Prevention of Ethical Security Risks in Artificial Intelligence [网络安全标准实践指南-人工智能伦理安全风险防范指引], <https://www.tc260.org.cn/front/postDetail.html?id=20210105115207>.
79. *Id.*
80. *Id.*
81. *See National science and technology ethics committee* [国家科技伦理委员会], CHINA DAILY, July 31, 2019, <http://www.chinadaily.com.cn/a/201907/31/WS5d40e064a310d83056401e10.html>.
82. The Law on Scientific and Technological Progress [中华人民共和国科学技术进步法] was adopted at the second meeting of the Standing Committee of the Eighth National People's Congress on July 2, 1993 and revised at the 31st meeting of the Standing Committee of the Tenth National People's Congress on December 29, 2007.
83. P.R.C. Civil Code [中华人民共和国民法典], adopted at the Third Session of the Thirteenth National People's Congress on May 28, 2020.
84. P.R.C. Civil Code of 2021, art. 1009.
85. PRC Data Security Law art. 8, <https://baijiahao.baidu.com/s?id=170222355359108302&wfr=spider&for=pc>; https://www.pkulaw.com/en_law/1dd3a2fb498ecb3ebdfb.html.
86. Zhejiang Taobao Network Co. Ltd vs. Beijing Weihai United Electronic Commerce Co. Ltd, [浙江淘宝网络有限公司与北京微海联合电子商务有限公司网络侵权责任纠纷一审民事判决书] (2019)京0491民初1601号.
87. 'Ethics' is often mentioned in the cases applying the principal rules of the Anti-Unfair Competition Law, which stipulates that: "Businesses shall, in their production and distribution activities, adhere to the principles of free will, equality, fairness, and good faith, and abide by laws and business ethics." For examples, in the case related to kelp quota, the PRC Supreme Court explained that business ethics should be judged in accordance with the ethical standards of market transaction participants in a specific business field, that is, economic man. *See* Shandong food import and export corporation, Shandong Shanfu Co. Ltd & Shandong Shanfurishui Co. Ltd vs. Qingdao Shengkedacheng trading company ltd & MA Qingda [山东省食品进出口公司、山东山孚集团有限公司、山东山孚日水有限公司与被申请人青岛圣克达诚贸易有限公司、马达庆不正当竞争纠纷案] (2009)民申字第1065号.
88. Frontiers Translation: Proposal for the EU "AI Law" [前沿译文 | 欧盟《人工智能法》提案

(上)], https://mp.weixin.qq.com/s?__biz=MzUyNTcyMDI4NQ==&mid=2247489461&idx=1&sn=c52e5fd1f3be2a836844e8b45cc61e00&chksm=fa189807cd6f11115abdaa5cdecf744fc4d164e6c5f1977e5cde410ca4795c238301ed81e054&mpshare=1&scene=1&srcid=0530BK3jZbuP2Pf2rJZEZND3&sharer_sharetime=1622378036239&sharer_shareid=9f7e933d9a48004dd51d2f6a205e7d4b#rd%5D.

89. *Supra* note 30.
90. W. Long, *The Legislation on AI from the point of view of the development of scientific law* [科技法迭代视角下的人工智能立法], *STUD. IN L. & BUS.* [法商研究杂志] 57-72 (2020). *See also* L. Chen, B. Wang, S. Huang, J. Zhang, R. Guo & J. Lu, *Artificial Intelligence Ethics Guidelines and Governance System: Current Status and Strategic Suggestions* [人工智能伦理准则与治理体系: 发展现状和战略建议], *SCI. & TECH. MGMT. RES.* [科技管理研究] 193 (2021).
91. H. Kun, X. Xu, A. Li, F. Xu, *Study of the Literature of Artificial Intelligence Ethics in Library and Information from 2015-2019* [近5年图情SSCI期刊人工智能伦理研究文献分析与启示], *J. MOD. INFORMATION* [现代情报] 169 (2021).
92. Notwithstanding this approach, some critics have been still raised on the general statement of the ethical principles, without regulatory mechanisms to support the ethical framework. *See* Part III of this article.
93. F. Rossi, *Building Trust in Artificial Intelligence*, 72 *J. INT'L AFF.* 127-34 (2019). *See also* W. Wu, T. Huang & K. Gong, *Ethical Principles and Governance Technology Development of AI in China*, 6 *ENGINEERING* 302-9 (2020).
94. For a reconstruction of the theory of socialism with Chinese characteristics in the law field, *see* M. Y.K. Woo, *Court Reform with Chinese Characteristics*, *WASH. INT'L L. J.* 241 (2017).
95. For an insightful analysis of the contemporary legal scenario, as a post-modern scenario, with a particular focus on sources of law, *see* P. Grossi, *Constitutional lawfulness in the history of modern law, constitutional lawfulness in the history of modern law*, *ITALIAN J. PUB. L.* 258-78 (2012).
96. T. DUVE, *ENTANGLEMENTS IN LEGAL HISTORY: CONCEPTUAL APPROACHES* 55 (2014).
97. Wu, Huang & Gong, *supra* note 92, at 308.
98. *See* the document P21 Framework Definition released by the Partnership for 21st century skills, <https://files.eric.ed.gov/fulltext/ED519462.pdf>.
99. AI shifted and confused boundaries of decisions and the shaping of new legal solutions is linked to the identification and reconstruction of these boundaries. *See* M. Stronati, *The Judicial Decision between Legal Gaps and Technological Innovations*, in *LA DECISIONE NEL PRISMA DELL'INTELLIGENZA ARTIFICIALE* 37 (E. Calzolaio ed., 2020).

