Questionnaire - Section I (Criminal Law - general part)

Traditional Criminal Law Categories and AI: Crisis or Palingenesis?

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Objectives and scope

The advent of Artificial Intelligence (AI) technology and autonomous or artificial agents (AA) - ranging from self-driving cars, weapon systems, to robots and to medical diagnosis software -, support and replace many human activities and represent a real benefit for the society[1]. Nevertheless, the autonomy of AI systems and AA increases day by day and their behaviors may be unpredictable to the designers, programmers, producers and users. In the future, AI systems may even play an increasing role in the perpetration of criminal acts[2]. AI systems can be the "instrument" to commit crimes. Further, AI systems, due to their degree of autonomy and intelligence, could become the "subject" of a crime. In the 21st century, criminal law is required to provide the appropriate reactions to prevent and punish crimes committed by, through or against AI systems. This questionnaire addresses the question of whether and how the traditional criminal law categories and criminal liability modes can be applied to crimes related to AI systems and/or whether a *palingenesis* of the traditional criminal law at national and international level is needed.

The main objectives of this questionnaire are:

   i. to determine whether the AA have or could have a (separate) legal personhood and agency and can be held liable in their own capacity;
   ii. to determine whether and under which conditions human agents designing, programming, producing or using AI systems can be held accountable for decision and actions of artificial agents;
   iii. to examine whether and how existing liability models are adequate to cope with the AI crime
   iv. to determine whether the development of AI systems may lead to the enactment of new laws in the area of criminal law.

The questionnaire is addressed to the *rapporteurs nationaux* who are requested to provide the *rapporteur général* with an accurate and concise overview of the functioning of their legal systems with regard to the listed issues. The *rapporteur général* provides the *rapporteur nationaux* with a list of questions in order to grant a uniform analysis of each national legal system. The *rapporteurs nationaux* are requested to answer all the questions taking into account the domestic legal legislation, the relevant case law and the current relevant IT legislation and regulation as well. Priority should be given to all normative (national and supranational) sources, followed by regulatory sources and soft

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[1] For the present purpose, the term "Artificial Agent" (AA: used interchangeably with "intelligent agent", "rational agent" or "autonomous agent") or "Artificial Intelligence" (AI) systems are understood as «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 defined by the High-Level Expert Group of the European Commission.

[2] See King T.C., Aggarwal N., Taddeo M., Floridi L., *Artificial Intelligence Crime: An Interdisciplinary Analisis of Foreseeable Threats and Solutions*, Sci Eng Ethics, 26, 89-120 (2020).

law. In addition, the *rapporteurs* should refer to decisions of the courts/case law and, finally, to the most accredited legal literature. First, the *rapporteurs* should provide an objective description of the legal framework, taking into account the abovementioned sources. Opinions, evaluations or suggestions, in a *de jure condendo* perspective as well, should be provided only upon request or in the final section, devoted to comments and suggestions.

Questions *(When answering the questions, you may tick more than one box)*

A) Definition and legal qualification of Artificial Intelligence system (AI system)

1) Is there a legal definition of AI system in your domestic law?
    a) If so, could you please:
        (1) quote it (in English and/or in your language)
        (2) indicate the areas of law (e.g. criminal law, civil law, administrative law, labour law, etc.) it refers to
        (3) indicate whether it is limited to a specific sector (e.g. smart contract legislation, automated decision-making: but please to refer to section III for the use of AI in criminal justice)
        (4) clarify whether it refers to "products", "services" and/or "agents"
        (5) indicate whether it includes the concept of *Machine Learning*
        (6) highlight whether any role is given to human intervention or control (e.g. is there any difference between autonomous and multi-agent AI systems and human-assisted AI system?)

    b) If not, could you please indicate whether:
        (1) there is a definition in the case-law
        (2) it is possible to infer this definition from other legal sources
        (3) your national lawmaker plans a legal reform to define this concept. If so, please provide a short description
        (4) there is a definition elaborated by the scholars (e.g. in the field of criminal law, civil law, administrative law, labor law)

2) Is there a different legal definition of *Machine Learning* in your domestic law?
    a) If so, could you please:
        (1) quote it (in English and/or in your language)
        (2) clarify the areas of law (e.g. criminal law, civil law, administrative law, labour law, etc.) it refers to
        (3) indicate whether it includes the concept of AI

    b) If not, could you please indicate whether:
        (1) there is a definition in the case-law
        (2) it is possible to infer this definition from other legal sources or soft law

3) Does your domestic law confer legal personhood or legal capacity to the AI systems?
    a) If so, could you please:

(1) indicate what form of personhood is granted in specific areas of the legal system (e.g. criminal law, civil law, administrative law, labour law, tax law, etc.) and provide the legal references
(2) specify whether an AI system has autonomous or limited legal personhood, possibly under which conditions or in which sectors
(3) indicate whether the AI system is equalized to an artificial agent

b) If not, could you please indicate:
(1) whether the lawmaker in your country has planned/plans legal reforms to confer legal personhood upon AI systems
(2) whether scholars suggested to confer legal personhood or legal capacity upon AI systems

4) In regulating AI applications, which is the preferred approach? Is it a general one, applicable to all kinds of AI applications, or a sectoral one (e.g. applicable only to specific sectors, such as drones, facial recognition, autonomous driving, etc.)?

5) In which areas are complete automated and autonomous decision-making processes carried out by AI systems forbidden? If available, please refer to new proposals.

The following questions concern the general aspects of the offences related to the AI systems in your country (e.g. production, acquisition, distribution, dissemination, transmission, making available, offering, possession of AI systems; illegal acts committed against AI systems). More detailed questions on the mentioned offences will be discussed in the Section II of the Congress (Criminal Law – special part).

B) Existing criminal offences and criminalization

In your answer, please refer to legal reforms or law proposals, if available, and provide information on the criminal-policy strategy, the political and academic debate on the emerging legal goods and the most critical issues related to the AI system.

1) Have traditional offences and/or cybercrimes already been applied to illegal act committed by, through or against an AI system?
a) If so, could you please specify what offences have been applied, providing case law references and a brief description of them?

b) If not, could you please:
(1) indicate whether there are legal reforms or law proposals at issue
(2) indicate whether according to the legal literature there are offences already applicable to illegal acts involving AI system (if so, please specify)

2) Has your domestic law introduced new offences related to designing, programming, developing, producing, functioning or making use of AI systems?

3) Has your domestic law introduced new criminal offences concerning acts committed through or against an AI system?

    a) If so, could you please:
- (1) quote them (in English and/or in your language)
- (2) indicate where they are regulated (e.g. special part of the Criminal Code, complementary legislation, etc.)
- (3) indicate the protected legal goods and/or fundamental rights
- (4) indicate whether and when the AI system can be considered the "subject" of the crime
- (5) indicate when the AI system can be considered the "object" of crime
- (6) indicate when the AI system can be considered the "instrument" of crime
- (7) highlight whether they are crimes of mere conduct, commission and omission offences, consummate offence, crimes with intent, etc.
- (8) specify who can be considered the possible perpetrator and/or victim of the new AI offences (e.g. producers/programmers/system engineers/developers/designers etc.)
- (9) indicate whether individual criminal liability requires a specific mental element and whether it involves also recklessness and/or negligence
- (10) could the legal persons be held liable for AI crimes committed by any person acting individually or having a leading position within the legal person? In this case, please describe the related imputation system
- (11) indicate whether there is any defence excluding the criminal responsibility of the perpetrator or of the legal person in order to avoid the risk of over-criminalization if the AI systems are produced, used or put on the market for legal purposes, e.g. for scientific or research reason

    b) If not, could you please indicate:
- (1) whether the lawmaker in your country has planned/plans legal reforms to introduce new criminal offences related to AI systems (please quote them, in English and/or in your language)
- (2) whether reports or legal literature suggest the introduction of new criminal offences linked to AI systems (please provide also bibliographic references)

4) Does your domestic law provide for positive obligations for persons and/or legal person designing, developing, producing, testing, selling or distributing AI systems

    a) If so, could you please indicate:
- (1) whether they are related to algorithmic transparency for patent and/or cybersecurity purposes
- (2) whether they imply a duty to control, possibly providing some examples
- (3) whether they lead to a form of strict liability

5) Does your domestic law provide for specific legal obligations for users of AI systems?

    b) If so, could you please indicate:
- (1) whether they are surveillance or control obligations
- (2) whether these obligations lead to a form of strict liability

C) Applicability of Traditional Criminal Law Categories

1) According to your domestic law and/or jurisprudence, is the AI system considered as a "computer system" as defined by Article 1, lett. a) of Cybercrime Convention and/or Article 2, lett. a) of Directive EU/2013/40?

2) In your national system, are there other definitions applicable to AI systems despite not expressly referring to them?

3) Have the existing offences (see B 1.a) already been applied to illegal acts related or connected to AI systems (e.g. designing, programming, developing, producing, making use of an AI system)? If so, which traditional criminal law categories (e.g. action, omission, causation requirement, mental element, direct liability, etc.) have been applied or extended to these cases?

4) Are there specific problems with respect to the principle of legality?

5) Is analogy admissible? Has it been used in order to criminalize illegal acts related to AI systems?
   a) If so, please provide, if available, examples describing paradigmatic cases and give a brief description of the criminal conducts (*actus reus*) and other elements of crime

6) Are the provisions concerning attempted crime applicable to AI-related crimes? Are there already cases of AI-related crimes qualified as attempted crimes?

7) Is it possible to apply existent rulings of joint-perpetration and participation in the commission of the crime to AI related crimes? Who can be considered a joint-perpetrator or participant in the commission of the crime (please refer to both human and artificial agents)? Is the "perpetration-by-another" liability model applicable?

8) Could legal persons be held criminally liable for AI-related crimes committed for their benefit in your domestic law? If so, please give some examples

9) Are forms of secondary liability applicable to AI-related crimes?

10) Is the wording of existing offences (in particular, computer crimes and cybercrimes) capable of including illegal acts committed through or against an AI system?
   a) If so, briefly explain the technical-legal wording of the applicable offence(s) and make reference, if available, to some concrete cases

   b) If not, briefly explain why the existing offences cannot be applied

11) Please clarify whether, for the purpose of criminal liability, the state of mind (e.g. *dolus*) on the part of the human agent who designed/programmed/developed/produced/circulated/marketed/used the AI system shall include the exact and concrete modus operandi of the AI system in committing the offence

12) Assuming that the crime is caused by the autonomous "conduct" of the AI system, could the person who designed/programmed/developed/produced/sold/used of the AI system be held criminally liable if he had knowledge of its autonomous learning and decision-making capacity?

   a) If so, could you please indicate what the subjective prerequisite for criminality is (specific intent, general intent, direct intent, *dolus eventualis*, negligence, etc.). Could you provide some examples?

13) Are there in your domestic legal system cases of criminal liability for negligent or reckless conducts which can be applied when a crime or an illegal result is caused by conduct consisting in programming, producing or making use of an AI system?

   a) If so, please point out the differences between negligent/reckless conducts carried out by designers/programmers/producers/sellers and by users or persons with a specific duty of care
   Please provide examples describing paradigmatic cases, giving a brief description of criminal conducts (actus reus) of offences deemed to be applicable, and please specify if there are cases of corporate criminal liability as well.

   b) Which legal (e.g. criminal, civil) relevance may "defects" or "flaws" in programming, producing or updating an AI system have? Have unforeseen or unforeseeable deviations in the AI decision-making process any legal relevance?

   c) Are there in your domestic legal system any positive obligations (*Garantestellung)* the violation of which could be the ground for criminalizing not having avoided an illegal outcome resulting from the functioning of the AI?

   d) Which is the standard of care required from the human agent in developing/programming/producing/selling an AI system?

   e) Are there forms of strict liability (secondary liability or indirect infringement) for harm produced by AI systems?

D) Case law

1) Are there judgments or decisions concerning criminal conducts committed by means of, or to the detriment of, an AI systems?
   a) If so, please briefly explain the cases
   b) If not, please indicate the possible reasons for the lack of judgments (e.g. no complaints by the victims, limited employment of AI systems, etc.).

2) Are there judgments concerning AI systems, relevant for possible criminal consequences?
   a) If so, please give some references

E) Adaptation of Traditional Criminal Law Categories and academic debate

1) With regard to cases involving AI systems in your country, does the case law or the academic debate point out legal issues concerning the traditional categories of the general part of the criminal law?

    a) If so, among the following categories, which are those mostly discussed?

        (1) *Actus reus*
- i. Legal and traditional qualification of the autonomous or independent AI systems agency as "conduct" of the crime
- ii. Legal and traditional qualification of the autonomous or independent AI systems agency in relation to the human conduct
- iii. Influence of the autonomous AI systems agency on the chain of causation

        (2) *Causality*
- i. Interruptions of the chain of causation between the AI systems agency and the crime due to errors in programming/producing/maintaining/updating/using
- ii. Use of risk-based legal criteria for the objective charge of the crime to the human agent
- iii. Interruptions of the chain of causation between the human agent's conduct and the crime due to any anomaly or unpredictability of the output produced by the AI system (e.g. so-called black box problem)

        (3) *Principle of culpability* (nullum crimen sine culpa) *and mens rea*
- i. Compliance with the principle of culpability when the output causing the harm generated by the intelligent machine is neither wanted nor predictable by the human agent
- ii. Compliance with the principle of culpability when an AI system is intentionally used by a human agent as a tool but the AI system carried out an offence different from the one wanted by the human agent

        (4) *Criminal participation and attempted crimes*
- i. Could a human agent be liable for participation in a crime committed or for an harmful result caused by an AI systems or AA? Also for a crime different from the one intended by some of the participants, because of the autonomous and unpredictable functioning of the artificial agent
- ii. End of the preparatory phase and starting of the phase of execution: which acts performed by an AI system or by AA can be considered as attempted crime?

(5) *Liability of legal persons*
>> i. Necessary adjustments of the legal principles on criminal liability of legal persons when they are involved in AI-related crimes
>> ii. Necessary adjustments of policies and preventive measures within private organizations in order to guarantee a correct and regular use of AI systems

2) Which possible solutions have been elaborated to address the questions posed by the unpredictability of the functioning of intelligent systems, especially when the AI system functioning causes an illegal result?

Please, only answer if you need to add something to the answers given in the previous questions.

3) Did the legislator or the academic community propose a possible form of criminal liability or a direct sanctioning of AI systems or AA?
If so, could you please report which form/mode of liability is proposed? (e.g. *direct liability, command responsibility, perpetrator-by-another, natural probable consequence*)

Please describe any proposal made in literature, highlighting the following aspects:

a) Elements qualifying the "conduct" of the artificial agent as "conscious and voluntary" (in compliance with the voluntary act requirement)

b) Forms of culpability attributed to AI systems justifying their legal punishment or sanctioning

c) Possible extension of the traditional categories of intent and negligence or their equivalents

d) Liability for participation in a crime or for attempted crime committed with the use of AI systems or AA

e) Forms of objective liability/strict liability for AI systems

f) Types of sanction (criminal punishments or others) to punish AI systems

g) Measures aiming at avoiding the lack of responsibility of human agents who develop/program/produce/sell AI systems

F) Alternatives to criminalization and non-criminal sources

1) Does domestic law use civil and/or administrative sanctions (e.g. payment of damages, closing of enterprise, etc.) in order to fight abuses of AI systems or harm caused by them?
>   a) If so, what is their relationship with criminal punishments?

2) Is there any form of compulsory civil insurance for damages resulting from the use of an AI system?

3) Are there other technical means for combating harm and/or abuses of AI systems? (e.g. re-programming of the AI system software; destruction of the artificial agent; or similar)?

4) To what extent are users expected to protect themselves (e.g. through security measures in using AI systems; intervention obligations in case of danger, etc.)? What legal relevance could reasonable self-protection of users have in crimes related to AI systems? Could it be a defence for producers accused of an AI-related crime?

5) To what extent is the product liability legislation applicable to emerging AI employment? Is there a specific regulation for AI systems' testing phase? Alternatively, does the law require simulation obligations?

Please include in your answer any proposal under discussion that has not entered into force yet.

6) Are there rules or principles (privacy by design, by default, etc.) on cybersecurity and data protection relevant to criminal aspects related to the design/production/use/development of AI systems?

7) What is the role of the human agent? What degree of control over the AI system is granted or required?

8) Is there a standardization of technical rules for designers/programmers/developers/producers of AI systems (or is it in the process of being defined)?
   a) If so, could you please indicate:
        (1) By which institutions or bodies?
        (2) Through which instruments?

G) Final evaluations and future developments

Please, use the box below for further suggestions and observations, concerning current trends on criminal policy strategy regarding AI-related crimes, lack of legislation, legal reforms, law proposals, reports and statistics on the incidence of AI-related crimes, case law, legal debate in your country, etc.
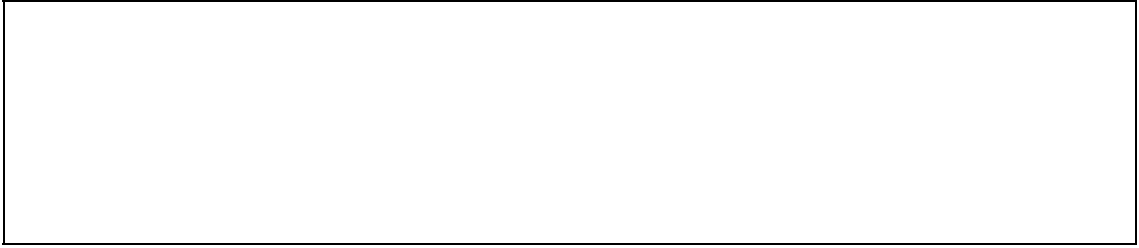
List of topics for special reports (Section I)

1. Positive obligations (Garantestellung) grounding the criminal responsibility for not having avoided an illegal result connected to the AI functioning

2. Legal relevance of unforeseen or unforeseeable deviations in the AI decision-making process

3. Criminal liability of legal persons for AI-related crimes committed for their benefit