

Research on the Criminal Law Protection of Generative Artificial Intelligence Creations

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Abstract. The issue of criminal protection for creations generated by generative artificial intelligence lies at the core of four aspects: the determination of the nature of the work, clarification of the ownership of rights, the development of protection paths, and the grasping of the protection limits. Starting from the connotation and extension of originality, artificial intelligence creations have already met the requirements of works in the sense of copyright law; within the framework of current legal interpretation theory, they can be regarded as "works with an unclear authorship", and the owner of the artificial intelligence software can enjoy copyright other than the right of attribution, thereby becoming a qualified subject for the judgment of "without permission" in the crime of infringement of copyright. In terms of protection paths, it should be based on a dual-layer legal interest structure and the purpose of incentive, through the substantive interpretation of the blanket clause and "copying and distribution", "information network dissemination" and other behavioral types, to enable Article 217 to accommodate new criminal phenomena, and to make the liability attribution for developers and users be divided in stages according to the working stages of generative artificial intelligence. At the same time, based on the principle of legal order unity and the requirement of criminal prudence, reasonable limits should be set for criminal protection in terms of protection period, protection content and the threshold for criminalization.

Keywords: Generative Artificial Intelligence, Creation, Crime of Infringing upon Copyright, Originality, Purpose of protection under the regulations

1. Introduction

In November 2022, the release of ChatGPT 3.5 by OpenAI sparked a new wave of enthusiasm for artificial intelligence technology. When generative artificial intelligence is capable of independently generating text, images, audio, and even video content, and can produce outputs in traditional fields that were previously monopolized by humans (such as news reporting, literary creation, and art design) on par with human works, the original proposition that remained at the level of theoretical deduction, "whether artificial intelligence creations possess the attribute of a work as defined by copyright law", began to transform into a dispute at the practical level. Among the 50 typical intellectual property cases released by the Supreme People's Court in 2020, the "Tencent v. Shanghai Yingxun Technology Infringement of Copyright and Unfair Competition Dispute Case" clearly

pointed out that the financial reports generated by Dreamwriter through assistance have specific textual forms and independent artistic judgments and choices, and should be protected by the Copyright Law regarding the originality of works [1]. The exemplary effect of this case has led the issue of the legal nature of artificial intelligence creations to shift from a theoretical debate to a judicial practice debate, and thus has raised an unavoidable inquiry as to the criminal law, which is a subsequent law.

According to Article 217 of the Criminal Law, the establishment of the crime of infringing upon copyright requires that the act of unauthorized reproduction, distribution, information network dissemination, etc. be carried out "without the permission of the copyright owner". The "work" and "owner" are the two key elements of this constitutive requirement. The problem posed by generative artificial intelligence creations lies precisely in this: Firstly, does the "work" protected by criminal law include intelligent creations that are generated independently of the direct creative process of humans? Secondly, in a context where the creative subject has transcended the traditional tripartite structure of "natural person - legal person - unincorporated organization", who is the true copyright owner and thus becomes the eligible party in the "without permission" judgment? These two issues are closely interrelated. The former determines the possibility of criminal law protection, while the latter determines the specific path of criminal law protection.

Currently, the academic responses to this issue are still rather scattered. Existing studies either focus on whether the products generated by artificial intelligence can be regarded as works, or on the expansion interpretation of the elements of the crime, or on the construction of the user liability mechanism. There is a lack of systematic thinking on the issue of criminal protection for the creations of generative artificial intelligence. This article intends to take "identification of work attributes - clarification of rights ownership - elaboration of protection paths - determination of protection limits" as the main line of argumentation, and respond to the above inquiries one by one, in order to provide a coherent explanatory framework for criminal protection in this field.

2. Preliminary issues: determination of the attributes of works created by generative artificial intelligence

The logical premise for criminal law to provide protection for creations generated by generative artificial intelligence lies in the fact that such creations fall within the category of works as defined by copyright law. According to Article 3 of the Copyright Law, a work refers to intellectual creations in the fields of literature, art, and science that possess originality and can be expressed in a certain form. The element of originality thus becomes the core criterion for distinguishing works from ordinary labor achievements. Regarding whether the creations generated by generative artificial intelligence can meet the requirements of originality, the academic community has formed two completely opposing positions.

2.1. Clarification of the dispute focus: from subjective limitation to objective judgment

The opponents of the negative view mainly conduct their arguments from the perspective of the creative subject, arguing that creation is an action based on free will that can directly determine the expressive elements. Unconscious automatic creation is not truly creative, so AI-generated products belong to unprotected ideas. The underlying presupposition behind this position is that a work must embody human spirit and personality, and consistency between the subject and object is the unshakable cornerstone of copyright law. The proponents of the affirmative view, on the other hand, advocate that the judgment perspective should shift from the creative subject to the work itself, and

examine whether it meets the requirements of originality by starting from the external describable characteristics of the work [2]. In terms of comparative law, the "Feist case" in the United States defined originality as the combination of two elements: independent creation and a small amount of creativity, and did not require the originality of the author or the human personality in the work; the British copyright law also clearly states that the term "original" does not mean novelty. This foreign experience indicates that incorporating the attributes of the creative subject into the connotation of originality is not an inevitable choice of copyright law theory.

2.2. Definition of the connotation of originality: complete independence and the minimum level of creativity

The claim made by the anti-positivists, namely that "the creative process must reflect human individuality", faces two theoretical dilemmas. Firstly, if one adheres to this position, then news works that do not emphasize the author's individuality but focus solely on objectivity will not be eligible for recognition as works. Secondly, the protection system for "works with unknown authors" stipulated in Article 13 of the "Regulations on the Implementation of the Copyright Law" is precisely based on this presumption: as long as it can be objectively determined that something is a work, it is not necessary to investigate whether there is any human personality behind it. At a time when AI creations have objectively become indistinguishable from human works, insisting that the creative process must reflect human individuality actually undermines the original basis for the operation of existing legal protection mechanisms.

Returning to the intrinsic meaning of originality, it should be broken down into two aspects: "original" and "innovative". Regarding the character "original", generative artificial intelligence uses neural networks and deep learning technologies to generate content, which is an independent output process. Although the developers have preset the underlying algorithms and training data, the so-called training process itself is in a black box state - the developers can only see the input and output, but cannot directly observe the learning process of the artificial intelligence; Once the software is delivered to the users, the specific operational purposes and the selection of materials by the users cannot be pre-controlled by the developers. From the perspective of the generated results, generative artificial intelligence produces content that is unique and exclusive to the world in the vast majority of cases. In terms of the character "creation", the requirement for originality is the "minimum level of creativity", rather than "a higher degree of artistry". The AI-generated works have already been able to meet the aesthetic demands of the general public. They are no longer merely at the level of random writing and drawing; they undoubtedly meet the minimum standard of creativity.

2.3. Limitation of the extent of originality: the dichotomy of thought expression and its exceptions

The inherent element of originality alone is not sufficient to fully justify the nature of a work; its scope needs to be further restricted. The copyright law adheres to the dichotomy of ideas and expressions. However, this principle does not deny the existence of ideas in the works; instead, it limits the protected objects to the expression forms of the ideas. In terms of the elements of thought, generative artificial intelligence, relying on neural networks, can sift out valuable information from a vast amount of data for reasoning and recognition, thereby objectively generating outputs with certain meanings. The pictures formed on paper when humans accidentally knock over an ink bottle during dreaming, the intricate patterns left by nature, or the photos taken by monkeys by chance

pressing the shutter, should not be regarded as works because they do not represent thoughts. In contrast, AI creations, whose generation process has gone beyond mere physical coincidence, fall within the broader category of "thought expression". In terms of the "expression" element, since the AI software is constantly evolving and the operation of neural networks is not a fixed application of templates, the same input material may generate multiple different output results. In principle, this meets the requirement of diverse expression.

However, the scope of originality cannot be expanded indefinitely. For content that has only one possible expression in reality, according to the principle of consolidation, it should be excluded from copyright protection; for simple factual news that is limited to the "5W elements", since it is an objective fact rather than a work, it should also not be included in the scope of protection. The establishment of this boundary ensures that the recognition of AI-generated works neither becomes overly formalistic nor goes to an excessive extent [3].

3. Criminal law analysis of the copyright ownership of generated creations by generative artificial intelligence

The crime of infringing upon copyright requires "without the permission of the copyright owner" as one of the essential elements for conviction. Therefore, clearly defining the ownership of the creations generated by generative artificial intelligence is of decisive significance for the specific implementation of the criminal law protection scheme. If the ownership of the rights is unclear, then the judgment of "without permission" loses its basis. The problem lies in the fact that in most cases, the designers and users of artificial intelligence software belong to different entities. The traditional copyright law, which assigns the initial rights to the creator under its rules, faces fundamental challenges in the era of AI.

3.1. Analysis of the differences in the existing attribution theory

Regarding the ownership of copyrights for AI creations, the academic community has generally formed four representative positions. The first approach is the "artificial intelligence system" theory, which posits that the artificial intelligence itself should be regarded as a rights-entitled entity, granting it the status of an "electronic legal person", and allowing the AI to own the copyright of its creations [3]. The "fictional human author" theory proposed by American scholar Timothy L. Butler can be regarded as an early expression of this stance. The theoretical appeal of this lies in its alignment with the current trend of AI technology development - since AI already possesses a certain degree of creative ability, it is reasonable to acknowledge its primary status at its root. However, the original intention of establishing the intellectual property system was to encourage creativity through empowerment. The artificial intelligence system itself does not need to obtain benefits through copyright, and empowerment has no motivational significance for it at all.

The second position is that the designers argue that their stance is based on the "electronic slave theory", viewing artificial intelligence as an assistant to human activities. They advocate that algorithm developers should be entitled to the copyright of AI-generated works based on their intellectual input. However, this statement neglects a fundamental fact: AI, with the aid of deep learning, has already acquired an output capability that exceeds the expectations of its designers. The designers simply cannot predict or substantially influence the specific form of the final output. Moreover, if the designer holds the copyright, they can obtain unlimited and repetitive property rights benefits for each use by the user. Each time a user creates something, they need to obtain

separate authorization. This arrangement is clearly contrary to the incentive logic of the copyright law.

The third type is for users. The advocate argues that artificial intelligence systems are merely a tool, and as the initiators and controllers of creative actions, users should be granted corresponding rights. In the "Felin Case", the Beijing Internet Court adopted this approach, holding that the software developers had recovered their investment through usage fees and thus there was no need for repeated authorization. The copyright should belong to the actual users. However, the users also pointed out that they too faced similar doubts - the users did not actually participate in the internal generation process of the AI. Their actions such as "arrangement" and "selection" were at best similar to the instructions given by the client to the agent, and did not constitute a "substantial contribution" under the copyright law.

The fourth position is the social public ownership theory, which advocates including AI-generated products in the public domain to facilitate public utilization. However, the traditional logic of the public domain is that after the rights holder has enjoyed the corresponding benefits, the remaining rights are transferred to the society. If all AI creations are uniformly classified as public domain, it will cause the audience in the market of such works to prefer AI-generated products based on cost considerations, thereby disrupting the entire copyright order.

3.2. Interpretive approach: protecting works with unknown authorship

The four aforementioned positions each have their own advantages, but all encounter obstacles within the current legal framework. It is worth noting that Yao Wanjin's proposed interpretative solution - treating AI creations as works with an unidentified author as stipulated in Article 13 of the "Regulations on the Implementation of the Copyright Law", and allowing the owner of the original work, that is, the owner of the artificial intelligence software, to exercise the copyright rights other than the right of attribution - is appropriate at three levels [4].

Firstly, from a factual perspective, AI-generated creations cannot be classified within the existing frameworks of factual authors or legal authors: The designer is unable to substantially intervene in the creative process due to the black box nature of the AI generation process; the input of keywords by the user is also insufficient to constitute a substantive contribution; Artificial intelligence itself does not possess the qualification of a civil subject and thus cannot be regarded as an author. The authorship of AI creations is currently in a legally undefined state, which precisely aligns with the concept of "works without an identified author".

Secondly, Article 13 of the "Regulations on the Implementation of the Copyright Law" clearly stipulates that the copyright of such works shall be exercised by the owner of the original copy. Since the owner of the original AI creation is the same as the owner of the AI software, granting rights based on this logic is both in line with legal regulations and can motivate more AI creations and their dissemination by allowing the owner to enjoy corresponding benefits, thereby maintaining the basic market order.

Thirdly, this plan avoids the controversial theoretical issue of "whether artificial intelligence possesses copyright personality rights". Article 13 also stipulates that for works whose authorship is unknown, the copyright (except for the right of attribution) shall be exercised by the owner of the original work. The issue of the ownership of the author's rights has thus been excluded from the scope of debate. Of course, this explanatory approach is merely a temporary arrangement. It does not fundamentally solve the core problem of determining the copyright ownership of AI creations - once the civil subject status of artificial intelligence is confirmed by legislation, the relevant institutional arrangements should be systematically adjusted.

4. Specific paths for criminal protection of generated AI creations

4.1. Reconstruction of the legal interest foundation: dual-layer legal interest structure and the objectives of normative protection

The protected legal interests of the crime of infringing copyright have always been subject to disputes between the theory of order and the theory of private rights. The theory of orderliness is based on the position of this crime within the "Crimes Against the Socialist Market Economy" section of the Criminal Law. It holds that the copyright management order and even the market competition order are the primary objects of protection; The private rights theory regards copyright as a private right on par with property rights and creditor's rights, and asserts that the primary purpose of this crime is to protect the individual rights of the copyright holders.

In response to this predicament, Enron proposed a dual-layer legal protection structure solution: Taking the market competition order as the protective layer of the legal interest, and taking the personal rights and property rights of the copyright owner as the underlying layer of the legal interest [5]. The advantage of this scheme lies in that it not only retains the concern for substantive fairness of the private rights theory, but also aligns with the emphasis on collective legal interests of the order theory, avoiding the dichotomous choice of either one or the other. Chen Hao further argued on this basis that the constituent elements should be interpreted from the perspective of the purpose of normative protection, and the purpose of incentive should be established as the normative protection purpose of the crime of infringing copyright [6]. The insight of this argument lies in the fact that the concept of legal interests is rather abstract and its guiding role in the interpretation of specific constitutive elements is very limited. However, when guided by the purpose of motivation, it can more accurately define the scope of criminal law intervention. Only those acts that seriously undermine the effectiveness of the copyright incentive mechanism have the necessity for criminal punishment.

4.2. Expansion of the object of crime: the substantive interpretation of the catch-all clause

After the legal basis is established, the question that arises next is how the creations of artificial intelligence can be included among the criminal objects listed in Article 217. One legislative approach advocates for amending the criminal law to add "artifacts generated by artificial intelligence" as an independent type of work; Another interpretive approach advocates activating the blanket provision "other works as prescribed by laws and administrative regulations" in Article 217(1).

The legislative proposal is overly radical in the current context of continuous technological iteration in AIGC. On the one hand, the stability of criminal law requires that it should not be frequently revised; on the other hand, items (2) to (5) of Article 217 are all typical closed-type provisions. The objects of the behaviors are clearly defined and there is almost no room for expansive interpretation. In comparison, the substantive interpretation approach based on the provision in item (1) is more feasible. Given that the preposition method has undergone an open-ended transformation in accordance with Article 3, Paragraph (9) of the Copyright Law, which states "other intellectual achievements that conform to the characteristics of a work", the "other works" in criminal law should naturally include such intellectual achievements. It should be noted that the determination of the type of work in criminal law does not necessarily have to be exactly the same as that in copyright law. Considering the principle of criminal restraint, the interpretation of the

blanket clause should focus on the objects of behavior that seriously undermine the incentive mechanism of copyright, rather than indiscriminately including all AI-generated works.

4.3. Accommodation of behavioral types: expansion of the interpretation of objective elements

The explanation of behavioral types represents the most direct challenge that technological changes pose to the elements of criminal law. Regarding the connotation of "copying and distributing", the academic community has formed three positions: the "copying or distributing" theory, the "copying and distributing" theory, and the "either copying or both copying and distributing" theory. Liu Xianquan advocated adhering to the interpretation of "copying and distributing", arguing that the act of mere copying does not possess serious social harmfulness as it has not yet entered the market, and thus should be excluded from the regulatory scope of the crime of infringing copyright [7]. Li Xiang advocated a compromise solution of "copying or copying and then distributing" [7]. The basis of this argument lies in two aspects: Firstly, if the theory of replication and distribution is upheld, the mere act of distribution alone would inevitably violate both Article 217 and Article 218 of the Criminal Law, rendering Article 218 ineffective. Secondly, from the perspective of systemic interpretation, Article 213 of the Criminal Law regulates the act of counterfeiting registered trademarks without having been sold. Copyright and trademark exclusive rights should be treated equally, and there is no reason to exclude the single act of replication solely in cases of copyright crimes. Given the prevalent situation of infringement of copyright rights in the AI era, Li Xiang's stance is more conducive to achieving the comprehensive regulation required for the purpose of motivation.

Regarding the interpretation of "through information network dissemination", Chen Xiaodong has proposed a noteworthy expansion direction: the online publication of others' unpublished works should also be included in the types of acts constituting this crime. The basis for this argument is that although the act of "publishing a work without the permission of the copyright owner" as stipulated in Article 52 of the Copyright Law constitutes an infringement, this law's Article 53 does not include this act among those that should be subject to criminal liability. However, based on its relatively independent normative purpose, the Criminal Law can break through the limitations on the types of acts listed in Article 53 of the Copyright Law and consider the act of disseminating others' unpublished works to the public through information networks for the purpose of making profits as an infringement of copyright [8]. This argument holds significant practical value in the context where AI-generated works often incorporate unpublished works of others into the training data and are then replicated and disseminated by users.

4.4. The phased distinction of criminal liability subjects

The working process of generative artificial intelligence can be divided into three stages: "learning - processing - generation", and the attribution entities for each stage are different. The core risk during the learning stage stems from the legality of the data sources used for training, and the responsible party is typically the developer. The processing stage involves algorithmic operations, which are technically complex and thus the attribution is relatively more complicated. The generation stage is the main area where users' infringement risks occur [8]. Chen Xiaodong thus argued that the infringement of copyright by users typically occurs during the generation process, manifested as actions such as the reproduction and distribution of the infringing products, as well as the dissemination of them through information networks to the public [8].

The users' subjective "knowing" judgment is the key to this path. In the traditional model, the principle of "substantial similarity + contact" fails to work in the AI context - users usually do not

directly interact with the original work but obtain the infringing product through the AI indirectly. In this regard, a hierarchical standard of care should be adopted based on the type of the generated product: for professional products (such as academic papers, design drawings), the user should bear a higher obligation of similarity verification, for example, by using professional duplicate-checking databases for verification; for the use of well-known works, it can be presumed that the user has the intent of copyright infringement; for infringement of unpublished works, only the minimum standard of care needs to be fulfilled. This hierarchical standard not only ensures the substantive review of the subjective elements by criminal law, but also avoids the overgeneralization of liability, which could potentially restrain the development of the AI industry in an inappropriate manner.

5. Reasonable limits for criminal protection of generated AI creations

5.1. The grasp of criminal-minority legal connection under the principle of uniform legal order

Regarding the expansive interpretation proposal mentioned earlier, the core argument of the opposing view lies in the principle of uniformity of legal order - criminal law terms should be consistent with the conceptual expressions of copyright law, and criminal charges cannot be imposed independently of the provisions of the prior law. This criticism is somewhat reasonable, but its interpretation of the uniformity of legal order is overly mechanical. The principle of legal order uniformity has two positions: the "existential unity" position, which requires that different branches of law be conceptually and logically completely identical; and the "teleological unity" position, which emphasizes the coordination of different legal fields in terms of normative purposes and acknowledges that there are reasonable differences among legal branches. Chen Hao contends that teleological unification is more in line with reality - the copyright law is a law that grants rights, while the criminal law is a law that provides protection. Both aim at the ultimate goal of protecting and stimulating incentives, but there can be some moderate differences in their specific conceptual expressions [6].

However, teleological uniformity does not allow criminal law to exceed the bounds of the prior law without limit. The bottom line is: The preposition method has already clearly established that such actions do not constitute infringement, and the criminal law must not create a separate crime for it. For instance, if text data mining activities conducted for research or public welfare purposes are regarded as reasonable use under the Copyright Law, then no crime of copyright infringement can be established; conversely, if an act constitutes infringement under the pre-existing law but is not included in the criminal liability provisions of Article 53 (such as the online publication of unpublished works), the criminal law can regulate it based on its own independent normative purpose. This division provides sufficient room for the expansionist interpretation without allowing it to become out of control.

5.2. Special arrangements for protection period and protection content

In terms of protection duration, AI creations should not enjoy the same lifetime plus 50-year protection period as works by natural persons. The reason is that artificial intelligence software can objectively exist permanently. If it is given the same duration, the relevant natural persons or organizations can permanently retain the copyright of the AI creations, which hinders the dissemination of knowledge. When adopting the "works without identified authors" approach, Article 18 of the "Regulations on the Implementation of the Copyright Law" stipulates a 50-year protection period, which is the same as the protection period for works by legal persons or

unincorporated organizations, thus achieving a balance between rights protection and knowledge dissemination.

In terms of content protection, it is necessary to clearly define the issue of the author's rights for AI creations. In the traditional field of copyright, the copyright law allows for the separation of the author's identity from the rights holder, but the personal rights of the author (except for the right of publication) are generally not transferable. For AI, if it is granted the personal rights of authorship and it is argued that these rights should be exercised by others instead, it would be difficult to be logically consistent; if all the personal rights of authorship are to be exercised by AI itself, it can only be possible in the era of strong artificial intelligence. A more appropriate approach would be to place the focus of criminal law protection on the copyright of works, while adopting a cautious stance towards the criminal protection of the author's rights. This arrangement does not deny the human-like value of AI creations; rather, it is a reasonable arrangement made based on the practical feasibility of the rights structure.

5.3. Limitation of the inclusion threshold from the perspective of criminal law's prudence

Modesty is an indispensable quality for criminal law in the AIGC era. However, its essence is not merely to reduce the scope of punishment, but rather to require that criminal law only intervene when the market order of the copyright industry is actually infringed upon. Specifically, the criminal law protection for AI creations should meet three levels of restrictions. Firstly, the perpetrator should have the subjective intention of making a profit. Purely non-profit use should not constitute this crime. Secondly, objectively, it is necessary to meet the legal standard of "having a relatively large amount of illegal gains or having other serious circumstances" - if only a specific right holder's property interests have been infringed upon, and it does not pose a threat to the entire copyright incentive mechanism, then it can at most constitute a civil infringement. Thirdly, in cases where the losses suffered by the rights holders can be compensated through civil compensation or administrative liability measures, criminal prosecution should not be initiated either.

6. Conclusion

The argumentation framework of this article can be summarized as follows: The confirmation of the attributes of the work depends on the shift of the concept of originality from a "subject-centered" perspective to a "object-centered" perspective; The clarification of the ownership rights is based on the "works with unknown authorship" path stipulated in Article 13 of the "Implementation Regulations of the Copyright Law", which is a proper arrangement under the current law; The expansion of the protection path is based on the dual legal interests and the purpose of incentive, through the substantive interpretation of the blanket clause and the behaviors such as "copying and distributing", "information network dissemination", etc., to accommodate the new criminal phenomena under Article 217; The determination of the protection limit is based on the principle of legal order unity in the purpose theory and the prudent character of criminal law, to avoid excessive regulation.

It must be acknowledged that the aforementioned plan is a temporary arrangement based on the current reality of "weak artificial intelligence". Once the civil subject status of artificial intelligence is legally recognized, the relevant institutional arrangements will inevitably undergo a systematic reconfiguration. At that time, the protection provided by criminal law for AI creations might be similar to that for human-authored works, and the scope of criminal subjects might also include the intelligent robots themselves. However, these forward-looking issues have gone beyond the scope of

this discussion and will be addressed separately when technology and law reach that stage of development together.

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