**Copyrightability of AI-generated Content**

With the rapid development of 5G, cloud computing, big data and other technologies, artificial intelligence (AI) will be more widely applied in business settings. AI is no longer a creation in science fictions and is instead increasingly seen in our real life, such as AI driver, AI writer, AI song & poem writer, AI photographer, AI distributor, and even AI judge. Consequently, there are various discussions about AI, including the relationship between AI and human beings, whether AI will replace human labor, or is AI only a tool to improve human well-being.

Next, let's discuss a legal issue caused by AI — new types of cases resulting from new technologies, e.g. the Film v. Baidu, the first AI copyright case in China.

**Case Overview**

In this case, the plaintiff is Beijing Film Law Firm and the defendant is Beijing Baidu Netcom Science and Technology Co., Ltd. The plaintiff alleged that it organized the making of a judicial big data analysis report for the film & TV and entertainment industries and is the. copyright owner of the report. The defendant published this article online without permission, constituting an infringement act. Thus, the plaintiff filed a lawsuit with the court for the corresponding indemnity. The defendant argued that the article under dispute was not written by the plaintiff but automatically generated by using the visual search function of the database of Wolters Kluwer, so it should not be subject to the *Copyright Law*, and its copyright was not owned by the plaintiff.

It appears to be a common copyright infringement dispute case. The plaintiff owns the copyright of the article. The defendant used this article without the permission of the plaintiff, resulting in an infringement. Then, the plaintiff filed a lawsuit with the court for indemnity. The court would simply judge whether the infringement is true and whether the plaintiff's indemnity claim is approved. So why is this seemingly ordinary case related to AI?

Next, let's take a look at this article. Look at the left in the PPT. It first summarizes the retrieval results of judgment documents for film & TV and entertainment industries in Beijing, including China Law & Reference of Wolters Kluwer, the database used for retrieval, as well as search keywords, case type, document type, and court proceedings. The plaintiff retrieved, reviewed and selected judgment documents in light of all the above conditions, identified particular cases in the film industry, and conducted statistical analysis for 2,589 judgment documents, according to retrieval explanations. This article also includes the basic information, characteristics and conclusions of film industry cases in Beijing.

The defendant argued that this article was automatically generated by the database app of Wolters Kluwer, so the court organized both parties to inspect relevant functions of China Law & Reference of Wolters Kluwer, a professional legal information query system covering laws and regulations, judgment documents, common legal instrument templates, practice guidelines, English legal translations, etc. Open China Law & Reference, set up retrieval conditions in the "Wolters Kluwer Cases", enter the keyword "film", search in such a manner as set forth in that article, click the "Visual" function, and generate a big data report. Look at the right in the PPT. That's it. The big data report 1 mainly includes data sources, visual retrieval results (overall analysis, causes of action checklist, industrial distribution, procedural classification, results of judgment, visual underlying amount, visual time limit of the trial, court, judge, law firm, and frequently-used laws), and appendix. It also includes analytical visual charts such as the curve chart, bar chart, doughnut chart, as well as data analysis shown thereon.

**Case Interpretation**

1. Is that article a work? Should its copyright be protected?

2. The supporters think that it can stimulate innovation and investment, and the machine was just used as a tool for creation subject to human intervention and guidance, so the creative work should belong to the person(s) who intervened, guided and developed it.

The objectors think that a machine can neither have human thoughts, independent consciousness and souls nor create like human beings do. Besides, laws regulate interpersonal social relationships, so the machine should not own the copyright, otherwise, it will result in the ethical disorder of the society.

3. Let's first see how to analyze specific cases. According to the general trial procedures for copyright infringement cases, we often deal with copyright infringement disputes in four steps:

Step 1: Whether the content under dispute constitutes a work.

Step 2: Whether the plaintiff owns the copyright in the work claimed by the plaintiff.

Step 3: Whether the defendant has infringed the plaintiff's copyright ownership.

Step 4: What liability should the defendant bear.

Often, we follow the above four steps to judge whether the plaintiff's claim could be supported and whether the defendant should bear the corresponding liability.

4. According to the four steps, in this case, we should first decide whether the content under dispute constitutes a work.

(1) Article 3 of the new and revised *Copyright Law* states that for the purpose of this Law, the term "works" refers to works of literature, art and science made in the following forms, including written works, oral works, ... and other intellectual creations in conformity with features of works.

(2) According to relevant legal provisions, the identification of works depends on a few key factors: First, independability. The works should meet the independability requirement. That is, the works should be created independently. Second, originality. Objectively, original content is different from the existing works. Subjectively, natural persons and other civil subjects can communicate and express thoughts and feelings to show their respective arrangements and choices in more than one way. In terms of subjective factors, intellectual creations by human beings are required. The author is a natural person. Furthermore, from the judicial perspective, the content under dispute or the version subject to assessment is confused easily. For example, in this case, it is necessary to judge whether the article claimed by the plaintiff as shown on the left of the PPT or the report automatically generated by the relevant app as shown on the right of the PPT is the content to be identified as a work.

(3) Let's see how the judge discussed, considered, analyzed and decided this case. First, it's necessary to determine whether the article claimed by the plaintiff or the data report automatically generated by the relevant app of Wolters Kluwer without copyright as said by the defendant is the content to be identified as a work. It's ascertained in the court hearing that the article claimed by the plaintiff was not automatically generated by the relevant app but written by reference to search results obtained by the app. Therefore, undoubtedly, the article is an independent creation of the author and constitutes a work.

So, for the copyrightability of AI-generated content, the real problem is whether the report automatically generated by the relevant app is a work. After the trial, the court determines that objectively, it is somehow original and significantly different from the existing works; but subjectively, it does not convey the author's thought or result from the author's thought expression but was formed in line with keywords, algorithm, rules and templates, so cannot be a creation. From the standpoint of the subject, a work is protected under the *Copyright Law* only if it is created by a natural person. The contribution by the said app is original to some extent but cannot be identified as a work, because it's not created by a natural person.

In a sense of value orientation and rulemaking, however, this report is a result of joint efforts from both developer and user of the app, has communication values, and thus related parties should enjoy certain rights and benefits.

5. According to the above four steps, we should first determine whether the content under dispute constitutes a work, and then consider whether the plaintiff owns the copyright in the work claimed by the plaintiff. In this case, the copyrightability of AI-generated content was not recognized. Therefore, the corresponding two steps were changed to rights granting and distribution. Is the copyright or any other interest of the article granted? Who owns the relevant interest (if any) of the article?

(1) Let's read relevant legal provisions again. According to Article 11 of the *Copyright Law*, except otherwise provided in this Law, the copyright in a work shall belong to its author. The author of a work is the natural person who has created the work. Where a work is created according to the intention and under the supervision and responsibility of a legal entity or entity without legal personality, such legal entity or entity without legal personality shall be deemed to be the author of the work.

Therefore, the author of a work enjoys the copyright in the work in general. But, AI-generated content is not a work created by an author. Generally, those who examine any subject closely involved in its generation process or intervene, contribute to and invest in generating such content include the developer and user of the app. Hence, the resulting benefits are generally shared between the developer and user of the app. When the developer and user are not the same subject, how shall the interests be distributed?

(2) View 1: The developer shall be entitled to relevant interests, because the developer collects and calculates data, sets up the program and output model, and makes many other creative efforts, but the user just enters some keywords. Therefore, the developer contributes more to including innovative content in it.

View 2: The user shall be entitled to relevant interests, because the content does not reflect the developer's creation intention and the app developer receives income from app royalties and are not motivated to use the app to spread the article. The user pays for the content and defines and generates material content in light of the user's own intention, and thus has further motivation and anticipation to use and spread the article. The app user shall be encouraged to use and spread the article and granted with relevant interests therein.

(3) The first view is about contribution. The giver benefits more than the receiver and who pays more gains more. It is fair. Such a mechanism can fairly and effectively encourage further contribution and stimulate industrial innovation.

The second view is about effect. Any institutional arrangement more beneficial to achieve such values and increase social benefits shall be selected for the purpose of the value orientation and choice, or in order to stimulate the use and dissemination. According to the current business model, the developer of an app benefits from its royalties and the user benefits from content generated by the app in general. Therefore, vesting relevant interests in the user is more conducive to the creation of social benefits.

(4) In this case, the judge adopted the second view and thought that relevant interests and benefits should be vested in the user.

**Extension of Thinking**

According to the legislative theory and in order to encourage the use and dissemination and equally distribute benefits, what institutional arrangements shall be made accordingly? According to the Artificial Intelligence Legislation, shall AI-generated content be granted with copyright?

(1) Objectively, it shows a certain difference and innovation in form. I'm treated with a meal. Why do I ask who cooked it? Considering who is the cook or developing different rules for different cooks will increase the cost of the dissemination and use.

(2) Subjectively, the creator needs to have independent consciousness and express thoughts and feelings as the author. But randomization does not mean creation. (People are the subjects and targets and AI is an object and tool, so AI can be only deemed as the object and tool of people.) (In an era of advanced AI, robots will have self-awareness and be completely independent. Will an article generated in such a context be identified as a work?)

(3) Subject wise, AI software is not qualified to be a creator. (Could AI have rights? If not, is it possible to break the consistency between the work, its creator and its copyright owner? That is, AI creation shall bring about relevant interests, which not AI but the developer or user shall be entitled to.)

This is an open question, with no single answer. You may have different answers in specific or given scenarios and cases. Well, similar cases will surely occur in the future and probably be more difficult to deal with. Therefore, we need to discuss how to try new types of cases caused by the progress of technology, and if laws fall behind social development, how to explain laws and develop rules and how to make a judgment that is fair and more beneficial to improve social well-being. These problems need to be solved by the judiciary in future specific cases.

**Case Overview:**

Film v. Baidu, the first AI infringement case:

The plaintiff, a law firm, claimed that it organized to write the *Judicial Big Data Report for Film & TV and Entertainment Industries — Film Volume, Beijing Part* (hereinafter referred to as "the article under dispute") and first published this article via its WeChat official account on September 9, 2018. The article under dispute first summarizes the retrieval results of judgment documents for film & TV and entertainment industries in Beijing, including China Law & Reference of Wolters Kluwer, the database used for retrieval, as well as search keywords, case type, document type, and court proceedings. The plaintiff retrieved, reviewed and selected judgment documents in light of all the above conditions, identified particular cases in the film industry, and conducted statistical analysis for 2,589 judgment documents, according to retrieval explanations. This article also includes the basic information, characteristics and conclusions of film industry cases in Beijing. Later, the defendant published an article via its Baijiahao account, and this article is almost the same as the article under dispute, except for the signature, introduction, retrieval overview, etc. The plaintiff claimed that the defendant published its article without its permission and infringed its right of communication through information network and right of signature, and thus filed a lawsuit with the court to hold the defendant accountable for such an infringement. The defendant argued that that article was not created by the plaintiff with its own efforts but generated by the AI function of a legal statistics analysis app, and thus should not be protected by the *Copyright Law*. The plaintiff used the visual search function of China Law & Reference of Wolters Kluwer to generate some graphics and text content, and based on them, wrote the article under dispute.