How Does Criminal Law Respond to New Forms of Academic Misconduct in the Context of Big Data[I]

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Abstract: New forms of academic misconduct have emerged in the era of big data，that is, the method of plagiarism has changed from "obvious plagiarism" to "concealed plagiarism", the mean of infringement has changed from "copy and distribution" to "network communication". Academic misconduct is too hidden to be discovered. In the face of the new situation, not only are the administrative and civil laws and regulations hard to curb academic misconduct, the traditional criminal law has also encountered judicial dilemmas. In the context of big data, the criminal law must change the idea of protection and improve the crime regulations in order to respond to the spread of academic misconduct and strengthen the comprehensiveness of criminal law protection.

Keywords: big data, academic misconduct, network communication, criminal law

Como o Direito Penal Reage às Novas Formas de Má Conduta Acadêmica no Contexto de Big Data

Resumo: Novas formas de má conduta acadêmica emergiram na era dos big data, ou seja, o método de plágio mudou do "plágio óbvio" para o "plágio oculto", o meio de violação mudou de "cópia e distribuição" para "comunicação em rede". Esse tipo de má conduta acadêmica é muito difícil de ser descoberta. Diante da nova situação, além de as leis e regulamentos administrativos e civis serem difíceis de conter a má conduta acadêmica, o direito penal tradicional também encontrou dilemas judiciais. No contexto dos big data, o direito penal deve mudar a ideia de proteção e melhorar a regulamentação desse tipo de crime, a fim de reagir à propagação da má conduta acadêmica e fortalecer a abrangência da proteção do direito penal.

Palavras-chave: big data, má conduta acadêmica, comunicação em rede, direito penal.

Under the combined effect of mobile Internet technology, cloud computing, artificial intelligence and other information technologies, the speed of data generation and growth is beyond our imagination. Massive amounts of data are immediately generated and become valuable new resources. The reason why data is valuable is that it can bring huge economic benefits after being analyzed and used. The possession of data has become a key way for companies and countries to gain competitive advantage. The world is gradually entering "the Big Data Bang Era".

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The impact of big data is not only limited to the economic field, but also in the field of academic research.

The impact of big data on academic research

(I) The positive effect of big data on academic research

Big data has the characteristics of large quantity, wide sources, and complete samples. The application of big data to the field of academic research will not only cause the transformation of traditional empirical research models to new empirical research models, but will also promote changes in research tools and methods.

First, literature collection becomes very easy. Although academic research explores the unknown world, it is inseparable from the collection and accumulation of existing academic literatures. Only by possessing academic literatures as comprehensively as possible can we understand the research results and cutting-edge research dynamics of previous generations. Academic literatures are the basis of academic research. To some extent, the quality of academic literatures is an important factor that determines the level of research. The interdisciplinary and cross-professional academic research becomes more and more common, which makes it more difficult to collect academic literatures. However, the arrival of big data makes academic research much more convenient, researchers can collect academic literatures as many as they want through internet and data analysis.

Second, data analysis becomes very convenient. In the era of big data, big data is not only a kind of information resource, but also a kind of information processing technology. Massive amounts of data and information will be analyzed in a very short time by comprehensively using of statistics, computer technology, cloud computing and other processing methods. Big data is usually comprehensive data in a specific field, which has the characteristics of huge quantity and comprehensive content[III]. The authenticity and objectivity of big data have been guaranteed to the greatest extent, through scientific analysis of technologies such as cloud computing and artificial intelligence. Thus the quality of big data has been greatly improved, and the inherent value of big data is also revealed.

Third, cross-over research is more urgent. The capture, analysis, storage and application of big data are inseparable from the support of these disciplines such as statistics, computer science, mathematics, and software science. On one hand, big data has accelerated the in-depth integration of multiple disciplines in the field of natural science researches. On the other hand, it has also promoted the interdisciplinary research of natural sciences and humanities. Especially the humanities, which always lag behind in technology of data collection, are difficult to use detailed data to reflect the laws of human beings and society like what natural sciences do their researches, and can only do speculative research through the methods of guessing, hypothesis and reasoning[IV]. At the advent of big data, humanities can also conduct in-depth interdisciplinary research of multiple disciplines and carry out new empirical research, with the help of statistics, computer science, mathematics, software science and other disciplines. Scientific research results will appear in large numbers.

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(II) The negative effect of big data on academic research

Networking, platformization and openness are the typical features of academic research in the era of big data[V]. While big data has brought tremendous convenience to academic research, it has also produced some new problems and worries.

1. The mode of knowledge dissemination has changed from "material carrier" to "information data". Material carriers such as books, periodicals, and CD-ROMs are traditional media for knowledge dissemination, and also are important channels for people to acquire knowledge and do research. With the rapid development of digital information technology, the digitization or electronicization of works has become a major feature of knowledge dissemination in the era of big data. With the help of digital information technology, works can be separated from material carriers such as books, periodicals, and CD-ROMs, and become a kind of independent information data. While shortening the distance between authors and readers, big data technology also quietly changed the way of knowledge dissemination, and greatly reduced the cost of dissemination, which brought a huge impact on traditional material carriers such as books, periodicals, and CD-ROMs.

2. The form of plagiarism has changed from "explicit plagiarism" to "concealed plagiarism". Netizens can surf the internet with their virtual identities on the internet. The virtuality and anonymity of the internet eliminates netizens' worries about the disclosure of their true identities. Without revealing the true identity, the perpetrator can easily commit academic misconduct and is hard to be discovered. In addition, with the introduction of software systems such as the academic misconduct detection system, online plagiarism methods like word substitution, word order inversion, and other bleaching techniques that are similar to "money laundering", have been improperly renovated. To make matters worse, these methods are too concealed to be uncovered. On one hand, the technology of digitalization and information make it easier and more concealed for the perpetrator to perform academic misconduct; on the other hand, it enables the perpetrator to take targeted measures in committing academic misconduct, making it difficult to distinguish whether academic misconduct has been committed or not.

3. The mean of infringement has changed from "copy and distribution" to "network communication". Internet communication is open and participatory in the era of big data. Because the flow of information data has evolved from a single-line vertical model to fission diffusion model, so the information data can be spread without restrictions to anywhere. The freer the flow of information, the more convenient the use of information, the more frequent information sharing, and the greater the value of information. Moreover, the internet greatly reduces the cost of dissemination. Specific to the academic field, academic works are usually spread through material carriers such as books and periodicals. In order to protect the right of copyright owner, anybody cannot copy or distribute their works to make money without their permission. Therefore, it is very important to protect the rights of copy and distribute. However, with the continuous update of digital technology, the degree of digitization of works and periodicals has increased, and the network communication instead of material carriers is gradually becoming the mainstream, thus the right of network communication has emerged as the times require.

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The weakness of relevant laws and regulations to curb academic misconduct

Administrative sanctions are common methods which are used to deal with academic misconduct in China, but they did not play a better role. First, they emphasize the cultivation of self-discipline and honesty of scholars. The main spirit of these sanctions promulgated by Ministry of Science and Technology and Ministry of Education is to persuade scholars to strengthen self-discipline and the cultivation of a sense of integrity. These sanctions are all principled provisions, which are difficult to enforce in reality and appear to be powerless in punishment[VI]. Second, the academic misconduct will be punished within the unit and will not enter the judicial process. The internal processing of the unit has its own system defects that are difficult to overcome, because the unit has a positive correlation in interests and reputation with the perpetrators. Individual punishment to the perpetrators will inevitably cause the unit to be ashamed, that is why the unit generally does not like to deal with academic misconduct because of its own image, and even shield the perpetrators. Third, academic supervision institutions are not independent third-party agencies, which are basically subordinate to higher-level academic institutions or administrative departments[VII]. When academic supervision institutions deal with academic misconduct, they are easily affected and restricted by administrative power, because they have to obey the instructions of higher-level academic institutions or administrative departments. Once the administrative power is involved in the investigation and handling of academic misconduct, the fairness and impartiality cannot be guaranteed.

The civil law does not work well either in how to prevent academic misconduct. First, the right holders have not enough motivation to file a lawsuit. Although the civil law stipulates some punitive measures for academic misconduct, such as an apology or compensation for losses, etc., the compensation for losses is only compensatory not punitive. The purpose is to make up for the loss of right holders, and the amount of compensation generally cannot be higher than the loss suffered by right holders. Moreover, the interest amount of litigation is very small or even impossible to quantify in the lawsuit of academic misconduct, the amount of compensation obtained by right holders will consequently be very small. Compared with the time, energy and money invested by right holders, there is an embarrassing situation where the benefit is lower than the cost. So it is not hard to imagine why right holders lack the economic motivation to claim rights. Second, it is more difficult for right holders to obtain evidence. On one hand, the openness of data information and the concealment of network infringement not only make the infringement easier, but also increase the difficulty of detecting infringement. When the right holders discover or know the infringement, the evidence of infringement may no longer exist. On the other hand, the progress of network technology has accelerated the separation of copyright rights and rights carriers. Network infringements of copyrights have become more frequent, and evidence of such infringements can easily be deleted or modified by infringers on the network. It is much more difficult for right holders to obtain evidence in internet than by material carriers.

As a result, the low cost of violation, less penalties, and light responsibility make relevant laws and regulations unable to curb academic misconduct.

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The Criminal Law Responses to Academic Misconduct in the era of Big Data

(I) To lower the threshold of crime under the criminal law

Freedom is the source of power for academic research. Without freedom, academic research will lack vitality. The innovation of knowledge can be promoted only by guaranteeing the academic freedom and academic dignity of scholars. Taking the particularity of the academic research into consideration, scholars advocate the principle of modesty and restraint in terms of how the criminal law should regulate academic misconduct. It is necessary to investigate criminal responsibility for the perpetrator just for the extremely serious academic misconduct. As is known, the criminal law is the most stringent law. However, academic freedom is also relative, and absolute academic freedom will inevitably lead to no freedom. Criminal law shoulders the dual values of freedom protection and order maintenance. While protecting academic freedom, it must also guarantee the normal academic research order.

Under the circumstance that ethics and current laws are difficult to prevent and control academic misconduct, the criminal law should respond to academic misconduct in order to realize the unification of academic justice and criminal justice[VIII]. The author believes that it is not necessary to set "extremely serious" as precondition, when investigating criminal responsibility for the perpetrator who commits academic misconduct, the criminal law should appropriately lower its threshold, and more apply fine penalties and qualification penalties to academic misconduct, because property and qualifications play an increasingly important role in market economy. The loss of property or the deprivation of qualifications often makes it difficult for the perpetrator to gain a foothold or permanent status in the market. Here are two reasons that the criminal threshold is lowered.

1. The violations of academic integrity are becoming serious, and the academic misconduct is increasing fast, which urgently need the criminal law to regulate. The academic misconduct at present is widespread, an important reason is that the criminal law is too tolerant of it, causing it to escape punishment. Some scholars believe that lowering the criminal threshold on a large scale will result in citizens being severely punished out of proportion[IX]. However, with the rapid development of the internet and computer technology in the era of big data, "the principle of modesty and restraint does not mean that the criminal law should take a negative position, it should be based on the changes of the times, and explore the space for the expansion of criminal law in time under the principle of statutory crimes[X]." In recent years, the emergence of the risk society has quietly changed the attitude of criminal law. Criminal law, whose positive and instrumental role has gradually increased, is more actively involved in national governance and social management[XI]. Nowadays, there is a trend of shifting from "civil law-centered" to "criminal law-centered" to protect intellectual property rights in the United States, where the crime of infringing intellectual property rights is clearly defined as a felony[XII].

2. It is the need to weave the criminal law net, establish legal awareness and maintain research order. The purpose that the criminal law steps in academic misconduct is to strengthen people's legal awareness, rather than to punish minor crimes with severe penalties[XIII]. By lowering the criminal threshold of academic misconduct and weaving criminal law nets, once again let the perpetrator know the moral bottom line of academic research behavior, and it is

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also of practical significance to curb dishonesty in the academic community, cultivate the ethics of scholars, and create a healthy atmosphere of academic research[XIV]. It is known that the criminal law changes with the development and progress of society. The concept of criminal law and the system of crimes are by no means idealized products, they will change with the times and move with the trend of social development[XV].

(II) To strengthen the protection of the right of network communication

In the era of big data, network communication has the characteristics of openness, participation and sharing, which greatly expands the scope of communication and is beyond the limitations of time and space. The role of network communication is becoming increasingly prominent. Information flow is the essence of the era of big data, only when information flows freely can it be shared. Thanks to the advancement of digital and internet technology, information communication has become both fast and cheap. Every coin has two sides, the digital and internet technology also weakens the ability of owners to control their data. Nowadays, the act of downloading and spreading the owner's information or data in internet is seriously harmful. Therefore, how to use data in a reasonable way and how to protect data are decisions that must be made by criminal law in the era of big data. In order to restrain the illegal communication of digital works and reduce academic misconduct, network communication as a legal right requires the protection of criminal law.

(III) To get rid of subjective restrictions on profit-making purposes in academic misconduct crime

The purposes of perpetrators who commit academic misconduct crime on the internet are various. Most of them want to obtain clicks, downloads, or attract advertisers, but rarely for profit. Although academic misconduct sometimes has profit-making purposes, such profit-making purposes are indirect or incidental, and the amount of profit is small, which obviously do not meet the elements of the crime of infringement against intellectual property rights. If profit-making purpose and illegal gains are listed as the necessary conditions for academic misconduct in the criminal law, there will be a lot of academic misconducts that cannot be included in the scope of criminal law in the era of big data. This creates conflicts between legal protection and practical problems, and finally encourages the wide spread of academic misconducts. The cost of academic misconduct committed by the perpetrator on the internet is very low or even zero. As a result, the criminal law should actively respond to these new issues by shifting from focusing on profit-making purposes and illegal gains to focusing on criminal behavior, so as to strengthen the comprehensiveness of criminal law protection.

Notes:

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