The Logical Elaboration of the Judicial Application of Digital Human Rights Principles

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Abstract: *Limiting digital human rights research to ontological concept-centered research cannot effectively alleviate the triple dilemma of digital human rights at the theoretical, institutional and practical levels, making it difficult to respond to the human rights needs of the digital era. In the face of the judicial challenges posed by the ever-changing digital technologies and the absence of corresponding rules, rule of law protection of digital human rights should not only create new rights, but also transform abstract human rights values into concrete principles and apply them to the administration of justice. The identification of conditions of applicability of digital human rights principles is a three-stage weighing process that involves defining the digital domain, identifying the contexts in which the principles apply, and justifying why the human rights principles should be prioritized. On this basis, it is appropriate for the digital human rights principles to derive a concrete content map based on the three principles of data autonomy, algorithmic fairness and platform bias, so as to ensure the objectivity and operability of the application of the principles. These crystallized digital human rights principles can serve as decisive grounds for decisions, guiding arguments and evaluative tests, thus allowing them to permeate judicial decisions in multiple ways.*

Keywords: digital human rights ♦ legal principles ♦ judicial application

I. Introduction

In recent years, digital human rights, as an emerging issue in the digital era, have attracted extensive attention and sustained debate in the academic community. Although there remains disagreement as to whether digital human rights can be established as a valid concept, it is beyond dispute that the cause of human rights faces multiple crises and new challenges in the digital age. In view of this, an increasing number of scholars have moved beyond disputing the validity of the concept of digital human rights and are no longer satisfied with mere value declarations and content cataloguing of these rights. Instead, they have come to recognize that digital human rights can be effectively realized only through necessary specification and substantivizing.[1] In this sense, it is of great significance to promote the transformation of digital human rights from a value concept into institutional norms embedded within the existing legal system. However, as is often noted, human rights are not confined to explicit legal declarations;[2] "becoming norms" is merely one of many modes of legal protection. Normative research on digital human rights should therefore go further by focusing on more concrete and practically meaningful issues of judicial protection, and by responding to the real needs of digital human rights from the perspective of legal practice.

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This Contribution was originally published in Chinese in *China Legal Science*, No. 3, 2024, pp. 83-102.

[1] Ma Changshan, "The Chinese Vision for Digital Human Rights," *Human Rights* 4 (2023): 53.

[2] Zhang Wenxian, "Human Rights Protection and Judicial Civilization," *China Law Review* 2 (2014): 3.

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In academic discourse, judicial protection of human rights is generally summarized as the protection of human rights through judicial power and the protection of human rights by the judiciary, from which have been derived concepts such as the right to claim adjudication, procedural due process rights, and the state's obligation to provide judicial remedies.[3] However, beyond these macro-level institutional mechanisms of rights protection, judicial protection of human rights also contains a technical dimension. That is, in accordance with the constitutional mandate that "the state respects and protects human rights," and relying on value judgments conducive to human rights protection, judicial protection is realized through the application of legal methods. With regard to digital human rights, however, a shared value consensus has yet to be formed, the content system remains underdeveloped, and the resolution of digital disputes often faces the predicament of a vacuum of regulations. In light of both practical and theoretical needs, it is therefore all the more necessary to identify, extract, and affirm specific human rights claims through case-by-case adjudication.[4]

Generally speaking, human rights take the form of principles,[5] and principles bear a natural affinity with values. We can not only treat digital human rights as standards for judicial value judgments to evaluate various behaviors involving the application of digital technologies in society, but also transform digital human rights into applicable principled norms, thereby realizing the judicial protection of digital human rights in the adjudicative process. Following this approach, this paper sets aside the various debates surrounding the concept of digital human rights and moves beyond ontological inquiries into "what digital human rights are." Instead, it explores, at the level of domestic law, how — drawing on both axiological and methodological perspectives — the classical proposition of the judicial application of principles can be extended to the field of digital human rights, so as to broaden the theoretical horizon and make digital human rights more concrete. This paper proceeds from four aspects — why to apply, when to apply, what to apply, and how to apply — to analyze the rationale, contexts, content, and pathways of the judicial application of digital human rights principles, thereby constructing a logical framework for such application. It aims to redress the current imbalance in scholarship, which is characterized by abundant theoretical reflection but insufficient institutional construction, and, in doing so, to advance the normative study of digital human rights while improving their judicial protection mechanisms.

II. Conceptual Reflection on Digital Human Rights and the Principled Approach to Digital Human Rights

Although the debate over the concept of digital human rights remains unresolved, the use of "digital human rights" as a fixed term has been widely accepted. Given that this paper primarily discusses how human rights may be applied as principles in digital cases, and in order to minimize disagreements over foundational concepts, the author provisionally treats digital human rights as an umbrella term referring to human rights in the digital domain or in the application of digital technologies. Correspondingly, the core meaning of "digital human rights principles" lies in treating

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[3] Han Dayuan, "Improving the Judicial Protection System of Human Rights," *Studies in Law and Business* 3 (2014); Jiang Bixin, "Reflections on Improving Judicial Protection of Human Rights," *China Law Review* 2 (2014); Li Lujun, "A Semantic Analysis of 'Judicial Protection of Human Rights,'" *ECUPL Journal* 4 (2019).

[4] Zhang Wenxian, "Human Rights Protection and Judicial Civilization," 3.

[5] Robert Alexy, *A Theory of Constitutional Rights*, Julian Rivers trans. (Oxford: Oxford University Press, 2002), 44.

digital human rights as principles in legal practice.[6] This principled approach differs from concept-centered studies of digital human rights, as it is rooted in the overlapping and interactive relationship among human rights, values, rights, and principles.

A. Reflection on concept-centered research on digital human rights

Initially, digital human rights were considered "fourth-generation human rights," This generational framing endowed digital human rights with significant topical distinctiveness and theoretical appeal, rapidly turning them into a widely discussed issue in digital law. However, it also subjected digital human rights to challenges regarding its conceptual legitimacy and necessity. As a result, existing scholarship has largely followed a "concept-centered" line of reasoning, focusing on the justification or critique of the concept itself and emphasizing what digital human rights are. Admittedly, concept-centered research at the ontological level is foundational. Yet, it may also obscure the challenges of ensuring the rule of law protection of digital human rights. In other words, concept-centered research cannot effectively alleviate the dilemmas faced by digital human rights at the theoretical, institutional, and practical levels.

First, concept-centered research is unable to resolve the stagnation in digital human rights theory. On the one hand, human rights represent "the highest level of moral claims",[7] yet there is considerable disagreement over what specific content digital human rights encompass, and concept-centered research has not eliminated this divergence. The core function of digital human rights is to serve as a boundary-setting metric and evaluation standard for digital technologies.[8] On this basis, how their scope should be understood and through which legal institutions or pathways they should be protected ought to constitute the central concern of relevant research. Concept-centered approaches obscure these issues, leaving digital human rights at the preliminary stage of conceptual cognition, let alone enabling the construction of an independent theoretical system. On the other hand, misunderstandings exist in defining the concept of digital human rights. Human rights are often understood as "rights one has by virtue of being human," a view consistent with the etymological affinity between human rights and rights. Accordingly, scholars tend to define digital human rights as the aggregate of various digital rights.[9] Given that rights and their underlying legal norms may embody the core values of human rights, this approach facilitates a concrete understanding of the concept. However, "not all human rights need to be codified in law, nor can all legal rights be regarded as human rights."[10] Human rights and rights do not stand in a simple "general-particular" relationship. If one insists on treating human rights as a mere aggregation of specific rights, digital human rights become nothing more than a collective label for various digital rights. This not only fails to capture the full picture of human rights issues in the digital era,

[6] For the sake of convenience, this paper refers to the scope of the application of digital technology in society as the "digital domain", the process as "digital technology application," judicial cases related thereto as "digital cases," and legal principles concerning digital human rights as "digital human rights principles."

[7] Jack Donnelly, *Universal Human Rights in Theory and Practice*, Wang Puqu et al. trans. (Beijing: China Social Sciences Press, 2001), 7.

[8] Zhang Wenxian, "Human Rights Jurisprudence in the New Era," *Human Rights* 3 (2019): 21.

[9] For example, Professor Ma Changshan defines digital human rights as: "Basic rights that manifest the digital existence and developmental needs of individuals in a smart society, carried by data and information. These specifically include the right to data autonomy, the right to data information, the right to data expression, the right to fair use of data, the right to data privacy, the right to data property, and so on." Ma Changshan, "The 'Fourth Generation of Human Rights' in the Context of Smart Society and Its Protection," *China Legal Science* 5 (2019): 17.

[10] Shen Zongling, "In What Sense Are Human Rights Rights?" *China Legal Science* 5 (1991): 22.

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but also risks neglecting the moral validity of human rights, and may even render human rights theory more confused.

Second, concept-centered research cannot resolve the problem of fragmentation in the regulation of digital human rights. The delineation of the content of human rights is inherently open-ended, and the construction of a human rights institutional system has always been subject to debate. Moreover, theoretical research on digital human rights is still in its infancy, with limited consensus available to support the construction of a normative framework. In China, the *Constitution* provides a normative basis for the rule of law protection of digital human rights, while laws and regulations such as the *Personal Information Protection Law of the People's Republic of China* and the *Data Security Law* partially reflect the value orientation of digital human rights. However, these provisions remain fragmented and unsystematic. If one continues to prioritize concept-centered analysis, debates over whether digital human rights exist and which specific emerging rights they encompass may persist, thereby diverting attention from the construction of a coherent legal normative system. The lack of normative development then becomes a ground for criticizing the concept itself, resulting in a "vicious cycle" in which the urgent issue of protecting digital human rights is effectively sidelined.

Finally, concept-centered research is unable to effectively guide the practice of rule of law protection of digital human rights. Although "digital human rights" was included in 2020 in the first batch of the "Big Data Terminology List" issued by the China National Committee for Terminology in Science and Technology,[11] and the United Nations' *Global Digital Compact*, released in May 2023, has proposed the establishment of a digital human rights consultation mechanism, concept-centered research alone is insufficient to advance practice in the absence of robust theoretical foundations and institutional frameworks. On the one hand, "the judiciary is the most important mechanism for transforming human rights from the normative to the actual."[12] Yet, the objects addressed by digital human rights are, at present, fluid and evolving, and the inherent theoretical orientation of concept-centered research prevents digital human rights theory from guiding legislative practice, while judicial decisions struggle to respond directly to human rights issues in the digital age. On the other hand, digital human rights may also function as a declaratory discourse mechanism in practice. Discourse does not imply detachment from practice; rather, it emphasizes the use of "soft" instruments such as human rights declarations and white papers to "awaken" and "mobilize" consensus, promote protection, and reflect upon human rights practices. Unfortunately, concept-centered research pays little attention to digital human rights as discourse. At present, a dedicated discourse mechanism for digital human rights has yet to be established; their core values are not easily externalized, their declaratory and persuasive functions remain underdeveloped, and thus they fail to provide effective value guidance for practice.

B. Turning to the principled approach to digital human rights

Compared with treating digital human rights as a legal concept that requires rigorous justification, and in order to alleviate the difficulties in protecting digital human rights, this paper takes the value dimension as the starting point for understanding human rights and reaffirms that digital human rights constitute a value

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[11] China National Committee for Terminology in Science and Technology, "Trial Release of New Terms on Big Data by China National Committee for Terminology in Science and Technology," accessed November 16, 2023, http://www.cnterm.cn/xwdt/tpxw/202007/t20200723_570712.html.

[12] Wang Xigen, "On Improving the Judicial Protection System of Human Rights," *Law and Social Development* 1 (2014): 50.

standard that expresses "what it means to be human" in a digital society. This value standard contains both subjective and objective dimensions: first, digital human rights distill shared or similar value orientations or preferential tendencies in the digital age; second, they embody certain objective elements indispensable for maintaining individual autonomy in the digital era. Together, these dimensions convey legitimate human claims in the digital age and constitute an important perspective for understanding digital human rights from a value-based standpoint. This approach seeks to transcend the ontological mode of thinking that dominates existing research on digital human rights. It neither insists on precisely defining the scope and boundaries of the concept nor reduces digital human rights to a mere aggregation of various digital rights. Instead, it emphasizes that the protection and realization of human rights should serve as both the starting point and the ultimate objective of digital technology application, advocating for the affirmation of human rights values and the safeguarding of human subjectivity amid the multiple transformations of the digital age. Following this line of reasoning, the focus of protecting digital human rights lies in human rights-based methods and modes of interpretation,[13] through which abstract human rights values are embedded throughout the entire process of legal operation. By further refining these abstract values, relatively concrete behavioral guidelines or rights-based rules may be formed, thereby mitigating the threats posed by digital technologies to human rights. However, the value claims derived from abstract human rights often cannot be directly recognized by positive law. To realize the guiding function of human rights values, an indirect route is often required — that is, by abstracting away the specific subjects of rights and obligations embedded in such value claims, and generating a series of more general principles that are more readily incorporated into the system of positive law.

Principles are understood as guiding ideas that embody reasons for action, standards, and justificatory force.[14] In a broad sense, the protection of human rights itself constitutes a (legal) principle, requiring that (legal) practice be conducive to, or at least not detrimental to, human rights. The principled approach to digital human rights implies the coupling of the digital domain, human rights values, and legal principles, with the aim of rendering human rights principles more concrete, more normatively binding, and more operational, rather than merely treating human rights as passive objects of legal protection. Accordingly, the digital human rights principles generated through this principled approach may be understood as legal principles that infuse human rights values into the digital domain, or, in other words, as human rights principles with normative force in the application of digital technologies. Depending on whether they are explicitly stipulated in positive law, principles may be classified into "positive legal principles" and "non-positive legal principles," the latter of which, although not expressly codified, can be derived from legal provisions.[15] On this basis, there are two primary pathways for the principled approach to digital human rights: one is to construct new, more specific principles in the digital domain on the basis of existing human rights principles and apply them in judicial adjudication; the other is to align certain digital human rights claims with existing legal principles and apply such principled norms to individual cases through "interpretation."

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[13] Gerd Oberleitner, "A Decade of Mainstreaming Human Rights in the UN: Achievements, Failures, Challenges," *Netherlands Quarterly of Human Rights* 26 (2008): 369.

[14] Karl Larenz, *Correct Law: Foundations of Legal Ethics (Richtiges Recht: Grundzüge einer Rechtsethik)*, Lei Lei trans. (Beijing: Law Press · China, 2022), 14-15.

[15] Shu Guoying, "The Dilemma of Applying Legal Principles: Four Methodological Questions," *Journal of Soochow University (Philosophy and Social Science Edition)* 1 (2005): 28-30.

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The generation of digital human rights principles through this principled approach constitutes a new paradigm for the protection of digital human rights. The legitimacy of this approach can be justified on three grounds. First, human rights possess a pronounced value dimension, and there exists a structural correspondence between values and legal principles. Principles may be understood as "a purposive thing,"[16] and purposiveness inherently involves strong evaluative judgments, which serve to assess whether certain conduct conforms to specific legal value objectives. In the context of human rights, the relationship between principles and values may be summarized as one between the objective and the subjective: a value judgment about what is "good" or "desirable" can naturally be translated into a requirement to uphold such "good" or "desirable" states, and vice versa. For example, the value judgment that "equality is good" can give rise to the principle of "non-discrimination"; conversely, the principle of non-discrimination embodies the value that equality is desirable. Second, the principled approach constitutes an integral part of human rights mainstreaming. As a global consensus, human rights mainstreaming requires that human rights considerations be integrated into norms, policies, and actions, such that human rights become prioritized values and objectives.[17] The principled approach makes this idea more concrete by giving more tangible expression to human rights values. Similarly, human rights-based governance seeks to "integrate human rights thinking into the process of state governance,"[18] emphasizing that "human rights are core and priority values as well as key components of governance systems";[19] its essence likewise lies in the principled treatment of human rights. Third, the principled approach has a constitutional normative basis. In China, the constitutional provision that "the state respects and protects human rights" is a general clause, and such clauses are typically used to express principles. It follows that human rights protection constitutes a constitutional principle.[20] In this sense, the principled approach to digital human rights aims to provide purposive and systematic interpretations of this constitutional mandate, embedding it into the field of digital law through legal interpretation and deriving a series of concrete principles for the protection of digital human rights.

In the context of digital cases, the principled approach entails treating digital human rights principles as value-guiding standards for judicial adjudication, allowing them to intervene in individual cases through multiple avenues, and thereby realizing the judicial protection of digital human rights from different perspectives and to varying degrees. In the face of rapidly evolving digital technologies, legislators must strike a delicate balance between the rights of private actors and the obligations of public power.[21] As a result, the systematic construction of legal rules cannot be achieved overnight, whereas legal principles, which do not require correspondence with specific facts, are better suited to meet the practical needs of digital human rights protection. On the one hand, principles inherently contain evaluative elements,[22] and such evaluation acquires normative significance only within the judicial context of

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[16] Xiong Jingbo, "The Basic Human Rights as A Substance Principle: Another Study on the Institutionalization of Basic Human Rights and Its Practice," *Chinese Journal of Human Rights* 1 (2019): 33.
[17] Zhang Wanhong, "On Human Rights Mainstreaming," *Law Review* 6 (2016): 44-45.
[18] Liu Zhiqiang, "The Triple Logic of Human Rights Governance and Its Elaboration," *Modern Law Science* 4 (2023): 19.
[19] Hou Jian, "On Human Rights Governance," *Academics* 10 (2020): 106.
[20] Lin Laifan and Ji Yanmin, "Human Rights Protection: Significance as a Principle," *Studies in Law and Business* 4 (2005): 64.
[21] Susan Perry and Claudia Roda, *Human Rights and Digital Technology: Digital Tightrope* (London: Palgrave Macmillan, 2017), 191.
[22] Joseph Raz, "Legal Principles and the Limits of Law," *Yale Law Journal* 81 (1972): 839-842.

case-by-case balancing. In this regard, the principled approach involves evaluating individual cases in light of the value standards of digital human rights, indicating that human rights must be a necessary consideration in judicial decision-making in digital cases. On the other hand, the facts and conduct to which principles apply are characterized by significant indeterminacy. Digital human rights principles exhibit a high degree of inclusiveness, enabling them — through an open understanding of evaluative standards and normative facts — to "fill the gaps and interstices hidden within the system of rules,"[23] thereby addressing issues such as regulatory lacunae and conceptual inconsistency arising from the application of digital technologies.

In sum, given the inherently abstract value character of human rights, the protection of digital human rights should not and cannot rely solely on the construction of a static and exhaustive system of detailed rules, but must also attend to the dynamic application of principles. Admittedly, the principled approach may give rise to a "paradox of determinacy," as the legal force of digital human rights principles often operates at the level of individual cases and depends on open-ended normative guidance and flexible evaluative standards. Therefore, it is essential to properly manage the tension between case-specific effectiveness and legal certainty by developing generally applicable and determinate methods of application. It is hoped that by clarifying the conditions, content, and pathways for the application of digital human rights principles, principle-based adjudication will no longer amount to a fluctuating form of "judicial lawmaking," but will instead, on the basis of operational methods, reduce the arbitrariness of judicial value judgments and achieve a dynamic balance between the protection of digital human rights and legal predictability.

III. Identifying the Conditions for the Judicial Application of Digital Human Rights Principles

Digital human rights principles may be understood, in a general sense, as human rights principles within the digital domain. Treating them as principles for judicial adjudication means that digital human rights function as normative standards within the domain of practical reasoning,[24] thereby granting "human rights, as well as various civil rights as their concrete manifestations, a form of priority."[25] However, under the constraint that "principles may be applied only when rules are exhausted," the application of legal principles often entails a substantial burden of justification. Moreover, given the marked domain-specific nature of digital human rights, the identification of the conditions for applying digital human rights principles involves three successive components: first, defining the digital domain; second, determining the contexts in which the principles apply; and third, clarifying why human rights principles should be prioritized over other legal principles unrelated to digital human rights.

A. Delimiting the scope of application of digital human rights principles

The digital domain constitutes the fundamental precondition for the application of digital human rights principles. Confining their judicial application to the digital domain helps to narrow the scope of inquiry, concentrate the argument, and respond more concretely to disputes arising from the application of digital technologies. More

[23] Chen Linlin, *The Path and Methods of Adjudication — An Introduction to Judicial Argumentation Theory* (Beijing: China University of Political Science and Law Press, 2007), 71.
[24] Stephen R. Perry, "Two Models of Legal Principles," Zhang Xiaoxiao and Chen Linlin, trans., in *Xiamen University Law Review*, vol. 20, Zhou Yun ed. (Xiamen: Xiamen University Press, 2012), 67.
[25] Zhang Wenxian, "Human Rights Protection and Judicial Civilization," 3.

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specifically, the rationale for adopting domain limitation as a threshold condition may be summarized in three respects.

First, the widespread application of digital technologies has driven transformations in the principles of human rights. Digital human rights emerge from the comprehensive integration of digital technologies into the functioning of society. While the digital dimension delimits the scope of human rights, it also continuously interacts, conflicts, and integrates with human rights, thereby enriching and reshaping both human rights theory and institutional frameworks. It is precisely these transformative elements that define the distinctiveness of digital human rights. To begin with, the "self-empowering" mode[26] of digital power suggests that the subjects bearing human rights obligations are no longer confined to the state, nor is it appropriate to treat all "powerful private entities resembling states"[27] as uniform power holders. The theory of human rights obligations must therefore become more refined, context-sensitive, and technologically informed. Furthermore, the impact of digital technologies on individuals is often intangible, psychological, and subtle,[28] giving rise to human rights threats that are mild, concealed, yet persistent. This calls for a reconsideration of what constitutes "rights by virtue of being human", and for the development of responsibility mechanisms adapted to the context of digital technology application. Finally, the scope for applying human rights principles in the digital domain is significantly expanded. Human rights represent an "incompletely theorized agreement,"[29] and human rights claims cannot be exhaustively incorporated into legal systems. Instead, they should be realized through principled value guidance in individual cases. While this proposition applies across all human rights domains, digital human rights principles place particular emphasis on the inseparability of human rights from emerging trends in the digital domain. In circumstances where digital legislation remains underdeveloped, their application becomes especially urgent.

Second, digital human rights do not depart from the broader category of human rights. Incorporating digital issues into the existing human rights framework is not a natural or automatic process, particularly in the absence of consensus regarding new phenomena. In such contexts, domain-specific digital human rights may possess greater moral appeal and practical relevance than general human rights. Here, the significance of digital human rights lies in their integrative function in digital cases. Such integration operates on three levels: the first is discursive integration. Drawing on the declaratory function of human rights, digital human rights articulate a distinct human rights stance within the digital domain, thereby fostering a preliminary yet resilient consensus at the level of philosophy. The second is cognitive integration. According to structuralist linguistics, the relationship between signifier and signified admits multiple possibilities. Cognitive integration treats digital human rights as a principle-based value orientation, seeking to reduce complex digital disputes to various types of human rights issues, and to understand, interpret, and even name new digital phenomena through the lens of existing human rights theory and legal knowledge. In this way, specific forms of digital technology application are gradually incorporated into the human rights legal framework. The third is evaluative

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[26] Ma Changshan, "Governance Logic of the Digital Society and Its Legalization," *Science of Law* 5 (2020): 5.
[27] Nobuyoshi Ashibe, *Constitution*, (3rd edition), Lin Laifan, Ling Weici and Long Xuanli trans. (Beijing: Peking University Press, 2006), 106.
[28] Zhou Shangjun, "Value Governance of Local Governments and Its Institutional Effectiveness," *Social Sciences in China* 5 (2021): 152.
[29] Cass R. Sunstein, "Incompletely Theorized Agreements," *Harvard Law Review* 108 (1995): 1733-1738.

integration. Building upon the prior levels of discourse and cognition, digital human rights provide a standpoint from which to evaluate the application of digital technologies on the basis of respecting and protecting human rights. They not only establish the promotion of human rights as a fundamental principle governing digital technology application, but also connect specific digital human rights principles to micro-level application scenarios, thereby using human rights values to "pierce" the veneer of objectivity surrounding digital technologies.

Finally, the digital domain primarily concerns the vertical power generated by the application of digital technologies. Although digital human rights do not focus on purely technical issues, once digital technologies are widely embedded in the social systems of production, distribution, and consumption, and begin to influence, hit, or even direct and govern social operations, they inevitably give rise to new institutional arrangements and legal relationships. In such contexts, the "society — technology — individual" chain undergoes structural transformation, and digital technologies transcend their purely technical nature, operating according to their own logic and shaping the development of society and culture.[30] Digital human rights principles, in essence, represent humanity's value orientation and normative vision regarding the application of digital technologies — namely, that such technologies should promote, or at least not infringe upon, human rights as a basic requirement of their integration into social systems. Given the inherently "vertical" character of human rights, the principled approach to digital human rights does not encompass all legal issues related to digital technologies in judicial application, but instead focuses on the power relations they generate. Such digital power includes both the digitalized forms of traditional state power and the social power arising from the self-empowerment of digital technologies. In this respect, the key distinction between digital power and traditional social power lies in the identity of its subjects, which are typically internet enterprises (digital platforms), and in the relativity of its effects. In relation to state power, internet enterprises retain their character as private actors; in relation to individuals, not all such enterprises possess digital power at all times. If power is understood as "a structurally determined capacity",[31] the existence of private digital power depends on the supply–demand structure between enterprises and individuals in specific digital contexts. Only when individuals become dependent on certain digital technologies in their daily lives and production activities can internet enterprises acquire "allocative resources"[32] and thus be incorporated into the vertical relational framework governed by digital human rights principles.

B. Contexts for the application of digital human rights principles

While the identification of domain aims to explain why such limitation is necessary and to delineate the scope of digital cases, the identification of contexts seeks to determine the situations or conditions under which digital human rights principles are applicable in judicial adjudication. Professor Shu Guoying summarizes the contexts for the application of legal principles into three types: the first is the exhaustion of rules — legal principles may be applied only after legal rules have been exhausted; the second is the realization of justice in individual cases — legal principles may not be directly applied unless they serve to achieve case-specific

[30] Zheng Zhihang, "Chinese Smart Justice from the Perspective of 'Technology-Organization' Interaction Theory," *China Legal Science* 3 (2023): 105.

[31] Liu Jun, David Willer, and Pamela Emanuelson, "Network Structure and Power Distribution: An Elemental Theory Explanation," *Sociological Studies* 2 (2011): 155.

[32] Jonathan H. Turner, *The Structure of Sociological Theory*, Qiu Zeqi, Zhang Maoyuan et al. trans. (Beijing: Huaxia Publishing House, 2006), 453.

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justice; the third is the presence of stronger reasons — legal principles should not be applied in the absence of stronger justificatory reasons.[33] Among these, the first type is often referred to as the general condition or rationalized model of principle application, while the second and third types are regarded as exceptional conditions or the optimization model.[34]

1. General contexts for the application of digital human rights principles

According to ordinary semantic logic, the exhaustion of legal rules constitutes a sufficient condition for the application of legal principles, forming a straightforward correspondence between the two. In such contexts, no conflict arises between rules and principles; rather, principles function to fill gaps in the law. Accordingly, the focus of context identification lies in determining whether rules have indeed been exhausted. In terms of the adjudicative process, the exhaustion of rules essentially reflects a failure of subsumption, indicating a form of "plan-defying incompleteness"[35] in statutory law. Even through methods such as interpretation and argumentation, legal rules may still fail to "provide an answer to disputed factual situations,"[36] In cases involving digital human rights, this means that judges are unable to establish a correspondence between the major premise and the minor premise. There are two principal methods for identifying the exhaustion of rules.

The first is the typological fact-determination method. Fact determination primarily examines whether the disputed facts can be subsumed under the scope of legal rules. Given that digital technologies are still in a stage of rapid development, not only are legal norms governing the digital domain unsystematic, but there is also a lack of basic consensus among social actors regarding the description of facts in digital cases. As a result, the correspondence between facts and norms often needs to be constructed. When there are no legal rules directly applicable to the factual elements at issue, it is inappropriate to conclude immediately that rules have been exhausted; instead, analogical reasoning should be employed. Specifically, the facts of the pending case (T_1) are compared with those of one or more similar adjudicated cases (T_2) through an element-by-element decomposition. If T_1 (comprising elements M_1, M_2, M_3, etc.) shares more similarities than differences with T_2 (comprising elements N_1, N_2, N_3, etc.), or if the similarities are more significant than the differences, then a correspondence between T_1 and T_2 may be established, and the applicability of the legal rules governing T_2 may be considered.[37] Only when no applicable rules can be identified even through analogical reasoning may the exhaustion of rules be confirmed.

The second is the substantive interest-based determination method. Whereas the fact-determination method relies heavily on identifying key elements of a case, the interest-based method focuses on the states of interests that statutory law seeks to

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[33] Shu Guoying, "Problems in Applying Legal Principles,"*Journal of Soochow University (Philosophy and Social Sciences Edition)* 6 (2004): 19.

[34] Lei Lei, "How to Apply Legal Principles? — Clues and Further Development of Where Lie the Difficulties in the Application of Legal Principles," in *Jurisprudential Methodology Series*, Shu Guoying ed. (Beijing: China Legal Publishing House, 2012); Chen Linlin, "Models and Application of Legal Principles," *Zhejiang Social Sciences* 3 (2012).

[35] Karl Larenz, *Legal Methodology (Methodenlehre der Rechtswissenschaft)*, Huang Jiazhen, trans. (Beijing: The Commercial Press, 2020), 519.

[36] Zhang Zuyang, "Identification Criteria, Justifiable Reasons and Identification Methods of Legal Loophole," *ECUPL Journal* 2 (2021): 146.

[37] Some scholars further classify this similarity into superficial similarity and structural similarity. See Yang Zhiwen, "On Structurally Similar Characteristics of Similar Cases and Their Application," *China Legal Science* 6 (2023).

regulate.[38] The determination of rule exhaustion from the perspective of interests requires judges to consider what kinds of interests are implicated by legal rules and on what grounds these interests are evaluated. This involves three steps. First, identifying the types of interests essentially involved in the case, and, as far as possible, classifying the interests arising from the application of digital technologies into traditional categories of interests, in order to comply with the basic requirement of adjudicating according to law. Second, determining whether the interests at stake can be effectively regulated by legal rules; based on the prior classification, this step evaluates whether the interests involved are capable of receiving protection under existing legal norms, while fully considering the possibility of linking new issues with existing norms and searching for potentially applicable legal rules. Third, after failing to identify any applicable legal rules, adopting a "consequentialist" form of originalist interpretation to test,[39] within the broadest semantic range, whether rules have truly been exhausted. If, after exhausting all interpretive efforts, the legal issue still cannot be resolved in a manner consistent with the legal order, legal principles must be applied to fill the gap.[40]

2. Exceptional contexts for the application of digital human rights principles

Exceptional contexts indicate that principles may still be applied even when legal rules have not been exhausted. In such cases, principle-based adjudication aims at achieving the best possible outcome, which may be further divided into two forms: the "least undesirable" and the "optimal." The "least undesirable" refers to situations of rule paradox, where the application of existing legal rules would lead to injustice in the individual case, thereby necessitating a decision based on principles. In the context of digital human rights, case-specific justice is primarily manifested as the protection of human rights. Given the fluid and evolving nature of human rights content, what is conducive to human rights protection inevitably depends on dynamic balancing. However, in the discussion of application contexts, such balancing should take the form of rebuttal-based reasoning: the adjudicator must demonstrate that the outcome produced by applying legal rules is clearly inconsistent with certain digital human rights principles and would result in serious impairment of digital human rights. The "optimal" outcome, by contrast, signifies the existence of stronger reasons in favor of applying legal principles. In such circumstances, judges must intensify their reasoning by demonstrating, at the substantive level, that the application of principles would clearly facilitate the protection of digital human rights, and by explaining why such "clear facilitation" is sufficient to override the formal priority ordinarily accorded to rules.

C. Determining the priority of digital human rights principles

The application of digital human rights principles in individual cases is not only constrained by the digital domain and the identified application contexts, but also requires justification as to why human rights principles should be applied rather than other legal principles. Human rights have been described by Costaz Douzinas as "values in a valueless world,"[41] Nevertheless, it is undeniable that human rights embody broad value consensus; they possess strong moral appeal and are capable of

[38] Shu Guoying, "Philipp Heck's Theory of Legal Gap Filling and the Theory of Legal (Command) Rectification," *Journal of Shanghai University of Political Science and Law* 6 (2022): 20.

[39] Zhang Yujie, *Regulating "Intelligence": Legal Challenges and Responses to Artificial Intelligence* (Beijing: Social Sciences Academic Press, 2022), 58-61.

[40] Reinhold Zippelius, *Legal Methodology (Juristische Methodenlehre)*, Jin Zhenbao trans. (Beijing: Law Press · China, 2009), 122.

[41] Costas Douzinas, *Human Rights and Empire: The Political Philosophy of Cosmopolitanism*, Xin Hengfu trans. (Nanjing: Jiangsu People's Publishing House, 2010), 206.

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incorporating other competing legal principles. In the specific context of applying digital human rights principles, the identification of priority involves two interrelated stages: first, an admissibility assessment, which explores under what conditions there are sufficient reasons to apply digital human rights principles; and second, a ranking assessment, which clarifies under what conditions the application of such principles constitutes the optimal choice.

1. Admissibility criteria for the application of digital human rights principles

On the basis of satisfying both domain and context conditions, the applicability of digital human rights principles first depends on whether the case involves human rights issues and excludes disputes concerning civil rights between formally equal parties. Given the distinctiveness of digital human rights, this determination may be approached from the perspectives of subjects and conduct.

First, the relative strength of the parties involved. Digital human rights retain the inherent vertical characteristic of human rights, primarily addressing unequal relationships between power holders and subjects of power. However, the power relations addressed by digital human rights principles encompass public power, private power, and private rights, rendering the assessment of relative strength more complex. It is therefore necessary to distinguish precisely between vertical power relations and horizontal rights relations. In this regard, a dual test based on publicity and coerciveness may be applied. Publicity refers to situations in which the application of digital technologies genuinely intervenes in public affairs, exerts a general impact on an indeterminate majority, and produces substantive effects on the weaker party in the case. Coerciveness emphasizes that, in the course of their application, digital technologies restrict or eliminate users' space for autonomous choice, thereby exerting real control over the weaker party, such that ordinary social actors would find it difficult to refuse or alter their choices.

Second, the nature of the subject matter involved. On the basis of assessing relative strength, the application of digital human rights principles requires that the case concern specific human rights content within the digital domain. On the one hand, data, algorithms, and platforms are regarded as the fundamental categories of digital law,[42] and the digital domain should therefore be further specified along these three dimensions, so as to establish a more concrete correspondence with case facts. On the other hand, content determination requires not only that the case involve certain specific rights, but also that such rights be sufficiently "fundamental." Given that legal rules in the digital domain are often lacking, this paper advocates only a preliminary examination of "fundamentality." As long as the rights claim in question implicates "human dignity" within the digital domain[43] and can, through interpretive reasoning, be reconstructed as an existing form of human rights or supported by constitutional rights provisions, it may be provisionally regarded as a human rights issue.

2. Ranking assessment for the application of digital human rights principles

The involvement of a digital human rights issue merely establishes the possibility of applying human rights principles; the next step is to determine under what conditions such principles should be prioritized over others. This determination is inherently comparative and should be conducted through a comprehensive consideration of the following factors. First, the degree of relevance to the case. The

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[42] Ma Changshan, "Theoretical Expression of Digital Jurisprudence," *China Legal Science* 3 (2022): 125.

[43] Edoardo Celeste, *Digital Constitutionalism: The Role of Internet Bills of Rights* (London: Routledge, 2023), 176.

application of principles must still be grounded in the facts of the individual case and follow the subsumptive structure of practical syllogism.[44] Accordingly, the "principle of proximity" should be observed, seeking the principle most closely aligned with the facts of the case. The assessment of relevance is two-tiered: first, the facts of the case are decomposed into constituent elements, from which potentially applicable principles are identified and preliminarily ranked according to their degree of relevance; second, a substantive abstraction of the case is undertaken to determine whether, in essence, the case is most closely connected to a digital human rights issue. Second, the degree of concretization of the principle itself. It is known that "without intermediaries, legal principles cannot be directly applied in individual cases."[45] The principles applied in judicial adjudication are not highly abstract notions such as justice, fairness, or human rights in general, but rather more specific and directed principles. Accordingly, the more concrete and determinate a human rights principle is, the greater its potential alignment with the facts of the case, and the stronger the justification for its priority. Third, the degree of institutional support for the principle. Although "what is" does not determine "what ought to be," judicial adjudication remains an activity conducted according to law. The greater the institutional support a principle enjoys, the more weight it typically carries[46] and the lighter the burden of justification for judges. Therefore, where multiple legal principles are potentially applicable, it is necessary to examine whether the human rights principle in question possesses the most substantial institutional support. This criterion helps to ensure, to the greatest extent possible, the normative nature of judicial decision-making and to prevent the application of digital human rights principles from deviating from the legal normative system.

IV. The Content Map of the Judicial Application of Digital Human Rights Principles

Digital human rights principles, in essence, constitute an intermediate concept situated between morality and legality. Before they can function as applicable norms in individual cases, they must undergo a process of becoming concrete, breaking down abstract general principles from the top down into specific legal principles tailored to various micro-level scenarios. The concretization of digital human rights principles aims to clarify the forms that such principles may take and the conditions under which these forms are capable of producing normative effects, thereby ultimately constructing a content map for their application. This process of concretization is primarily developed along three dimensions — data, algorithms, and platforms. These three dimensions not only jointly shape the fundamental logic of the operation of digital society, but also help to prevent digital human rights principles from becoming either overly expansive or excessively trivial in their application. In this way, the objectivity and operability of their application are enhanced, facilitating their transformation into "major premises capable of normatively subsuming the facts of individual cases".[47]

A. The principle of data autonomy

Data (including personal information) constitute a distinctive category of digital objects.[48] Given that data bear a certain degree of comparability to traditional notions

[44] Lei Lei, "In Defense of the Subsumption Model," *Peking University Law Journal* 5 (2016): 1228.
[45] Chen Linlin, "Adjudication Based on Legal Principles," *Chinese Journal of Law* 3 (2006): 9.
[46] Chen Jinghui, "Is There an Independent Theory of Principles?" *Zhejiang Social Sciences* 3 (2012): 43.
[47] Shu Guoying, "The Dilemma of Applying Legal Principles," 31.
[48] Peng Chengxin, "Premise Propositions and Core Paradigms of Digital Law," *China Legal Science* 1 (2023): 86.

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of "things" or "property," the principled approach to digital human rights in the data domain takes autonomy as its cornerstone, primarily emphasizing individual will and legitimate rights. Autonomy expresses the idea that "an autonomous person is not subject to the will of another,"[49] and in digital contexts, such "will of others" is often manifested in forms such as information dissemination, identity recognition, data processing, and the allocation of interests. Drawing on the rich connotations of autonomy and the characteristics of data at different stages of application, the principle of data autonomy may further give rise to a series of derivative sub-principles.

First, based on the rationality inherent in autonomy, the stage of data collection should adhere to the principle of informed consent. As early as the 1970s, German scholarship had already justified the "right to informational self-determination"[50] on the basis of the value of legal freedom. In the digital age, informed consent represents an extension of the principle of autonomy of will and possesses foundational significance.[51] Although China's *Personal Information Protection Law* explicitly provides for both "informed" and "consent," in practice these requirements often become formalistic, and their internal connection and normative value remain insufficiently explored. Within the framework of digital human rights, the principle of informed consent, as a concretized principle of data autonomy, is rooted in the dual values of "self-rationality" and "self-determination." On the one hand, rationality is premised on adequate information, and "being informed" constitutes a prerequisite for valid "consent.".[52] On the other hand, given that "choice is a core concept of modern law,"[53] self-determination entails autonomous choice and freedom from interference based on sufficient knowledge. As a digital human rights principle, informed consent imposes more stringent standards on digital power holders, emphasizing that it should not be reduced to a routine formality nor distorted or instrumentalized as a means of exemption from liability. Accordingly, "being informed" and "consent" must be closely integrated, with careful consideration given to the capacity and scope of being informed, as well as the degree of choice embedded in consent. Moreover, the principle of informed consent should be understood within the dynamic context of data operations; therefore, claims such as deletion, revocability, and the right to be forgotten after data collection may likewise be justified on the basis of autonomy and the value of freedom.

Second, based on the requirements of human dignity and privacy inherent in autonomy, the stage of data aggregation should adhere to the principle of anonymization. With the pervasive penetration of digital technologies into social life, individuals increasingly find it difficult to exercise autonomous control over their own peaceful existence, often losing control over their personal information, while human dignity becomes more fragile due to the accelerated speed of information dissemination. As a digital human rights principle, the principle of anonymization is not limited to the de-identification of personal information, but aspires to treat the non-identifiability of individuals as the ultimate standard of data processing. In doing

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[49] Zhu Zhen, "Rights and Autonomy: Exploring a Moral Foundation for the Priority of Rights," *ECUPL Journal* 3 (2016): 31.

[50] Eleni Kosta, *Consent in European Data Protection Law* (Leiden: Brill, 2013), 134-135.

[51] Qi Aimin, *On the Principles of Information Law: The Emergence and Systematization of Information Law* (Wuhan: Wuhan University Press, 2010), 75.

[52] Giovanni Ziccardi, *Resistance, Liberation Technology and Human Rights in the Digital Age* (Dordrecht: Springer Netherlands, 2013), 156-157.

[53] Lawrence M. Friedman, *The Republic of Choice: Law, Authority, and Culture*, Gao Hongjun trans. (Beijing: Tsinghua University Press, 2005), 114.

so, it exerts pressure for the continued development of anonymization technologies, and, through stricter, context-sensitive, and consequence-oriented standards of anonymization, constrains digital power while, conversely, enhancing individuals' control over their own data.

Third, based on the requirement of freedom from interference inherent in autonomy, the stage of data processing should adhere to the principle of proportionality. The incorporation of the proportionality principle into the digital domain has already become a consensus, and proportionality analysis in the human rights context has emerged as a fundamental methodological approach.[54] Treating proportionality as a digital human rights principle emphasizes the limitation of digital power in order to reduce improper processing of individual data. It requires that proportionality consistently serve as a cornerstone for human rights protection,[55] while also positioning digital human rights as a value guide for the application of proportionality, so as to prevent proportionality assessments from deviating from the objective of human rights protection.

Finally, based on the requirement of the legitimacy of rights inherent in autonomy, the stage of data utilization should highlight the principle of benefit-sharing. The confirmation of data rights and the distribution of interests are concentrated in the stage of data utilization. As key sources of data, individuals bear a range of personality-related and property-related risks in the process of data utilization. Accordingly, based on the rights claims derived from autonomy, individuals should be entitled to benefit from the value generated by data. In the context of increasing openness of public data, such data become public goods accessible to members of society; however, the feasibility of such access depends on technological capacity. Therefore, the principle of benefit-sharing may also be extended to encompass the accessibility and convenience of obtaining public data, thereby reflecting the dimension of positive freedom.

B. The principle of algorithmic fairness

The dynamic nature of algorithms has disrupted the traditional balance between "power" and "rights,"[56] marking a fundamental distinction between the digital domain and other traditional domains. Within the algorithmic domain, the principled approach to digital human rights places particular emphasis on fairness, giving rise to standards such as non-discrimination, transparency, and openness. Although the ability to participate in, modify, or refuse algorithmic decision-making reflects a strong dimension of freedom, given the pervasive integration of algorithms into digital society, safeguarding fairness is clearly the more pressing objective.

First, the foundational principle of openness. The principle of openness originates from the requirement of equal conditions[57] and equal opportunities for development inherent in the idea of equality of opportunity. In the context of algorithmic fairness, the openness principle primarily serves to define the scope and normative positioning of algorithms. It underscores the non-deterministic nature of algorithmic outcomes, allowing individuals to refuse specific digital applications or

[54] Tu Shaobin, "A Marxist Interpretation of Proportional Analysis of Human Rights: Also on China's Response to Human Rights Discourse in Diplomatic Fields," *Human Rights* 6 (2020): 132.
[55] Ariel L. Bendor and Tal Sela, "How Proportional is Proportionality," *International Journal of Constitutional Law* 13 (2015): 530.
[56] Gong Xianghe, "Conceptual Justification, Origin Investigation and Constitutional Foundation of Digital Human Rights," *ECUPL Journal* 3 (2023): 8.
[57] Bryan S. Turner, *Vulnerability and Human Rights* (University Park: Pennsylvania State University Press, 2006), 107-108.

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their results,[58] preventing automated decision-making from becoming a dominant or exclusionary basis of justification, and ensuring that individuals' equal conditions and open opportunities are not subordinated to algorithmic control. Under this principle, algorithmic evaluations of individuals do not possess the unique, final, or closed nature, but should instead function as auxiliary references or supporting reasons for decision-making.

Second, the substantive principle of non-discrimination. Algorithms, as mechanisms of personalized and differentiated data processing, are inherently opposed to uniform treatment. Accordingly, the core of algorithmic fairness does not lie in "formal equality," but in preventing unjustified differential treatment; non-discrimination therefore constitutes the central component of the principle of algorithmic fairness. Given the complexity of factors involved in algorithmic classification and its apparent neutrality, it is often unrealistic to clearly determine the intent and justification behind differential treatment. Moreover, the standards for determining when algorithmic differentiation becomes "unlawful" remain underdeveloped. For these reasons, the principle of non-discrimination in the algorithmic domain should place greater emphasis on retrospective, outcome-oriented assessment — examining whether irrelevant factors have been introduced into the decision-making process and whether such factors have led to substantively unjust outcomes for individuals possessing certain characteristics.

Third, the procedural principle of transparency. In the process of reviewing discrimination, requiring the scrutinized party to justify differential treatment already entails a degree of transparency; the transparency principle in the algorithmic context further emphasizes procedural mechanisms for countering the "black box" of digital systems. Given that transparency implicates multiple objectives — such as the protection of the right to be informed, the safeguarding of trade secrets, and algorithmic security[59] — it does not necessitate full disclosure of the algorithmic black box. Through technical means such as local surrogate models, it is possible, even without fully revealing source code, to render the processes, bases, and methods of algorithmic decision-making visible and understandable. This enables algorithmic decisions to be subject to challenge, explanation, and even participation. In essence, the transparency principle seeks to ensure procedural equality in the application of algorithms, by imposing duties of explanation on decision-makers and incorporating algorithmic outcomes into the framework of technically mediated due process.

C. The principle of platform bias

Digital platforms, characterized primarily by the combination of "data (object) + algorithms (conduct)," are defined in the social sciences as "complex network systems that integrate multiple dimensions of actors, technologies, capital, resources, and innovation."[60] The multidimensional interactions among these elements further transform platforms into a new form of social capital. The profit-seeking nature of capital, in turn, drives platforms to control and manipulate data and algorithms, thereby evolving into new types of power holders endowed with both enabling and empowering capacities. As a result, platforms are increasingly regarded as new threats to human rights in the digital age and are gradually incorporated into the scope of human rights duty bearers. In this context, the obligations associated with digital

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[58] Han Xuzhi, "The Right of Personal Refusal in the Digital Society," *ECUPL Journal* 1 (2023): 22.

[59] Su Yu, "Procedural Due Process of Technology in the Digital Age: Theoretical Review and Institutional Construction," *Chinese Journal of Law* 1 (2023): 105.

[60] Fan Ruguo, "Empowerment by Platform Technology, Public Game and Complex Adaptive Governance," *Social Sciences in China* 12 (2021): 132.

human rights are not limited to negative duties of refraining from systemic control, but, in conjunction with corporate social responsibility, also take on a positive dimension of promotion and development. The essence of digital human rights principles in the platform context lies in "bias," which may be further specified along two dimensions.

First, the principle of power constraint. The disparity in power between platforms and individuals has become increasingly pronounced, with platforms exercising growing dominance over individuals and effectively acquiring the attributes of digital power. This form of digital power primarily arises from the self-empowering capacity of technology and, as platform autonomy continues to expand, tends to evolve into a form of socially significant regulatory power with quasi-public characteristics.[61] It must therefore be subject to the principle of power constraint. On the one hand, this principle is implemented through both "power constraining power" and "rights constraining power". The former includes not only state regulation but also mechanisms such as data openness, algorithmic auditing, and platform antitrust enforcement; the latter may be realized not only through the exercise of specific rights but also indirectly through the construction of platform obligations. On the other hand, the principle of power constraint incorporates the requirement of the protection of legitimate expectations. In general terms, this principle emphasizes that "administrative decisions should be trustworthy, reliable, and capable of being relied upon."[62] Incorporating the protection of legitimate expectations into the principle of constraining digital power effectively treats platforms, at the level of obligations, as analogous to administrative authorities or public service entities, thereby subjecting them to stricter behavioral constraints. Under this principle, where users act in reliance on platforms, the legitimate interests arising from such reliance should be protected, and both the implementation and modification of platform rules should take users' reliance interests into due consideration.

Second, the principle of protection of the weaker party. In the generation and operation of digital power, platforms often serve as key vehicles and manifestations of digital exploitation and digital domination.[63] In such contexts, users lack the capacity to resist platforms, cannot readily exit them, and have limited visibility into their actual modes of operation. The pervasive and powerful nature of platforms is sufficient to affect the rights of every individual. Accordingly, disputes between platforms and users should be addressed in accordance with the principle of protecting the weaker party, with a bias in the allocation of rights and obligations, remedial procedures, evidentiary rules, and standards of proof in favor of safeguarding the rights of digitally disadvantaged groups, so as to prevent excessive dominance by platform actors. On this basis, the principle of protecting the weaker party should further emphasize balanced development, seeking as far as possible to eliminate substantive inequalities arising from transformations in social structures and relationships. In line with this objective, platforms should also provide convenient and accessible conditions for individuals to utilize digital technologies and exercise digital rights, and may even bear obligations to enhance citizens' digital literacy, thereby narrowing the gap in digital capabilities among different actors.

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[61] Zhang Xinping, "Reflections and Improvements on Legislation for the Governance of Online Platforms," *China Legal Science* 3 (2023): 126.

[62] Yu Lingyun, "Localized Construction of the Theory of Credible Government: Introduction and Development of Good Faith, Reliance Protection and Legitimate Expectation," *Tsinghua University Law Journal* 4 (2022): 131.

[63] Christian Fuchs, *Digital Humanism: A Philosophy for 21st Century Digital Society* (Bingley: Emerald Publishing Limited, 2022), 60.

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V. Multiple Pathways for the Judicial Application of Digital Human Rights Principles

Principles generally perform guiding, evaluative, and adjudicative functions.[64] In the process of judicial application, digital human rights principles likewise exhibit a tripartite functional structure: a decisive adjudicative function, a guiding argumentative function, and an evaluative testing function. These functions differ in their positioning, and the role of principles gradually shifts from explicit to implicit. Accordingly, the judicial application of digital human rights principles requires an exploration of the multiple pathways through which principles influence judicial decision-making, and the development of typified methods for their application.

A. Digital human rights principles as grounds for adjudication

Based on the conceptual distinction between adjudicative norms and legal norms, digital human rights principles, when functioning as grounds for adjudication, demonstrate a decisive role in determining case outcomes. In such circumstances, digital human rights principles effectively become the ultimate basis for generating judicial conclusions and may be regarded as a source of authority. Although it is generally accepted that rules are applied through subsumption and principles through balancing,[65] balancing constitutes only one stage of principle application. Subsequently, legal methods must be employed to integrate digital human rights principles throughout the adjudicative process. Once it is determined that digital human rights principles serve as the grounds for adjudication, legal reasoning and legal interpretation become the key components of their application.[66] Accordingly, principle-based adjudication must, at least formally, conform to the logical requirements of the syllogism, comprising a major premise, a minor premise, and a conclusion.

1. Selecting the applicable digital human rights principles

Through the identification of the conditions for the judicial application of digital human rights principles, once it is established that principles take precedence over rules, and that digital human rights principles are to be preferred over other legal principles, it remains necessary — on the basis of the content map — to determine which specific digital human rights principle or principles should be applied. At this stage, different digital human rights principles may either be mutually exclusive or mutually consistent. Even where multiple non-conflicting principles are applicable, it is still necessary to identify a dominant principle. In selecting the specific principle(s), the following criteria may be considered. First, a preliminary determination based on the standard of "proximity." As discussed above, the priority assessment primarily concerns whether the case is more closely related to digital human rights issues. On this basis, it is necessary to determine whether the case is, in essence, a matter concerning data, algorithms, or platforms, and, through an analysis of the claims at issue, to identify the specific domain of digital human rights principles to be applied. Second, a comparative determination based on the standard of "minimal conflict." Although different digital human rights principles express a shared value orientation, they may lead to divergent outcomes in specific cases. Gap-filling is a judicial evaluative activity rather than a purely cognitive one;[67] therefore, in accordance with the requirement of coherence, a "collision test" should be conducted among

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[64] Shu Guoying, "Problems in Applying Legal Principles," 18.
[65] Robert Alexy, *A Theory of Constitutional Rights*, 47-48.
[66] Matthew Kramer, *H.L.A. Hart: The Nature of Law*, Yang Jian trans. (Shanghai: Shanghai People's Publishing House, 2023), 140-141.
[67] Bernd Rüthers, *Jurisprudence*, Ding Xiaochun and Wu Yue trans. (Beijing: Law Press · China, 2013), 365.

potentially applicable principles, selecting the principle that entails the least conflict with other digital human rights principles. Third, an impact-based determination grounded in the standard of "minimal restriction." Within the framework of digital human rights, principles function as value supports for specific rights, and their application often implies conflicts among different rights. Accordingly, in selecting the major premise, it is necessary to consider the "rights consequences" that may result from applying a given principle. For example, if a case involves potentially applicable principles P_1, P_2, and P_3, corresponding to rights claims R_1, R_2, and R_3 respectively, and if supporting R_1 results in the least restriction or infringement upon other rights, then principle P_1 should be applied. These criteria are inherently abstract and must be combined with the concretized content map of digital human rights principles. In doing so, not only can a relatively appropriate principle be identified, but a coherent set of mutually reinforcing principles may also be formed.

2. "Constructing" case facts on the basis of selected digital human rights principles

In general, principles do not explicitly correspond to specific facts nor do they prescribe concrete elements of application. Consequently, research on principle application often neglects the role of facts. However, the scope of principles is also limited; without establishing a connection between principles and case facts, the acceptability and predictability of judicial conclusions would inevitably be diminished. The "construction" of the minor premise, therefore, focuses on rendering the fact-finding process "explicit," so as to clarify why principles are applicable, how the case implicates human rights issues, and to which digital domain it belongs. As Karl Larenz observed, "it is not the facts themselves that are subsumed, but rather statements about the facts of the case."[68] Although case facts are grounded in objectivity, their articulation is not a purely descriptive act but resembles a form of decision-making. To enhance the coherence between the major and minor premises, factual statements in the application of principles inevitably rely on value judgments, "constructing" the case facts within reasonable limits on the basis of objective reality, so as to reduce the disjunction between facts and norms.

On the one hand, factual statements should correspond to the factual reasons supporting the application of digital human rights principles. The minor premise represents a composite of factual and evaluative judgments. Judges must translate complex and even unprecedented factual situations into specific types of digital disputes and, at the level of factual articulation, reinforce the justification for applying principles by identifying the human rights elements embedded in the case. After formulating the factual narrative, a retrospective approach should be adopted to examine the correspondence between factual elements and the conditions for applying principles, thereby providing factual support for the application of digital human rights principles. On the other hand, factual statements should contribute to optimizing the selection of the major premise. The formation of the minor premise is not merely a process of fact-finding; rather, it requires a continuous movement between norms and facts, guided by legal intuition and social experience, to assess the appropriateness of applying a given digital human rights principle. Although principles do not explicitly specify elements of application, once concretized, they can be decomposed into components such as application contexts, behavioral requirements, and evaluative standards. Accordingly, on the basis of established facts, it is possible to assess the rationality of factual statements by reference to these three

[68] Karl Larenz, *Legal Methodology*, 347.

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components — context, conduct, and outcome — thereby enhancing the coherence between the major and minor premises.

3. Concretizing selected digital human rights principles into new case-specific rules

Under the model of deductive reasoning, once the major and minor premises are reasonably established, a conclusion may naturally follow. However, resolving disputes through the application of principles also requires translating those principles into concrete rights and obligations. Given that digital human rights principles typically lack clearly defined elements, it is necessary to further refine the content map and establish a new rule applicable specifically to the case at hand. At the level of logical structure, legal rules are typically expressed in hypothetical "if…then…" formulations.[69] Since the "antecedent" (the "if" clause) has largely been clarified in the construction of the minor premise, the key task in transforming principles into case-specific rules lies in defining the "consequent" — that is, the legal consequences that follow from violating a given principle. The determination of such legal consequences constitutes a process of "abstract–concrete–abstract" reasoning, involving two steps. First, on the basis of the claims supported by the principle, the ultimate conclusion of principle application must be determined. The application of digital technologies may give rise to new forms of liability distinct from traditional ones, and incorporating these new forms into the legal system presents a significant challenge when determining the applicability of principles. Given that each legal rule is underpinned by corresponding principles as value supports,[70] it is possible to identify, within the existing system of legal rules, forms of liability that align with the values embodied in the applicable digital human rights principle, and to combine these with the claims at issue to reach a final adjudicative conclusion. Second, the conclusion derived from the application of the principle should be appropriately abstracted to establish a new behavioral guideline, specifying how the relevant duty bearer ought to act. The key lies in abstracting away from the specific circumstances and detailed conclusions of the case, while formulating normative directives such as "shall" "may" or "shall not." Furthermore, by integrating the norms and facts derived from the major and minor premises, the conclusions reached through principle application may not only generate a new case-specific rule, but may also give rise to a new legal rule. In this sense, the judicial application of digital human rights principles constitutes an important pathway for the generation of digital human rights norms, corresponding to a three-stage model of protection: "cases — interpretation — legislation."[71]

B. Digital human rights principles as arguments in legal reasoning

Compared with directly treating digital human rights principles as grounds for adjudication, treating them as arguments in legal reasoning reflects a guiding and auxiliary function. That is, by taking respect for and protection of human rights as a reason for decision-making, human rights values are carried through the entire process of legal argumentation. Through the threefold identification of application conditions, where a case belongs to the digital domain and involves human rights issues but does not fully satisfy the contexts for principle application, the dispute concerning digital

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[69] Song Xuguang, "On the Distinction Between Legal Principles and Legal Rules: From the Perspective of Logical Structure," *Zhejiang Social Sciences* 2 (2022): 52-53.

[70] Ch. Perelman, *Justice, Law and Argument: Essays on Moral and Legal Reasoning* (Dordrecht: D. Reidel Publishing Company, 1980), 111-112.

[71] Song Baozhen, "Rights of the 'Digitally Vulnerable Groups' and Their Legal Protection," *Science of Law* 6 (2020): 61.

human rights should primarily be resolved through the application of legal rules. Nevertheless, in the process of applying legal rules, digital human rights principles — whether or not they are expressly positive — may perform a value-guiding function and thereby realize the judicial protection of digital human rights. In this context, arguments primarily concern the question of reasonableness: digital human rights principles serve as value standards for choosing among several possible options and interpretations, and for justifying the most reasonable adjudicative conclusion.

1. Digital human rights principles as value signposts for the application of rules

The application of digital technologies has intensified the complexity of contemporary society[72] and increased the difficulty of applying legal rules. In digital cases, not only is the determination of case facts often disputed, but the selection of legal rules is also fraught with uncertainty, making the subsumptive relationship between norms and facts more difficult to establish. Accordingly, treating digital human rights principles as value guides and justificatory reasons in legal reasoning should primarily focus on legal discovery and legal interpretation.

First, digital human rights principles may guide the process of legal discovery. Legal discovery is "the process by which judges experience and understand the law."[73] In the face of new types of disputes arising from the application of digital technologies, judges' rules of experience may not only fail but also be permeated by uncertainty. Digital human rights principles can therefore serve as indicators or standards for identifying appropriate sources of law. In conjunction with the concretized content map of digital human rights principles, legal discovery requires movement back and forth between the concrete and the abstract: first, accurately classifying the case facts, as far as possible, within the scope of a particular digital human rights principle P_1; second, identifying a legal principle P or legal right R that is highly consistent with P_1 at the level of value; and third, discovering and determining the legal rules supported by P or R. In this process, digital human rights principles not only provide a primary pathway for discovering legal rules through general legal principles, but also constitute an important basis for justifying the reasonableness of applying those rules, while helping to embed the objective of human rights protection into the process of legal reasoning.

Second, through legal interpretation, digital human rights principles may serve as a bridge connecting case facts and legal rules. Many legal rules were formulated without taking into account the social facts generated by the application of digital technologies. Therefore, in digital cases, most "traditional" legal rules may not be directly applicable through literal interpretation, and even some digital legislation may fail to respond directly to rapidly evolving digital disputes. It is therefore necessary to proceed from a "value-oriented philosophy of interpretation"[74] and, in most contexts, rely on teleological interpretation so as to extend the scope of legal rules to the digital domain. According to the theory of "legal purpose," the boundary of interpretation lies in the meaning of the law rather than in its semantic wording.[75] Digital human rights principles can function as intermediate concepts for interpreting the purposes of specific legal provisions, emphasizing a flexible interpretation of law oriented toward

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[72] Andrea Monti, *The Digital Rights Delusion: Humans, Machines and the Technology of Information* (London: Routledge, 2023), 165.

[73] Chen Jinzhao, "Legal Discovery in Judicial Process," *China Legal Science* 1 (2002): 60.

[74] Guo Chunzhen, "Public Nature of Legal Interpretation," *China Legal Science* 1 (2023): 143.

[75] Rolf Wank, *Legal Interpretation*, (6th edition), Jiang Yi and Ji Hongming trans. (Beijing: Peking University Press, 2020), 74.

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human rights protection. On the one hand, although conceptual labels may possess stability, the ideas embedded within concepts may be fluid and evolving. Laws should therefore be interpreted in a contemporary manner in light of changes in the ideas underlying legal concepts, so as to uncover new meanings of legal rules in digital contexts. In this process, certain specific digital human rights principles may serve both as the aims or directions for interpreting particular rules and as value-based constraints against arbitrary legal interpretation. On the other hand, "teleological interpretation is a decisive factor in enhancing the appropriateness of adjudication."[76] By reference to concretized digital human rights principles, the specific human rights value implications of a legal rule may be articulated. If the case facts also implicate such human rights values, the reasonableness of subsuming those facts under the norm may thereby be justified.

2. Digital human rights principles as grounds for resolving conflicts of rights

Joseph Raz observed that "cases governed by law may be more complex than cases not governed by law."[77] In cases where digital human rights principles function as arguments in legal reasoning, the process of legal application is often accompanied by latent conflicts of rights. Moreover, the conflicting rights may all fall within the concrete content of digital human rights, without any hierarchical relationship among them. Given the character of principles as "optimization requirements," digital human rights principles can provide necessary theoretical support for resolving conflicts of rights in disputes involving the digital domain.

First, conflicts of rights may be resolved through the balancing of principles. According to Neil MacComick, all disputes over principles are, in fact, disputes over corresponding rights,[78] and vice versa. Whether rights themselves or the legal rules that embody them are at issue, such conflicts may ultimately be elevated to the level of principles. It is therefore possible to follow the selection criteria for digital human rights principles by considering "maximum relevance to the case facts" "minimum conflict with other principles" and "minimum restriction in application consequences." On this basis, the digital human rights principle to be followed in the individual case may be identified, and the competing rules or conflicting rights may then be weighed and selected in light of that principle.

Second, in accordance with the "interpretive theory" as opposed to the "balancing theory" of principles, certain "false rights" in specific contexts may be "pierced." Ronald Dworkin's theory of the "unity of value" emphasizes that the values we recognize are unified and must support and depend upon one another.[79] Accordingly, principles do not necessarily collide; conflicts among principles may also be resolved through a comprehensive and refined interpretation of their content.[80] The "interpretive theory" effectively places value judgment at the forefront and determines whether certain conduct can receive the support of a particular principle by evaluating its legitimacy. This approach is instructive for the field of digital human rights, especially in identifying digital power "cloaked in the form of rights," and in

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[76] Wang Bin, "Outcome-Oriented Legal Interpretation and Its Control," *Journal of University of Jinan (Social Science Edition)* 1 (2024): 142.

[77] oseph Raz, *The Authority of Law: Essays on Law and Morality*, (2nd edition), Zhu Feng trans. (Beijing: Law Press · China, 2021), 219.

[78] Neil MacCormick, *Legal Reasoning and Legal Theory*, Jiang Feng trans. (Beijing: Law Press · China, 2018), 306.

[79] Ronald Dworkin, *Justice for Hedgehogs*, Zhou Wang and Xu Zongli trans. (Beijing: China University of Political Science and Law Press, 2016), 1.

[80] Wang Lin, "On the Nature and Application of Legal Principles — A Critique of the Balancing Theory and a Defense of the Interpretation Theory," *Law and Social Development* 2 (2017).

opening a new pathway for resolving conflicts of rights. For example, according to the public law/private law distinction, certain large internet platforms are private actors and should be supported by principles such as autonomy of will and freedom of business. This may appear to conflict with the principle of platform bias. However, under the interpretive theory, some platforms possess attributes of public power in specific contexts and therefore cannot enjoy full autonomy of will or freedom of business; consequently, no balancing among principles is required.

C. Digital human rights principles as evaluative standards

From grounds for adjudication to arguments in legal reasoning, and further to evaluative standards, the intensity and visibility of the application of digital human rights principles gradually decrease, yet their role remains significant. Treating digital human rights principles as standards for reviewing cases emphasizes that adjudicative conclusions derived through formal reasoning must also be subjected to a consequential assessment within the "world of facts," so as to produce outcomes most conducive to the future.[81] This paper adopts a stance of "weak consequentialism," requiring that, without contravening positive law, judicial decision-making treat the protection of digital human rights as a "high-priority consideration,"[82] and focus on examining whether the "prima facie" adjudicative conclusions reached through the application of legal rules are inconsistent with specific digital human rights principles.

On the one hand, it is necessary to clarify what constitutes "inconsistency". "Obedience to law" refers to treating law as a decisive reason for action, whereas "consistency" means that the final course of action does not contradict the requirements of law.[83] Based on the distinction between "obedience" and "consistency," the notion of "inconsistency" in consequential review is a form of consistency assessment, primarily manifested in the divergence of adjudicative conclusions from certain human rights values. Given that the standards of value judgment are often fluid and evolving, digital human rights principles should serve as "coordinates" for evaluating the human rights consequences of judicial decisions. The determination of "inconsistency" relies on a two-tiered process of "concrete–abstract–concrete." First, the adjudicative conclusion, the applied rule, and the case facts are integrated and refined into a case-specific rule, from which the underlying value orientation is extracted. Second, this value orientation is compared with the value orientation embedded in digital human rights principles, in order to determine whether "inconsistency" exists. Such "inconsistency" may be categorized into two types. The first is explicit inconsistency, where the value orientation underlying the adjudicative conclusion lacks legitimacy and clearly conflicts with certain specific digital human rights principles. The second is implicit inconsistency, where the adjudicative conclusion affirms certain claims consistent with one or more digital human rights principles, yet simultaneously negates or abandons other rights that are themselves supported by other digital human rights principles. This situation indicates that the protection of human rights has not reached a "reasonably optimized" state.[84]

On the other hand, it is necessary to clarify the consequences of such "inconsistency." Although legal principles possess normative force, inconsistency

[81] Richard A. Posner, *The Problematics of Moral and Legal Theory*, Su Li trans. (Beijing: China University of Political Science and Law Press, 2001), 279.
[82] Rebekah Dowd, *The Birth of Digital Human Rights: Digitized Data Governance as a Human Rights Issue in the EU* (Cham: Palgrave Macmillan, 2022), 40.
[83] Chen Jinghui, "Rule by Algorithm: Another Possibility for the Rule of Law?" *Law and Social Development* 4 (2022): 143.
[84] Cong Xu, *Regulatory Model for Digital Rights Management: Analysis of U.S., Europe and China* (Singapore: Springer Nature Singapore Pte Ltd., 2020), 159.

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with digital human rights principles does not necessarily render the adjudicative conclusion invalid. Where an adjudicative conclusion is found to be explicitly inconsistent with digital human rights principles, this indicates a conflict between legal rules and principles. In such cases, it is necessary to return to the stage of determining application contexts, to assess whether the case satisfies the conditions of "case-specific justice" or "stronger reasons," and to decide whether existing legal rules should be set aside in favor of principles or newly constructed rules. As for implicit inconsistency, further classification and analysis are required through balancing or interpretive methods. First, the existing adjudicative conclusion and its underlying grounds may be maintained. In such cases, the reasoning must be strengthened to explain why certain digital human rights principles are negated or set aside, and to justify the legitimacy of maintaining the existing conclusion by reference to factors such as adjudicative consequences, legality, and value-based justification. Second, the adjudicative conclusion may be revised on the basis of the existing grounds for decision. In resolving competing claims grounded in different digital human rights principles, the relevant rights may be abstracted into corresponding principles, and a more reasonable adjudicative solution may be achieved through principle balancing. Third, the grounds for adjudication may be reselected and a new conclusion reached. In such cases, it becomes necessary to revisit the determination of application conditions and to engage once again in value judgment and legal reasoning in accordance with the methods for establishing the major and minor premises.

VI. Conclusion

Digital human rights constitute a contested and emerging issue. If they fail to demonstrate their distinctive functional value in responding to the human rights challenges of the digital age, their independent values will inevitably be called into question. Accordingly, at the current stage — when digital technologies continue to evolve at a rapid pace and legal norms remain insufficient — it is particularly urgent to move beyond ontological, concept-centered research on digital human rights and instead emphasize the principled approach to digital human rights and its judicial application. Treating digital human rights as a value-based principle and further concretizing them into a systematic framework of digital human rights principles not only facilitates the construction of a coherent substantive framework, but also enhances the certainty and effectiveness of their judicial protection. In essence, the judicial application of digital human rights principles represents an extension of general theories of principle application into the field of digital human rights. This extension contributes to justifying, from an empirical perspective, the necessity of digital human rights and lays the groundwork for the development of more legal rules in this domain. It also constitutes an important avenue for strengthening judicial protection of human rights and for enriching and advancing autonomous human rights theories in China. At the same time, it promotes the further refinement of the theory of principle application itself. Looking ahead, how to refine, improve, and critically reflect upon the judicial protection mechanisms of digital human rights through concrete cases, how to continuously make them more normative, and how to clarify their position within the broader human rights institutional framework will remain essential and unavoidable issues for human rights research in the digital age.

(Translated by *CHEN Feng*)