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Can AI Become Judge Hercules?

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Abstract

The commonly held belief that artificial intelligence cannot engage in value comparison within the judicial process is rooted in Hart's analysis of judicial discretion. This view is, however, contested by Dworkin's "law's integrity" theory. According to Dworkin's legal theory, the adjudication process involves constructive interpretation, aiming for a single best answer, as integrity serves as the exclusive standard for resolving any disputes over values. Consequently, judges do not possess discretion in the sense described by Hart. This article goes on to delve into the specifics of integrity, formalizing it into a series of formulas, thereby enabling AI to comprehend and apply it.

Keywords

Artificial Intelligence, Adjudication, Integrity, Dworkin, Ruth Chang

1. Introduction

1.1. Value Judgment a Forbidden Zone for Artificial Intelligence

Currently, research on the relationship between artificial intelligence (AI) and the judiciary is thriving. The most discussed topic is whether "AI can become a judge." Regardless of the different approaches taken by researchers, the ultimate conclusion is largely the same: human society currently cannot accept AI as a judge as value comparison, essential in adjudication, must be conducted by humans on the ground that AI cannot become moral agency and cannot make judgments on which value is better as humans do. Therefore, the role of AI in the judicial process is confined to areas such as digitization and case law retrieval, with judgment of value comparison becoming a forbidden zone for AI. Existing research on the relationship between AI and the judiciary has essentially reached this point and stopped.

1.2. Hart's Response

However, if we delve a step further, the situation seems to become more nuanced.

What is the nature of value comparison in judicial activities? What characteristics does it possess that make it inaccessible to powerful AI? Answering this question is not simple and has been the subject of debate for a century. Two prominent viewpoints are those of Hart and Dworkin. Hart believes that legal rules are uncertain, and when faced with this uncertainty, judges need to make choices among various considerations, including personal and societal interests, social and political objectives, and moral and ethical standards. These considerations often conflict, and judges need to make decisions amidst these conflicts. (Hart, 1983: pp. 106-108) According to Hart's framework, value judgment in judicial activities involves judges making choices among various considerations, and the judges' final decision is not unique; there are multiple different answers. In Hart's theory, value judgment depends on the judge's subjective value convictions, is arbitrary, and cannot be predicted in advance. This necessitates that the adjudicator of a case must be a flesh-and-blood person, as AI lacks this subjective aspect of value conviction. Additionally, the conclusions reached by AI are not arbitrary but are deduced through a specific process and are traceable. (Di Thommazo et al., 2014: pp. 26-38)

Thus, within Hart's theory, we have completed an in-depth analysis of the assertion that AI cannot make value judgments.

1.3. Dworkin's Challenge

Dworkin's theory challenges Hart's, reigniting hope for AI intervention in the judgment of value comparison. Dworkin contends that judges do not have discretionary power in Hart's sense in any case; when existing legal rules do not directly yield an answer, judges must be able to find the correct answer based on the law's integrity. (Dworkin, 1986: p. 80, Law's empire) Dworkin regards integrity as a political ideal beyond justice and equality, constituting a substantive value. (Dworkin, 1986: p. 183, Law's empire) In summary, in Dworkin's view, the conflict of different values in judicial process has only one unique correct answer. Regardless of the judge's personal value convictions, when faced with the same case, the judge must adjudicate based on the value of the law's integrity. Therefore, the steps in Hart's theory where judges need to choose different values as criteria for judgment are omitted, replaced by the sole criterion of integrity.

Dworkin's work significantly demystifies value judgment in adjudication, rendering it more understandable and approachable. This sheds light on the seemingly daunting prospect of AI entering the judicial process. **If AI can comprehend and apply integrity, there should be no hesitation in integrating it into the courtroom.** Hercules, the imaginary omniscient judge by Dworkin can become reality in the shape of AI.

1.4. The Theory Importance of AI Becoming Hercules

Hercules, envisioned by Dworkin, possesses extraordinary abilities in applying integrity to make the best justification in the process of constructive interpreta-

tion. In Dworkin's words, for a judge to become Hercules, he must possess two qualities compared to ordinary judges: first, he must have a high-speed working capacity, and second, he can discover all the clues relevant to the case.

One major criticism from theorists is that real judges are not superhumans like Hercules, and it would be time-consuming for them to attempt to find the best answer in every individual case, similar to Hercules, which would result in a backlog of cases and ultimately paralyze the entire legal system.

Therefore, if we successfully turn AI into Hercules, this criticism will be dissolved automatically on the ground that the advantages that AI possesses are perfectly aligns with Dworkin's assumption of Hercules.

1.5. The Task of This Passage

The essence of integrity is the focal point of Dworkin's legal theory. If integrity can be specified and formalized, it is possible for AI to become Hercules. However, Dworkin's account of integrity is intricate and challenging to follow. This article seeks to reconstruct integrity by employing a basic value comparison model from Ruth Chang's "Making Comparison Count," to determine the feasibility of formalizing integrity into a set of formulations. As a result, the following argument is divided into four parts. Section 2 aims to systematically unveil Dworkin's theory of constructive interpretation, serving as a precondition to understand law's integrity. Section 3 endeavors to elucidate the essence of integrity. Section 4 references a basic value comparison model advocated by Ruth Chang, while Section 5 demonstrates the reinterpretation of integrity in a digitalized and formalized manner.

2. Constructive Interpretation

Dworkin's theory of judicial adjudication is closely intertwined with the general theory of law. To accurately understand the essence of integrity in law, it is necessary to briefly review Dworkin's general theory of constructive interpretation.

Dworkin argues that existing legal provisions and precedents do not exhaust the content of the law. Therefore, when a judge faces a situation where existing legal provisions and precedents do not provide an applicable law, but a judgment must be made, the judge cannot consider it as a state of "no law" and exercise discretion to determine what the law should be. On the contrary, the corresponding law must exist, and the task of the judge is to identify what that law is. Dworkin refers to this process as **constructive interpretation**, which involves endowing an object or practice with a purpose, thereby shaping it into the best possible form within its corresponding pattern or type. (Dworkin, 1986: p. 52, Law's empire) Therefore, according to Dworkin, our law consists in the best justification of our legal practices as a whole, that it consists in the narrative story that makes of these practices the best they can be. (Dworkin, 1986, p. 7, Law's empire) In judicial process, the process of making a constructive interpretation can be divided into three stages.

2.1. Preinterpretive Stage

The first is the preinterpretive stage, where the interpreter selects certain rules and standards that will constitute the object of interpretation in the interpretive stage. (Dworkin, 1986: p. 65, Law's empire) At this stage, these rules and standards are raw data that can be modified and processed by the interpreter in the interpretive stage. The core issue at this stage is how to choose the raw data. (Dworkin, 1986: p. 67, Law's empire) Dworkin points out that this is also an interpretive process, but with a significant degree of consensus.

When the object of interpretation is the law, the preinterpretive stage needs to determine what behaviors belong to legal practices. Similarly, this is a process that requires interpretation and cannot be directly derived from a definition of what the legal system is and what it consists of. In fact, interpreters can draw on their own culture which entails the ideas of what constitute the legal system. What's more, sufficient initial consensus is also essential to ensure that we are interpreting the same object.

2.2. Interpretive Stage

The second stage is the interpretive stage. At this stage, the interpreter needs to determine the constitutive conditions of the object defined in the preinterpretive stage and justify them, including why these constitutive conditions are worth pursuing. At the same time, in order to ensure that the interpretive work is still carried out, the interpreter needs to be constrained by the object of interpretation and cannot create a new object. (Dworkin, 1986: p. 66, Law's empire)

For Hercules, faced with the legal practices determined in the previous stage, he needs to show legal practice as a whole in its best light based on the integrity of the law. (Dworkin, 1986: p. 90, Law's empire) This involves two requirements: fit and optimization. The result of interpretation must fit the selected legal practices, and it must be optimized based on a certain purpose. (Dworkin, 1986: pp. 230-231, Law's empire)

2.3. Postinterpretive Stage

The final stage is the postinterpretive or reforming stage. In this stage, the interpreter can modify the constitutive elements of the object of interpretation based on the justifications proposed in the second stage, making them more compatible. (Dworkin, 1986: p. 66, Law's empire) At this point, the interpreter can go beyond the object of interpretation, and Hercules can propose his own views on how the legal practices should be in order to better meet the requirements of integrity.

In the framework of constructive interpretation, only the conclusions reached through the interpretive steps are considered law. The objects identified in the preinterpretive stage are no longer the law itself, but merely practices related to the law. The significance of the postinterpretive stage is to provide impetus for the improvement of legal practices, not the law itself. For example, when Her-

cules needs to determine the speed limit on California roads, he cannot simply find a provision in the California statutes that states: "The speed limit on roads in California is not exceeding 50 kilometers per hour." This provision is only a legal practice identified in the preinterpretive stage. What Hercules needs to do is to identify all legal practices related to the speed limit on California roads, then enter the interpretive stage, and find the law based on the requirements of integrity. Only then can he find the law he is looking for. If Hercules believes that the law obtained based on the existing legal practices is not sufficient to meet the requirements of integrity, he can propose his own views on how the speed limit should be in the postinterpretive stage, but this view does not affect the law found in the second stage.

3. The Essence of Integrity

Dworkin believes that in the context of adjudication constructive interpretation, in providing justifications, needs to follow a certain purpose, namely **integrity, which should not be simplified as narrow consistency,** but as a more dynamic and radical standard because it encourages a judge to be wide-ranging and imaginative in his search for coherence with fundamental principle. In addition, only when one community expresses a single, coherent scheme of justice and fairness in the right relation, can it be qualified to possess integrity as their political ideal. (Dworkin, 1986: p. 219, Law's empire)

Dworkin's narrative of integrity is far from clear. Several questions deserve further exploration. Firstly, why integrity is needed? Secondly, if integrity is not a tautology of consistence, what it should entail? How to understand integrity in the dynamic sense?

3.1. Existence of Integrity

Dworkin first argues for the origin and significance of integrity at the level of political practice. The reason why integrity can become an independent political ideal is that the traditional ideals of fairness and justice often conflict with each other, resulting in an incomprehensible "chessboard" of choices, where one is forced to make arbitrary choices in the middle ground between fairness and justice. **Only when such choices are made under the guidance of integrity, they are no longer arbitrary and can be accepted by people.** Thus, just as astronomers deduce the existence of Neptune based on calculations, through questioning the choices on the chessboard, Dworkin deduces the existence of an independent political ideal beyond fairness and justice, namely integrity. The subsequent question is how integrity functions in political practice. (Dworkin, 1986: pp. 176-183, Law's empire)

3.2. The Content of Integrity

Since integrity is an independent political ideal separate from fairness and justice, does integrity, like fairness and justice, have an independent substantive

content within a system of principles? In other words, can integrity exist independently of fairness and justice as a value form? The answer is negative. **Dworkin summarizes the basic values of a system of principles as fairness, justice, and due process, without integrity.** (Dworkin, 1986: p. 243, Law's empire) In fact, the emergence of integrity is to reconcile the conflicts among these three values and create a unified and coherent system of principles. Integrity is crucial for the formation of a system of principles and can be understood as a dynamic existence. If fairness, justice, and other values are likened to beads, then the role of integrity is like a thread that strings the scattered beads into a necklace. In this sense, integrity becomes a principle that is not independent of other principles but contains substantive content: **integrity is the fusion of fairness, justice, and due process.** In summary, integrity plays three roles in a system of principles: 1) ensuring that the principles on which each law is based come from the same system; 2) ensuring that this system of principles belongs to the entire community, not just a part, and is the reason for the community's union; 3) ensuring that the principles on which different laws are based remain consistent within the system. These three roles of integrity correspond to its three essential meanings: singularity, wholeness, and continuity.

3.3. Law's Integrity

Combining Dworkin's definition of law, it is not difficult to find that a community governed by law's integrity is actually a community of principle. **All existing statutes, judgments, and other decisions are just manifestations of the system of principles of this community.** This system of principles generates specific laws—rights and responsibilities—through a process of constructive interpretation carried out by judges. Dworkin directly names this entire process as law as integrity and uses a metaphor that has been widely discussed by later scholars—the writing of a serialized novel—to describe the requirements for the super judge Hercules: when making judgments, he must ensure that the chapter he is responsible for writing is seamlessly connected to those written by previous judges. (Dworkin, 1986: p. 229, Law's empire)

Law as integrity provides a concrete and operational framework for understanding value judgments in judicial adjudication. Within this framework, value judgments are no longer based on a judge's personal value preferences or historical interpretations but must rely on integrity. Thus, the comparison of values is no longer a direct comparison between fairness or justice but is transformed into a comparison based on integrity: which solution better embodies integrity is the winner.

3.4. Integrity Allows Only One Best Answer

When Hercules adjudicates cases based on law as integrity, is it possible to reach different answers, and are these answers not inherently superior or inferior to each other? Dworkin holds a negative view and believes that there is only one best answer. The test for "best" can be conducted based on two requirements for

Hercules' constructive interpretation: fit and political morality. Dworkin points out that for a modern, developed, and complex legal system, usually only one interpretation can best fit the legal practices selected in the preinterpretive stage, and it is rare to have two interpretations that satisfy the fit requirement. If there are more than two solutions that meet the fit requirement, Hercules needs to choose the one that provides better justifications based on political or moral theories. (Dworkin, 1985: p. 143, A matter of principle) Those who hold a direct moral skepticism may oppose the second point, arguing that there is no superiority or inferiority between different moral virtues. Dworkin's moral "objectivism" is untenable. Dworkin believes that this attack stems from a misunderstanding of his theory. He has never held any claims about the objectivity of interpretations. On the contrary, he believes that all discussions about objectivity are meaningless. When Hercules engages in constructive interpretation, he only needs to make the best interpretation based on integrity and be open to challenges from others regarding the best answer. In this sense, it can be said that there is objective moral debate but not objective moral judgment, and there is objective interpretive debate but not objective interpretive judgment. (Dworkin, 1985: p. 143, A matter of principle)

Dworkin's theory of the "best answer" is not limited to judicial adjudication but extends to the broader field of political and moral philosophy. Therefore, his arguments are relatively complex. However, if we confine the discussion to the application of the theory in the context of law as integrity, **we can conclude that there is logically only one best answer for any given case. When Hercules faces value judgments, his standard is no longer different moral theories but the singular standard of integrity.** The viewpoint that different moral theories cannot be compared, held by direct moral skeptics, is thereby refuted because Hercules is not making choices between different moral theories. Using integrity as a standard means that all different moral decision-making schemes can find corresponding points on the standard and be compared. From the perspective of the "best answer," we can draw two conclusions: 1) all moral values can be compared based on integrity; 2) the result of the comparison is that a certain solution is the best, superior to any other solution.

3.5. Summary

Inclusion, there are three key features of Dworkin's legal theory. Firstly, Dworkin doesn't give positive law the same status as legal positivists do. On the contrary, positive law is just taken as one type of legal practice which serves as raw materials for Hercules. In other words, Hercules can choose to ignore positive law and select other practices to continue his constructive interpretation. Secondly, Hercules is constrained by two requirements that is fit and best justification. The interpretation Hercules gives should be fit the legal practice selected and can be best justified. Thirdly, the only determinative factor in judicial process is integrity, other considerations like culture and religion possess no independent status, which can only influence Hercules indirectly by impact the

content of the integrity.

Through a brief review of Dworkin's theory of law as integrity, we have achieved a concrete and staged analysis of value judgments in judicial activities. Hercules engages in value judgments through interpretation. In the preinterpretive stage, when selecting raw materials, value judgments are required to determine which behaviors constitute legal practices. In the interpretive stage, value judgments are mainly reflected in two aspects: first, the interpretation result should match the legal practices selected in the preinterpretive stage, which is a value judgment issue; second, the interpretation result should be the best interpretation of law as integrity, which requires value judgments. At the same time, the theory of law as integrity provides a framework for how to make value judgments. **Hercules should use integrity as the sole standard and weigh conflicting values to choose the best result.**

However, for AI to intervene in the process of value judgment, this hierarchical approach is just the beginning. Since the process of value judgment based on integrity, which has a unique best answer, is not an arbitrary subjective judgment but can be subjected to logical analysis, **what is this logical analysis, and is it possible to present it in the form of formulas and numbers?** Unfortunately, we cannot find the answer within Dworkin's theory. Ruth Chang's model of value comparison, proposed in the book "Making Comparison Count," caught my attention. In the following text, we will first analyze this model and then explore the possibility of applying it to the theory of law as integrity to address the aforementioned problem.

4. The Basic Model of Value Comparison

In "Making Comparison Count", Ruth Chang constructs a basic model for value comparison which makes digitalization and formulization accessible. It contains four main concepts, namely covering value, contributory value, value structure and aspect of value, which can be represented by a set of formulas.

4.1. Covering Value

Ruth Chang argues that all comparisons must proceed in terms of a value, which is termed as the covering value. The covering value can lead to positive aspects, such as tolerance and kindness, as well as negative aspects, such as dishonor and cruelty. The relationship between values can be understood in general and specific terms. In general, it involves comparing which value is better, worse, or equal to another value in terms of the covering value. When the covering value is specified, the relationship between different values is determined based on how well they embody that value. (Chang, 2002: p. 3) In a word, covering value is the standard in comparison.

4.2. The Content of Values

Values can be distinguished from one another because of their different content

which is formed by combining **contributory values** according to a certain **value structure**. In most cases, a value consists of multiple contributory values, although there are cases where a value is constituted by a single contributory value. For example, the value of philosophical talent is composed of contributory values such as originality and historical sensitivity, structured in a certain way. The relationship between values and contributory values is not absolute; a value itself can also serve as a contributory value for other values. (Chang, 2002: p. 6)

4.3. Structure of Values

What is the structure of a value? In simple terms, the structure of a value is the comparison of the contributions of different contributory values to that value. The contribution can be understood from two aspects: the importance of the contribution in determining the merit of a value and the proportion of each value in relation to an idealized state of that value. For example, the structure of philosophical talent refers to the comparison of the contributions of different contributory values, such as originality and historical sensitivity, to philosophical talent. It is generally believed that the contribution of originality is greater than that of historical sensitivity, so when determining someone's philosophical talent, their originality is given priority. (Chang, 2002: pp. 6-7)

By determining the types of contributory values and the structure of values, the content of values can be determined. Since the structure itself involves comparison, the content of a value is determined through the comparison of contributory values. Based on the previous analysis, all comparisons are comparisons of a covering value. Therefore, the structure of values is derived from the comparison of contributory values using the covering value as a reference.

The primary problem with this definition is that in some cases, having more of a certain contributory value does not necessarily mean it is better. When it exceeds a certain limit, it may even contribute less to the value. (Chang, 2002: p. 12) Therefore, we need to further specify this definition to achieve a qualitative and quantitative analysis of the structure of values.

4.4. The Aspect of Values

To achieve this, we first need to introduce the definition of aspect of value: a qualitative and quantitative expression of a value. In reality, all values are expressed through different aspects of value. (Chang, 2002: p. 11) For instance, the expression of love can belong to the quantitative aspect, such as the magnitude of love, or the qualitative aspect, such as mature love, romantic love, unconditional love, etc. Each aspect of value represents a specific combination of quantity and quality of love.

The structure of values can be further specified as the comparison between different aspects of value. For example, the structure of philosophical talent can be determined by comparing different aspects of philosophical talent—comparing the greatness of sublime philosophical talent to the peculiarity of philosophical

talent. (Chang, 2002: p. 11)

At first glance, the approach of using comparisons between aspects of value to address the qualitative and quantitative issues seems to deviate from the original approach of comparing contributory values. However, this is not the case because there is a specific relationship between aspects of value and contributory values. Each specific aspect of value is composed of a specific set of contributory values. The comparison between different aspects of value is, in fact, a comparison between the respective sets of contributory values.

By introducing the discussion of aspects of value, we have achieved a qualitative and quantitative analysis of the structure of values. If we represent the comparison process between different aspects of value with a function C_v, and represent the structure of values with V_s, where x and y represent different sets of contributory values, and A represents the set of all contributory values, we can formulate the following equation: (Chang, 2002: p. 13)

$$V_s = \left\{ \left\langle (x, y), C_v(x, y) \right\rangle : x, y \in A \right\}$$

Therefore, to obtain the structure of values V_s, we must further explore the function Cv.

4.5. Atomic Model

Ruch Chang proposes an atomic model to explain the function C_v with the assumption that the contribution of a certain contributory value to a value does not change depending on the different pairings of contributory values. Taking philosophical talent as an example, the contribution of originality as a contributory value to philosophical talent does not change based on different matching patterns with other contributory values such as historical sensitivity or foresight. (Chang, 2002: p. 16)

Furthermore, the atomic model breaks down the comparison between different sets of contributory values into two steps. First, the model compares the contributions of the same type of contributory values within different sets separately. The model assumes that each contributory value within a set is directly given. Second, the model aggregates the results of the first step (represented by the function F_v), resulting in C_v. The equation can be formulated as follows: (Chang, 2002: p. 17)

$$\begin{aligned} C_v(x, y) &= F_v\left(C_v(x_1, y_1), C_v(x_2, y_2), \cdots, C_v(x_n, y_n)\right) \\ &= C_v(x_1, y_1) + C_v(x_2, y_2) + \cdots + C_v(x_n, y_n) \end{aligned}$$

The underlying logic of this basic model is that the comparison between contributory values can be expressed numerically. In the previous equation, x and y represent different contributory values, and if $C_v(x, y)$ can be computed, it means that x and y can be represented by real numbers. According to the analysis of value comparison, the comparison result between x and y is generally: for V (covering value), x is better than y, x is equal to y, or x is worse than y. To achieve a numerical analysis of these results, Ruth Chang adopts the ordinality

condition from the standard model recognized by mainstream economists, assigning $U(x)$ and $U(y)$ to x and y, respectively. (Chang, 2002: p. 27)

$$U_v(x) > U_v(y) \text{ if } x \text{ is better than } y \text{ for } V$$

$$U_v(x) = U_v(y) \text{ if } x \text{ is equal to } y \text{ for } V$$

The determination of $U(x)$ has three possibilities: mere ordinality, precise cardinality, and imprecise cardinality. (Chang, 2002: pp. 28-31) In mere ordinality, the assigned values only represent the ordinal meaning, such as assigning 1 to x and 0 to y if x is better than y. In precise cardinality, the values not only represent the better or worse aspect but also demonstrate the precise difference between x and y. For example, if x is twice as good as y for V, x can be assigned a value of 20 and y a value of 10. In imprecise cardinality, the values assigned to x and y are not precise numbers but rather a range of values. This is because in most cases, it is difficult to determine whether x is two, three, or 2.5 times better than y for V.

Therefore, the final equation is:

$$\begin{aligned} &V_s(x,y) = C_v(x,y) = C_v\left(U_v(x), U_v(y)\right) \\ &= F_v\left(C_v\left(U_v(x_1), U_v(y_1)\right), C_v\left(U_v(x_2), U_v(y_2)\right), \cdots, C_v\left(U_v(x_n), U_v(y_n)\right)\right) \\ &= C_v\left(U_v(x_1), U_v(y_1)\right) + C_v\left(U_v(x_1), U_v(y_1)\right) + \cdots + C_v\left(U_v(x_n), U_v(y_n)\right) \end{aligned}$$

4.6. Summary

Through the analysis of Ruth Chang's model, we have further analyzed value judgments and achieved their formal expression. In this model, we only need to determine the contributory values x and y for a covering value and assign appropriate values to them, and the rest of the work can be done by AI. What does this mean for AI aspiring to become the super judge Hercules?

5. Return to Law's Integrity

Returning to Dworkin's theory of law as integrity, when Hercules engages in legal reasoning, he needs to make three value judgments: in the preinterpretive stage, he needs to interpret what constitutes legal practices; in the interpretive stage, the interpretation result must match the selected legal practices, which involves value judgments; and finally, the interpretation result must be the best realization of law as integrity, which also requires value judgments. All value judgments in this process are not arbitrary but must be based on the standard of integrity.

Applying the basic model proposed by Ruth Chang to the process of value judgment described above, it can be observed that all value judgments are processes of value comparison. Under the requirement of the "best answer," all values can be compared, and there are no values that cannot be compared. Using integrity as the sole criterion for value judgment implies that it is the covering value in the process of value comparison. Thus, the form of value comparison is: for integrity V, x is better than y. The content of integrity V is composed of the

values of promotion (x, y, z) and the value structure, V_s. Dworkin reduced the basic values of the community to the most fundamental three categories: fairness, justice, and due process. **Therefore, the contributory value *x*, *y*, and *z* correspond respectively to fairness, justice, and due process.** In specific cases, x, y, and z can also represent other values, but ultimately these values can be reduced to their most fundamental components.

The different aspects of integrity are the different solutions that Hercules must face. Integrity, as the fusion of the values of promotion, signifies the fusion of specific fairness, justice, and due process for each specific solution. The difference between different solutions lies in the different ways of fusion, that is, the different value structures V_s. Comparing different solutions thus becomes a comparison between the different aspects of integrity. Therefore, as long as the value structure V_s is determined, comparison becomes possible.

The structure of values, V_s, is derived from the comparison of different aspects of integrity. In a unified, coherent, and continuous value system, each specific value conflict has the best solution, which means that a specific aspect of integrity surpasses any other aspect. Therefore, finding the best answer is actually an ongoing process of comparing different aspects of integrity. The structure of values V_s, representing the best aspect of integrity, is determined through these comparisons. However, it is impossible to exhaustively compare all different aspects of integrity within a system of principles. Therefore, we can only approach the best aspect of integrity but never fully determine it. The debate about the best form of V_s will remain ongoing, which is what Dworkin means by "only objective debate."

In each specific comparison, Hercules needs to determine which aspect of integrity is superior. This comparison can be further broken down into: 1) selecting a value assignment mode for contributory values x, y, z; 2) determining the structure of values V_s for each specific aspect, which means determining the relationship between x, y, and z; 3) assigning specific values to x, y, and z based on the assignment mode; 4) inputting the assigned x, y, and z values into the comparison equation $V_s(x,y,z)$; 5) obtaining the result of $V_s(x,y,z)$; and 6) determining the winner based on the result. For example, if there are two sets of options, V_1 and V_2, and the assignment mode is precise cardinality, and V_1 represents equal fairness and justice but lacks procedural justice, its value structure would be x: y: z = 1:1:0. On the other hand, V_2 represents only procedural justice, so its value structure would be x: y: z = 0:0:1. By assigning values of (10, 10, 0) to V_1 and (0, 0, 10) to V_2, we can calculate $V_s(x,y,z)=20$, which is greater than 0. This means that V_1 is superior to V_2, and the value structure x: y: z = 1:1:0 better embodies the requirements of integrity. Therefore, Hercules should choose V_1. Through continuous comparisons between different aspects, we can obtain the final winner V_n as the best answer for the case.

6. Concluding Remarks

Through the analysis of Dworkin's theory of law as integrity and the application

of a basic model of value comparison, we are gradually breaking the almost superstitious belief that AI cannot engage in value judgments. In response to the question posed in this article, "Can AI become the judge Hercules?" our answer is: It is not an impossible task, but it is not something that can be achieved overnight. To accomplish this, we need to further explore and analyze the nature of value judgments in judicial activities and the methods to be employed. In the end, let me conclude with a thought-provoking statement from a scholar: "The reason why artificial intelligence has not produced fruitful results in law is not because the level of artificial intelligence is low, but because the level of legal research is low." (Michael, 1996)

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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