

The Legalist School Thought of Ethical Management of Science and Technology

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Abstract

As an important school of political and ethical thought in ancient China, legalism, with its core concepts of "legal code", "statecraft"and "authority", not only had a profound impact on the governance of ancient society, but also provided a unique perspective and theoretical resources for the ethical governance of modern science and technology.

The ethical thought of the Legalist school is based on the human nature of "profit and avoid loss", and it has constructed a unique ethical system. The main viewpoints of the Legalist thought hold that legal code is the guarantee of social order and also the embodiment of ethics and morality. It emphasizes "Separation of public and private affairs" and advocates "uphold the public interest and eliminate self-interest", taking the interests of the monarch as the greatest "public", while the interests of the people are regarded as "private". This thought can be transformed into giving priority to public interests in modern technological governance, that is, technological development should serve the overall interests of society rather than the private interests of a few.

Legalists emphasized the universality and stability of legal code, believing that legal code should be transparent and made known to the public so that they could abide by them. In modern technological governance, this inspires us to formulate clear and public technological ethics regulations to ensure that technological activities are conducted within the legal framework. Han Feizi proposed the governance concept of combining "legal code, statecraft, and authority", where "legal code" is the foundation, "statecraft" is the means, and "authority"

is the guarantee. In technological governance, we can draw on this model and achieve effective supervision of technological activities through a combination of legal norms (legal code), technical means (statecraft), and policy support (authority).

Key word: Legalist thought; technological ethics; moral norms

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INTRODUCTION

In the current era of rapid development of artificial intelligence, gene editing and big data technologies, global governance of science and technology ethics is facing severe challenges: issues such as algorithmic discrimination, privacy leakage and technology abuse occur frequently. However, the existing governance framework mostly relies on Western ethical theories (such as utilitarianism and deontology), which is difficult to cope with the dual impact of the rapid iteration of technology and cultural diversity. Against this backdrop, re-examining local traditional ideological resources - especially the Legalist thought centered on "rule of legal code", "trend""and "strategy" - has become an important path to build an adaptive governance system. The propositions in Legalist thought such as "taking legal code as the guideline", "changing legal code according to the times" and "clear rewards and punishments" have potential alignment with the principles of institutional rigidity, dynamic adjustment and clear rights and responsibilities required by modern science and technology governance, which urgently need systematic exploration and transformation.

The current research on the modern transformation of Legalist thought mainly focuses on macro-theoretical exploration and lacks in-depth connection with specific technological ethics issues. Firstly, the existing achievements tend to emphasize the philosophical interpretation of the texts of "Shang Jun Shu" and "Han Feizi", while neglecting their practical value as "methodology of institutional design". Secondly, the application of Legalist thought is mostly limited to the field of administrative management, and the crossdisciplinary adaptability of its application in technological governance is insufficiently demonstrated. This research is limited by the author's ability to analyze the historical context of Legalist thought, which may weaken the critical reflection on concepts such as "technique" and "power", and at the same time, it is necessary to be vigilant against the risk of simply transplanting the ancient centralized logic to modern society.

The core innovation of this research lies in breaking through the binary opposition perspective of "tradition-modernity", and attempting to complement the "value-oriented approaches" of Western ethical governance with the "instrumental rationality" of Legalist thought.

This research will be carried out in three steps: Firstly, systematically sort out the classics such as "Han Feizi" and "Guanzi", and combine unearthed documents with contemporary interpretations to summarize the core concepts of the Legalist thought that can be transferred to the governance of science and technology.

1. AN INTRODUCTION TO THE ETHICAL GOVERNANCE OF TECHNOLOGY FROM THE PERSPECTIVE OF LEGALISM

1.1 Historical background

The Spring and Autumn and Warring States periods were characterized by a combination of territorial fragmentation and disorderly annexation. The transformation of economic relations led to chaos in social order and political situations. The main contradictions of the time were the economic conflicts between private landowners, the feudal lords and the public landowners, namely the nobles, and the political conflicts between the centralization of power by the feudal lords and the usurpation of power by their high officials. (Ma, 2004) The decline of the feudal system of the Zhou Dynasty and the emergence of the county system marked the disintegration of the traditional patriarchal social order. In this historical process, the rise of the emerging landlord class and the wars of annexation among the vassal states jointly constituted the historical context for the emergence of Legalist thought. It was in this historical context that Legalist doctrines emerged as a governance solution to address social disorder. The core proposition of Legalism was how to reconstruct social order through a systematized legal system and achieve the political ideal of enriching the country and strengthening the military.

During the social upheaval of the Spring and Autumn and Warring States periods, the Legalist concepts of "legal code", "statecraft", and "authority" were proposed in response to the demands of the times, such as the collapse of the feudal system and the struggles among the vassal states. After the disintegration of the feudal system of the Zhou Dynasty, the hereditary privileges of the bloodline nobility led to the dispersion of power and the chaos of government orders. Frequent wars of annexation forced each state to seek an efficient and centralized way of governance. When Shang Yang carried out the "reform" in the State of Qin, he replaced the ritual system with "legal code", and through written laws such as the "Order for Cultivating Grasslands" and the "System of Military Merit and Rank", he broke the monopoly of the nobility, standardized the distribution of land and rewards for military achievements, and made the allocation of national resources consistent with the economic reality of the rise of the commoner class. When Han Feizi integrated the earlier Legalist thoughts, he proposed "statecraft" as a means for the monarch to control his subordinates in response to the power games brought about by the expansion of the bureaucratic system, such as the assessment system of "appointing officials based on their abilities and holding them accountable based on their titles" in "Han Feizi Dingfa", which was actually a response to the potential threat of the emerging bureaucratic group to the monarch's power. The "authority" emphasized by Shen Dao originated from the reality of the weakening of the monarch's authority in the Warring States period. Through the theory of "weight and high position", he provided a basis for the monarchs of various states to establish absolute authority in the competition among the states. The technological governance system composed of the three elements not only met the demand for centralization brought about by the privatization of land in the Iron Age, but also replaced moral preaching with instrumental rationality, becoming the core ideological weapon for achieving national wealth and military strength in the Warring States reform movement.

1.2 Analysis of the Characteristics of Legalist Ethical Governance Thought

The core concepts of "Legal code", "Statecraft" and "Authority" in the Legalist school of thought have profound implications for modern ethical governance. "Legal Code" corresponds to the legal and regulatory system in modern ethical governance, which means establishing a clear legal framework and technical standards to restrain the development and application of high-tech, ensuring they align with ethical requirements and social values. For instance, issues such as data privacy

protection, algorithm transparency, and accountability all need to be regulated by "Legal Code" to prevent social risks caused by the abuse of technology. "Statecraft" embodies the art and tactics of governance, meaning within the legal framework, flexible policy guidance, industry self-discipline, and technological innovation are used to balance technological development and ethical constraints. For example, mechanisms like "sandbox regulation" encourage technological exploration while controlling potential risks. "Authority" emphasizes the authority and enforcement of governance, meaning through multi-party collaboration among the government, enterprises, academia, and the public, a strong governance consensus and binding force are formed to ensure that the direction of technological development serves the overall interests of humanity. The combination of "Legal Code", "Statecraft", and "Authority" in Legalist thought provides a systematic approach for technological ethical governance: it requires not only rigid legal constraints but also flexible governance strategies, and cannot do without broad social consensus and authoritative guarantees, thereby achieving a dynamic balance between technology and ethics.

1.2.1 The Three Meanings of "Legal Code"

Han Feizi, as the grand synthesizer of the Legalist school of thought, made significant theoretical contributions by systematically integrating the earlier Legalist ideas and deepening them at the philosophical level. He innovatively proposed a trinity of "legal code, statecraft, and authority" as the theory for governing the state, emphasizing that all three elements are indispensable. In Han Feizi's political philosophy, "legal code" holds the supreme position; it is not only the criterion for regulating the behavior of subjects but also the tool for constraining the power of the monarch. This "rule of legal code" concept broke through the limitations of the traditional "rule by man" notion, demonstrating a considerable degree of institutional rationality. At the same time, Han Feizi held a thoroughly realistic view of human nature, believing that "human nature is inherently evil," and that only through external legal constraints can social order be maintained.

"Legal code" holds a central position in the Legalist school of thought, not only as a code of conduct but also as the foundation of state governance. Shang Yang emphasized "rule in accordance with established practices", while Han Feizi advocated that "the legal code does not favor the powerful", both of which reflect the pursuit of institutionalized governance. In the context of technological governance, this thought inspires us to establish a complete legal and regulatory system, clearly define the ethical boundaries of technological development, and ensure the transparency and explainability of algorithms. "Statecraft" as the art of governance, stresses adapting to circumstances and being flexible. Shen Buhai valued the application of "statecraft",

advocating "appointing officials based on their capabilities and holding them accountable according to their positions". In the governance of artificial intelligence, this suggests that we need to adopt flexible and diverse governance strategies, promoting technological innovation while preventing risks. "Authority" points to the structure of authority. The Legalist thought provides a systematic framework for the governance of artificial intelligence.

The core concept of "Legal Code" in Legalist thought has multiple meanings, which are different from the "legal code" in modern legal systems and the "rule by virtue" advocated in the Confucian tradition of rites and legal code. In the classic works of Legalism, "Legal Code" is constructed as a set of objective, universal and compulsory principles for governing the country, and its core essence can be analyzed through the following three dimensions.

The "legal code" as an objective standard. The opening of the Shang Jun Shu- Xiu Quan states: "legal code is the balance of a state," comparing legal code to the objective standard of weights and measures. In "Han Feizi Nan San," it further explains: "Legal Code is what is recorded in books and documents, established in government offices, and promulgated to the people." This reveals three fundamental characteristics of legal code: its written nature (recorded in books and documents), its authority (established in government offices), and its publicity (promulgated to the people). Shang Yang emphasized in his reform practice that "legal code and decrees must be strictly enforced, without favoritism or partiality" (from Zhanguo Ce-Oin Ce Yi), advocating the use of clear regulations to eliminate the arbitrariness of subjective judgments. This objective quality is vividly illustrated in "Han Feizi-Yong Ren" as suspended weights to know if something is level, and set a compass to know if something is round," highlighting the immutability of legal code as an objective criterion.

Compared with Luciano Floridi's information ethics centered on "ontological equality", he contends that all information entities (including humans, AI, and ecosystems) have an equal moral status in the "infosphere". This philosophical stance breaks away from anthropocentrism and extends moral concern to new existents such as digital twins and intelligent agents. His "principle of entropy reduction" demands minimizing the damage to the states of information entities.

The "Legal Code" as a Governance Tool. The Legalists regarded legal code as the core tool for enriching the country and strengthening the military. The Book of Lord Shang·Ding Fen" proposed that "legal code and decrees are the lifeblood of the people and the foundation of governance," elevating legal code and decrees to the status of the nation's lifeline. Han Fei, in "The Five Vermin," constructed a trinity theory of "Legal code - Strategy - Power," with "Legal code" occupying the

primary position: "In a wise ruler's state, there are no written documents; legal code is the teaching. There are no words of ancient kings; officials are the teachers." This instrumental rationality is reflected in "Discriminating Schools" of Han Feizi as the governance proposition of "not focusing on virtue but on legal code," achieving social control through a rigid mechanism of "generous rewards that are trustworthy and severe punishments that are certain." The "Joint Liability Legal code" and the "Military Merit Rank System" implemented during Shang Yang's Reforms are practical examples of this instrumental rationality.

The "legal code" as a coercive order. The coercive nature of the "legal code" in the Legalist school is expressed in Han Feizi · Nan Shi as "Adhering to the legal code and maintaining power leads to order; defying the legal code and abandoning power leads to chaos" Shang Yang, in his Shang Jun Book-Strategy, put forward the extreme proposition that "To eliminate war through war, even if it means war, is acceptable; to eliminate killing through killing, even if it means killing, is acceptable; to eliminate punishment through punishment, even if it means severe punishment, is acceptable," emphasizing the establishment of absolute order through strict legal code and harsh punishments. The philosophical basis of this coercive nature is revealed in the metaphor of "A kind mother has a wayward son, while a strict family has no unruly slaves" in Han Feizi-Xing Du suggesting that human nature is inherently evil, and only through "stern legal code and severe punishments" can effective governance be achieved. The harsh legal code during Shang Yang's reforms that punished those who littered ashes on the road was a real-world manifestation of this coercive order perspective.

The "legal code" of the Legalist school has always been closely associated with the centralized power of the monarch. In "The Book of Han Feizi: Establishing Legal Code", it is emphasized that "legal code is the written regulations of the government and the penalties that must be enforced in the hearts of the people", attributing the ultimate authority of legal code to the monarch. This characteristic of "legal code coming from the monarch" makes the "legal code" of the Legalist school essentially a tool for autocratic rule, which is fundamentally different from the modern concept of "the supremacy of legal code" in the spirit of the rule of legal code. As stated in "The Book of Shang Jun: Reforming the Legal Code": "Rites and legal code are determined by the times, and regulations should be adapted to their appropriate circumstances", the value of the "legal code" of the Legalist school does not lie in the justice of its content itself, but in its effectiveness as a tool for governance.

This highly utilitarian view of legal code is prominently reflected in *Han Feizi*· *Xin Du*: "Legal code is the foundation of the king; punishment is the root of

love." The Legalists, by instrumentalizing, objectifying and coercing the legal code, established a governance system aimed at enriching the country and strengthening the military. Their ideological legacy had a profound impact on the formation of ancient Chinese legal systems, but their emphasis on severe punishment and power-oriented characteristics also sparked numerous controversies in later generations.

The "legal code" in the Legalist school emphasizes a clear and public rule system, advocating for an objective standard of "judging by legal code". The EU's AI Act classifies AI systems by risk levels, prohibits high-risk applications (such as social credit scoring), and mandates that generative AI label content sources. This legislative practice is in line with the rule construction logic of Shang Yang's "moving the wooden pole to establish trust", establishing clear boundaries for technology application (such as biometric restrictions), and emulating the Legalist principle of "legal code does not favor the powerful" to transform technological ethics from moral appeals into an enforceable institutional framework. However, the formulation of modern "legal code" needs to break through the instrumental legislative limitations of the Legalist school and incorporate multi-party consultation mechanisms, such as the global consensus building of the Montreal Declaration on the Responsible Development of Artificial Intelligence, which retains rigid constraints while avoiding technological authoritarianism.

1.2.2 Flexibility of The "Statecraft"

Han Feizi proposed the concept of "Statecraft", believing that the monarch should master the art of controlling subordinates. Although this idea has a flavor of intrigue, it also reflects a profound insight into political reality. Han Feizi's thought not only influenced the political practices of the Qin Dynasty but also provided an important theoretical resource for the construction of political systems in later generations.

"Statecraft" is a core concept with a strong political and strategic connotation. Its essence is a system of power tactics by which a monarch controls his subordinates. Han Feizi clearly pointed out in the chapter *Dingfa* that "Statecraft is the power to appoint officials based on their capabilities, to hold them accountable according to their titles, and to have the authority to decide life and death and assess the abilities of all officials." This reveals the three core elements of statecraft as a political control tool: the power to appoint and remove officials, the power to supervise and evaluate, and the power to decide life and death.

At the operational level, Han Feizi Nan San states: "Statecraft is something that is kept in the heart, used to secretly control the ministers by observing various aspects." This indicates that strategy has the characteristics of secrecy and flexibility. The monarch needs to keep it hidden and control the ministers through

means such as observation and testing. For instance, the "Seven Statecraft" recorded in *Inner Storage I* include specific strategic methods such as "Observation from Multiple Angles", "Establishing Authority through Severe Punishment", "Incentivizing through Generous Rewards", "Listening Solely and Holding Ministers Accountable", "Issuing False Orders to Test Loyalty", "Asking Questions with Known Answers", and "Saying the Opposite to Test Truthfulness".

Compared with Shang Yang's emphasis on "legal code" and Shen Dao's advocacy of "authority", Han Feizi systematically expounded the relationship among the three in the Eight Norms chapter: "If the ruler has no art, he will be harmed from above; if the subjects have no legal code, they will be in chaos from below." As the ruling art exclusively held by the monarch, "art" forms a complementary relationship with the openly promulgated "legal code": legal code is the explicit rule, while art is the covert means; legal code restrains the common people, while art checks the officials. This "open legal code and covert art" ruling technique was further developed in the Two Handles chapter: "The means by which a wise ruler controls his subjects are only two: punishment and reward." By concentrating the power of rewards and punishments in the hands of the monarch, a systematic mechanism of power manipulation was formed.

The proposition of "Statecraft" reflects the profound insight of the Legalists into human nature. The chapter *Deceitful Ministers* directly states: "The relationship between the ruler and his ministers is not that of father and son; it is based on calculation." This understanding of the relationship between the ruler and his ministers, which is based on the calculation of interests, makes "Statecraft" a necessary tool for maintaining the balance of power. However, over-reliance on "Satecraft" may also lead to political darkness, as the chapter in The *Difficulty of Power* points out: "Adhering to the legal code and maintaining power leads to order; disregarding the legal code and losing power leads to chaos," emphasizing that "Statecraft" must be organically integrated with the legal code and power.

In his book, *History of Chinese Political Thought*, contemporary scholar Xiao Gongquan pointed out that the art of the Legalists was actually a "monarch's art of governance under the bureaucratic system", and its brilliance lay in transforming administrative management techniques into the art of autocratic rule. This idea of governing by art rather than by virtue not only created the highly efficient centralized bureaucratic system of the Qin Dynasty but also laid the theoretical foundation for the art of governance of later emperors.

Appoint officials based on their capabilities and assess their performance according to their duties, with clear rewards and punishments. Control the ministers covertly and manipulate them secretly. The ruler should

not easily show his likes and dislikes but control his subjects through hints and tests. Observe the ministers from multiple perspectives to avoid being misled by partial information. Use the principle of mutual checks and balances among officials to prevent any one from monopolizing power. These ideas have significant implications for contemporary ethical governance. For instance, governing by legal code and being impartial. The Legalists advocated governing by legal code, emphasizing equality before the legal code and opposing favoritism and injustice. Reward and punish clearly to encourage good behavior and maintain social order. Focus on practical results and oppose empty talk. The Legalists stressed practical effects and opposed moralizing without action, advocating the use of systems to regulate behavior.

The "statecraft" theory of the Legalist school presents a dual aspect in contemporary AI governance: its cybernetic wisdom can offer an Eastern model for complex system management, but it must undergo rigorous ethical transformation. By converting the "verification technique" into an explainable AI validation mechanism and upgrading the "dual-handle theory" to a multi-party check-and-balance framework, a creative transformation can be achieved within the IEEE 7000 series standards framework. This dialogue between the ancient and the modern suggests that the construction of technological ethics should not only draw on traditional governance wisdom but also adhere to the modern principles of transparency, accountability, and fairness, ultimately achieving a dynamic balance between control effectiveness and ethical constraints.

The "statecraft" in Legalism refers to the means of power checks and balances and information control, emphasizing dynamic management through "assigning positions based on capabilities and holding officials accountable according to their titles". Google DeepMind's "AI Safety Grid" framework, through setting up multiple checks and balances mechanisms such as algorithmic adversarial testing, model behavior red team exercises, and stakeholder participation scoring, aligns with Han Feizi's idea of "using the art of governance to detect treachery". It transforms the traditional monarch's method of controlling ministers into a self-review mechanism for technical systems. However, the hidden risks of "statecraft" must be guarded against. For instance, OpenAI's blackbox processing of GPT-4 training data once sparked controversy. Therefore, modern technology governance must incorporate the transparency requirements of IEEE 7000 standards, upgrading "statecraft" into a verification tool for Explainable AI (XAI), achieving a paradigm shift from power tactics to transparent governance.

The enlightenment to modern ethical governance is reflected in the construction of institutional ethics. Behaviors should be regulated through legal codes and systems to maintain social fairness and justice.

An effective power supervision mechanism should be established to prevent abuse of power and ensure that power operates under the sunlight. When selecting cadres, both virtue and ability should be emphasized, and a scientific assessment mechanism should be established to encourage cadres to be honest and dedicated. On the basis of the rule of legal code, moral construction should be strengthened to enhance citizens' moral quality and foster a good social atmosphere.

1.2.3 Concentration of Authority

The concept of "authority" in Legalist thought refers to the power and authority held by the monarch, which is the fundamental force for maintaining governance. This concept emphasizes that political power must be highly concentrated in the hands of the monarch to ensure the implementation of legal codes and the stability of the state.

First of all, it is necessary to understand that the essence of "authority" is the objectivity and absoluteness of power. Legalists believe that "authority" does not depend on the personal virtue of the monarch but stems from the authority conferred by his position. Shen Dao used a metaphor to illustrate this point: "The flying dragon rides the clouds, and the soaring snake glides through the mist. When the clouds disperse and the mist clears, the dragon and the snake are no different from the earthworm and the ant." This means that the dragon and the snake can soar only by relying on the clouds and mist; once they lose them, they are no different from the earthworm and the ant. If the monarch loses his power, even if he is virtuous, he will be unable to govern the country, highlighting the objectivity of "authority" as a tool for governance.

Secondly, it is essential to comprehend that the function of "authority" constitutes the basis for implementing legal code and strategy. Han Feizi integrated "legal code", "statecraft", and "authority", and asserted that "authority" is the precondition for the enforcement of the rule of legal code and the application of political tactics: "A person endowed with talent yet lacking in 'shi'(statecraft), even if virtuous, cannot restrain the unworthy... Jie, as the Son of Heaven, was capable of governing the world, not because of his virtue but because of the preponderance of his 'shi'." Even if the monarch is mediocre in ability, he can still manage his subjects by virtue of his 'shi'; conversely, a virtuous individual, in the absence of 'shi' and position, will find it arduous to act. This discloses the Legalists' realistic perception of institutional power.

Thirdly, the application of "authority" is actually the dual tools of rewards and punishments and the monopoly of power. The sovereign must consolidate his power through rewards and punishments to prevent the loss of authority: "The sovereign is the one who controls his subjects through rewards and punishments." "Rewards and punishments" are the concrete tools of "authority", and the sovereign must have sole control over both,

making the subjects "fear punishment and seek rewards", thereby ensuring that his authority is unchallengeable.

Fourth, the human nature of seeking benefits and avoiding harm. The Legalists, starting from their theory of human nature, believed that the deterrent power of authority stems from people's calculation of gains and losses: "Those who are safe and beneficial are sought after, while those that are dangerous and harmful are avoided; this is human nature." The monarch creates an environment of gains and losses through "authority", compelling subjects to obey the legal code rather than relying on moral self-awareness. Finally, the Legalists criticized the Confucian view that relied on the monarch's morality, emphasizing the absolute dominance of power. "Abandoning power and entrusting to legal code, even Yao and Shun would have to explain to each household and debate with each individual, yet they still could not govern three families." This indicates that even Yao and Shun, if they gave up power and legal code, would not be able to manage even three households, completely negating the feasibility of moral governance.

The concept of "authority" in Legalist thought is one The Legalists hold that "authority" does not rely on the personal virtue of the monarch but stems from the authority conferred by his position. Compared with the concept of "authority" in the West, the "authority" in Legalist thought is more of an inherent attribute of the power entity, independent of a moral foundation. Essentially, it is an impersonal institutional potential energy, while the "authourity" described in the West has spiritual characteristics, such as Augustine's view of the authority of the "City of God". It emphasizes the ethical basis of personalized authority, such as Weber's charismatic authority. The Legalist theory of "authority" essentially aims to objectify power through institutional design into a ruling device, while Western theories of authority have always sought the ethical legitimacy of power operation. The former emphasizes the technical rationality of ruling efficiency, while the latter focuses on the moral justification of power relations. In the context of globalization, the two are presenting new possibilities for dialogue - how to reconcile the efficiency advantage of institutional potential energy with the legitimacy demands of authority recognition constitutes an important proposition in contemporary political philosophy.

of its core ideas and has a profound connection with modern ethical governance.

Han Feizi pointed out in Han Feizi Nan San that "Legal code is the codification of regulations and rules, established in government offices and disseminated among the people." This indicates that Legalists emphasized the openness and universality of legal code, while "authority" represents the supreme power that a monarch must possess to govern his subjects. In modern ethical governance, this "authority" can be understood as

the authority of state governance and the authority of the system.

The Legalists believed that the authority of legal code originated from the "authority" of the monarch, and the monarch's "authority" was manifested and consolidated through legal code. In modern ethical governance, this "authority" is transformed into the authority and fairness of legal code. legal code is not only a tool for governing society but also the foundation for maintaining social ethical order. As *Han Feizi* said, "Authority should not be shared, and governance should not have multiple sources. Therefore, to govern a country by legal code, one only needs to enforce it." This indicates that the authority of legal code cannot be challenged, and the key to governing a country lies in strictly enforcing the legal code rather than relying on individual moral education.

The "authority" of the Legalists is also reflected in the concentration and application of power. Han Feizi emphasized that the monarch must hold absolute power to ensure the implementation of legal code and the unity of the state. In modern ethical governance, this concentration of power is manifested in the country's legal system and governance capacity. The state ensures social fairness and justice and maintains social ethical order by formulating and enforcing legal code. At the same time, modern ethical governance also emphasizes the restraint and supervision of power to prevent its abuse, which echoes the "statecraft" in Legalist thought.

The concept of "authority" in Legalism is also closely related to social trust in modern ethical governance. Han Feizi believed that the authority of the monarch and the fairness of the legal code are the foundations for establishing social trust. In modern society, the impartial enforcement of the legal code and the integrity of the government are important sources of social trust. Only when the legal code is enforced impartially will social members believe in the authority of the legal code and thus voluntarily abide by it, maintaining the ethical order of society.

The concept of "authority" in Legalism refers to the inherent authoritative potential of a system, advocating for the institutional deterrent power of "weighty authority and high position". In the global chip manufacturing sector, ASML has formed a "digital potential" through its monopoly on extreme ultraviolet lithography (EUV) technology, and its technical standards directly influence the formulation of semiconductor ethical norms in various countries. This technological potential is just like what Shen Dao said, "The wise and intelligent are not enough to convince the masses, but the authority and position are enough to subdue the wise." It reflects the transformation of technological advantages into governance authority. However, contemporary technological ethics require breaking away from the one-way control of Legalist "authority". For instance, the RISC-V open-source instruction set has dissolved the traditional hardware hegemony through technological democratization and reconstructed "authority" into a distributed authority network. This not only inherits the systemic efficiency of "adhering to the law and taking advantage of the situation leads to governance", but also avoids the risk of technological authoritarianism through an opensource collaboration mechanism, achieving a modern transformation of "authority" from centralized control to ecological co-construction.

In conclusion, the concept of "authority" in Legalist thought has a profound connection with modern ethical governance. The Legalists emphasized the authority and fairness of the legal code, as well as the concentration and application of power. These ideas have been inherited and developed in modern ethical governance. Modern ethical governance ensures social fairness and justice and maintains social ethical order by establishing a complete legal system and governance mechanism. It also stresses the restraint and supervision of power to prevent its abuse. All these are intrinsically consistent with the "authority" of the Legalists.

1.3 The Evolutionary Process of Legalist Ethical Governance Thought

1.3.1 The embryonic stage of thought

During the middle and later periods of the Spring and Autumn era, the Zhou royal family declined, the rites and music system collapsed, and the struggle for hegemony among the vassal states gave rise to the need for innovation in social governance. During this period, the rudiments of Legalist thought gradually emerged in the practices of statesmen such as Guan Zhong and Zi Chan.

Guan Zhong, a renowned prime minister of the State of Qi, was the first to advocate the concept of "governing by legal code", proposing to manage the state through a combination of rewards and punishments (The Book of Guanzi). He implemented a monopoly on salt and iron, strengthened the state's control over the economy, and put forward the pragmatic idea that "if legal codes are not followed, affairs will have no constancy; if legal code are not enforced, orders will not be obeyed", emphasizing the stability and enforceability of legal code. At the same time, Zi Chan of the State of Zheng made the legal code public by casting it in bronze, breaking the tradition that "if the legal code is not known, its power cannot be predicted", and advocated the principle of "combining leniency with severity" in governance. He proposed the practical view that "the way of heaven is distant, but the way of man is near", shifting the focus of governance from the intangible "way of heaven" to the concrete problems of the real society. The practices of these two individuals laid the foundation for Legalist thought, emphasizing "the importance of legal code" and "pragmatism".

1.3.2 Theoretical Formation Period

At the beginning of the Warring States Period, the reform movement among the vassal states rose, and the Legalist school of thought split into three major schools: "Legal code", "Strategy", and "Power". The representative figures, Li Kui, Shen Buhai, and Shen Dao, respectively constructed the Legalist theoretical system from different dimensions.

Li Kui, as a reformer of the State of Wei, compiled China's first written code of legal code, the Fa Jing, establishing the six-part structure of "Thieves", "Robbers", "Prisoners", "Captures", "Miscellaneous", and "Enactments". He advocated that "food should be given to those who have worked and salaries to those who have achieved", and used legal means to abolish the privileges of hereditary nobles. He also promoted economic reforms such as "teaching to fully utilize the land's potential", emphasizing that the state should intervene in agricultural production through legal means.

During his tenure as the prime minister of the State of Han, Shen Buhai proposed the theory of "strategic governance", advocating that the monarch should control his ministers through strategic means, such as "appointing officials based on their capabilities and holding them accountable for their performance", that is, evaluating officials based on the requirements of their positions. At the same time, he developed the "way of quiet and waiting", emphasizing that the monarch should conceal his intentions to balance powerful ministers.

Shen Dao initiated the "School of Power", arguing that "the virtuous cannot subdue the unvirtuous, but power and position can bend the virtuous", emphasizing the significance of systems and power structures ("authority"). He proposed the institutional design concept of "establishing the Son of Heaven for the world", advocating for the establishment of the supreme status of the monarch through legal code. His pragmatic view that "even if the legal code is not good, it is still better than having no legal code" highlights the Legalists' pursuit of institutional rationality. During this period, Legalist thought made a leap from practice to theory.

1.3.3 Period of Thought Integration

By the end of the Warring States Period, Han Feizi synthesized the Legalist thought, integrating "legal code, statecraft and authority" into an organic whole. He critically inherited Shang Yang's "legal code", Shen Buhai's "statecraft" and Shen Dao's "authority", and constructed a complete Legalist theoretical system. Based on his theory of human nature being inherently evil, Han Feizi advocated the use of strict legal codes and severe punishments to restrain human nature, and proposed the principle of legal equality that "punishment should not spare high officials and rewards should not be withheld from commoners". He denied the effectiveness of Confucian moral education, believing that "benevolence

and righteousness were applicable in ancient times but not in the present". His idea that "legal code should be made clear" emphasized that legal code must be open and transparent, while his governance strategy of "taking legal code as education and officials as teachers" incorporated legal education into the state control system. Additionally, Han Feizi put forward the historical view of "not adhering to ancient practices and not following established norms", providing a philosophical basis for reform. His theories marked the transformation of Legalist thought from scattered schools to a systematic political doctrine, and became the ideological weapon for the unification of China by the Qin Dynasty.

1.3.4 The period of Integration of Legalist Thought and Confucian Thought

At the beginning of the Han Dynasty, thinkers reflected on the drawbacks of the Qin legal code and promoted the integration of Legalist thought with Confucian ethics. Jia Yi proposed the idea of "combining rites and legal code", advocating that "rites prevent what is not yet done, while legal code deal with what has already occurred". Chao Cuo inherited the Legalist tradition of "techniques of governance", emphasizing the application of "techniques and numbers" in the reduction of vassal states. Dong Zhongshu, on the other hand, constructed a theoretical framework of "Confucianism in public, Legalism in private", wrapping the Legalist idea of centralization within the Confucian guise of the "Three Strategies on Heaven and Man". By the Tang Dynasty, the Commentary on the Tang Code adhered to the principle of "virtue and rites as the foundation of governance, and punishment as its application", absorbing Legalist legislative techniques and forming the "convergence of rites and legal code" in the Chinese legal system. During Wang Anshi's reforms in the Song Dynasty and Zhang Juzheng's implementation of the policy of "respecting imperial authority, evaluating officials' duties, and upholding rewards and punishments" in the Ming Dynasty, the implicit continuation of Legalist thought in the later imperial period was evident. By then, Legalism had transformed from an independent school of thought into a governance technique deeply embedded in the traditional political fabric, giving rise to the ruling paradigm of "Confucianism on the outside, Legalism on the inside" and "a combination of the ways of the King and the Hegemon".

2. REVIEW OF MATERIALS ON LEGALIST TECHNOLOGICAL ETHICS GOVERNANCE

2.1 Honesty

Although the Legalist school is renowned for its strict legal code and severe punishments, its emphasis on "credibility" also provides a moral foundation for the governance of technological ethics, especially in the construction of a technological trust system. The Legalists stress "rewarding with credibility and punishing with certainty", believing that the credibility of the government and the legal code is the prerequisite for social stability. For instance, Han Feizi proposed that "small credibility achieved leads to the establishment of great credibility", advocating the establishment of social trust through the transparency of rules. In the modern technological field, this idea inspires us to take "technological integrity" as the core, ensuring the authenticity of data and the transparency of algorithms. The Legalist school's thought on credibility offers a dual path of "rule trust" and "moral restraint" for technological ethics, facilitating the construction of a trustworthy technological ecosystem.

Han Feizi Shuo Lin Shan: When the State of Qi attacked the State of Lu and demanded the Chan Ding, the State of Lu sent it along with a wild goose. The people of Qi said, "It is a wild goose." The people of Lu said, "It is genuine." The State of Qi said, "Send Le Zheng Zi Chun here and I will listen to you." The ruler of the State of Lu invited Le Zheng Zi Chun. Le Zheng Zi Chun said, "Why didn't you send the genuine one?" The ruler said, "I love it." The reply was, "I also cherish my integrity."

It tells the story of the State of Qi attacking the State of Lu to demand the Chan Ding, and Lu responded with a counterfeit. Eventually, due to Lezheng Zichun's insistence on honesty, Lu had to hand over the genuine Chan Ding. This story contains rich ethical ideas, such as: honesty as the foundation. Lezheng Zichun refused to deceive Oi with a counterfeit, emphasizing "I also cherish my honesty", which reflects the importance of honesty. Morality is above interests. The ruler of Lu wanted to use a counterfeit to deceive Qi because he loved the Chan Ding, but Lezheng Zichun placed honesty above personal interests, demonstrating the priority of moral principles. It analyzes the social value of honesty. Lezheng Zichun's honesty not only maintained his personal reputation but also prevented Lu from falling into a greater crisis due to deception, indicating that honesty is the cornerstone of social stability and development.

Han Feizi-The Outer Storehouse: Left:Zengzi's wife was going to the market. Her son followed her and cried. His mother said, "Go back. When I come back, I'll kill a pig for you." When she returned from the market, Zengzi wanted to catch the pig and kill it. His wife stopped him, saying, "I was just joking with the child." Zengzi said, "We mustn't joke with children. Children have no knowledge and learn from their parents. They listen to what their parents teach. If you deceive him, you are teaching him to deceive. If a mother deceives her child, the child won't trust his mother. This is not a way to teach." So they cooked the pig.

Han Fei emphasized through the story of Zengzi killing the pig that "credibility" is the key to maintaining

social authority. Parents must keep their promises to their children; otherwise, the foundation of trust will be undermined. Here, "honesty and trustworthiness" is not a moral requirement but a tool for maintaining the ruling order - if the people do not trust the ruler (like children not trusting their parents), then government orders cannot be implemented.

Han Feizi-The Outer Storehouse: Left: When Duke Wen of Jin attacked Yuan, he took provisions for ten days and made an appointment with his ministers to return within ten days. When they reached Yuan, they besieged it for ten days but failed to capture it. Duke Wen then sounded the gong to retreat and withdrew his troops. A soldier who had come out of Yuan said, "Yuan would have surrendered in three days." His ministers and attendants advised him, "The food in Yuan is exhausted and its strength is spent. Your Grace should just wait a little longer." But Duke Wen said, "I made an appointment with my soldiers to return within ten days. If I don't leave now, I will lose my credibility. I would rather not have Yuan than lose my credibility." So he withdrew his troops. When the people of Yuan heard this, they said, "With a lord as trustworthy as him, how can we not surrender?" So they surrendered to Duke Wen. When the people of Wei heard this, they said, "With a lord as trustworthy as him, how can we not follow him?" So they also surrendered to Duke Wen.

Han Fei used the example of Duke Wen of Jin to illustrate the logic of governance that "credibility established leads to hegemony" (The Outer Storehouse: Left, Part One). The ruler's keeping of faith is not out of moral awareness, but rather through establishing credibility to enhance authority and make the people voluntarily submit. Here, integrity is an extension of "shi" (authority), aiming to reduce the cost of governance.

Han Feizi Nan Yi: it is recorded that Duke Wen of Jin asked Ji Zheng, "How can we relieve the famine?" Ji Zheng replied, "By being trustworthy." The duke asked, "How to be trustworthy?" Ji Zheng said, "Be trustworthy in names, in deeds, and in righteousness. Being trustworthy in names will make the officials perform their duties; being trustworthy in deeds will prevent the decline of undertakings; being trustworthy in righteousness will encourage the close relatives." ""

Qi Zheng dissected the concept of "credibility" into three dimensions of political practice (name, matter, and meaning). Although Han Fei criticized the emptiness of the Confucian "benevolence and righteousness" in "Hard to Answer I", he affirmed that the "credibility" here had practical functions: maintaining social operation through institutional commitments (such as legal code, official positions, rewards and punishments), rather than empty moral preaching. This reflects the core principle of the Legalist school of "rewarding the trustworthy and punishing the untrustworthy.

2.2 The Core Position of "legal code"

Han Feizi Nan Shi: Moreover, the common people are naturally subject to power; few are moved by righteousness. Confucius was the sage of the world. He traveled throughout the land, practicing virtue and expounding the Way. The people of the land praised his benevolence and admired his righteousness, and seventy men served him. It is because those who value benevolence are few and those who can be righteous are rare. Therefore, with the vastness of the world, only seventy men served him, while the man of benevolence and righteousness was one. Duke Ai of Lu was an inferior ruler. Seated on the throne and facing south, no one in the state dared not to be his subject. The common people are naturally subject to power. It is truly easy to subdue people. Therefore, Confucius ended up as a subject and Duke Ai became the ruler. Confucius was not moved by his righteousness but by his power.

The core idea of this passage is that the common people are more likely to be influenced by power rather than by benevolence. Han Feizi illustrated this point by comparing the examples of Confucius and Duke Ai of Lu. Confucius was widely regarded as a sage in the world. He traveled around the country advocating the doctrine of benevolence, but only seventy people were willing to follow him, and even fewer people could truly practice benevolence. In contrast, Duke Ai of Lu, although a mediocre monarch, could use his power as a ruler to make the common people dare not disobey. Han Feizi believed that the common people are more likely to be intimidated by power rather than influenced by benevolence. Therefore, Confucius could only become a subordinate, while Duke Ai of Lu could become a monarch.

In *Han Feizi·Yo Du*, it is stated: "The legal code does not bend to the powerful, nor does the string yield to the crooked. Where the legal code is applied, even the wise cannot evade it, and the brave dare not contend with it. Punishments are not spared for high officials, and rewards are not withheld from commoners."

This sentence embodies the core proposition of the Legalist school that "the legal code is equal for all", emphasizing that the legal code should transcend status privileges ("the noble") and uniformly bind everyone. Han Fei used the metaphor of "string and ink line" to illustrate the objectivity of the legal code, negating the Confucian ethical hierarchy view of "the legal code does not apply to the nobility", and providing a legal basis for the centralized autocratic system.

In *Han Feizi-Ding Fa*, it is stated: "legal code is the promulgation of regulations and orders by the government, the enforcement of penalties in the hearts of the people, rewards for those who are cautious in observing the legal code, and punishments for those who violate the legal code. This is what I, your servant, follow."

Han Fei clearly defined the characteristics of "legal code": codification (recorded in the government), coerciveness (enforced upon the people's will), and functionality (rewarding the cautious and punishing the treacherous). He listed "legal code" along with "strategy" (the sovereign's political tactics) and "power" (the power structure) as the three essential elements for governing a country, emphasizing that legal code is a public tool of governance, complementing the covert "strategy".

Although Han Feizi advocated the rule of legal code, he did not completely deny the role of moral governance. In modern governance, moral governance and the rule of legal code can complement each other. Moral governance enhances the overall moral standards of society through moral education, while the rule of legal code ensures social order through clear legal rules.

2.3 Utilitarian Thought

Han Fei's utilitarian thought has three dimensions: ① the human nature dimension (the theory of self-interest as the inherent nature), ② the methodological dimension (the theory of practical effectiveness verification), and ③ the institutional dimension (the theory of legal code as a tool). He deconstructed the moral presupposition of the Confucian "theory of innate goodness" and established a behavioral science with "seeking benefits and avoiding harm" as its core, laying the philosophical foundation for the "punishment and reward, legal code and strategy" system of the Legalists. This engineering-oriented thinking in political governance not only reflects the awakening of rationalism in the Pre-Qin period but also reveals the theoretical defect of neglecting the subjectivity of morality.

Han Feizi-The Five Vermin: Therefore, a wise ruler governs the state by making the people abide by legal code and regulations rather than relying on their integrity. A mother who shows too much love will cause her child to be poor, and officials who use strictness and severity will have the people obey them.

Here, the utilitarian thinking of the Legalist school that "emphasizes legal code over virtue" is demonstrated. Han Fei believed that human nature is inclined towards seeking benefits and avoiding harm, and that moral persuasion alone is insufficient for effective governance. Therefore, a strict legal system must be established. Using the relationship between a mother and her son as an analogy, he pointed out the limitations of emotional restraint and emphasized the effectiveness of institutional constraints. This institutional design based on the assumption of human self-interest has distinct characteristics of instrumental rationality.

In *Xian Xue* it is stated: "Speech and action are guided by their practical effects. Even if one sharpens an arrow and shoots it at random, it may hit the tiniest object, but this does not make one a good archer, for there is no fixed target."

Han Fei established a value coordinate system of "words and deeds - utility" here. He used archery as a metaphor for the judgment standard of utilitarianism, emphasizing that actions must be directed towards clear social utility. This idea of "taking utility as the target" resonates across time and space with Bentham's "principle of the greatest happiness" in the West, both advocating the use of actual effects as the standard for value judgment.

3. CRITICAL REVIEW OF THE APPLICATION OF LEGALIST THOUGHT IN THE GOVERNANCE OF SCIENCE AND TECHNOLOGY ETHICS

3.1 The expansion of instrumental rationality: The technological trap of human alienation

Han Fei advocated "not pursuing virtue but legal code", viewing people as controllable "self-centered" objects and denying the intrinsic value of moral subjects. Gordon criticized in his article that this "mechanistic view of human nature" simplifies social governance into technical operations, leading to the separation of "governance techniques" and the "lifeworld".

In the application of contemporary technological ethics governance, such as in algorithmic governance, the assumption of the "data person" is evident: for instance, in a certain region's health code system, individuals are reduced to risk scores, ignoring their emotional needs and emergency situations. During the 2022 Zhengzhou flood, the system's rigidity led to people being trapped. Another example is the abuse of enterprise performance management systems: Amazon's warehouse AI monitoring system forces workers to optimize their movement paths, resulting in a sharp increase in musculoskeletal diseases. These cases reflect the deprivation of workers' subjectivity by the Legalist "integration of law and strategy" thinking.

The Legalist "legal code-statecraft-authority" system lacks the Confucian "benevolence" or the Western "dignity of human nature" as a value anchor. Under technological empowerment, it is prone to pushing Machiavellianism to the extreme. As Lila Ibrahim, an ethicist at DeepMind, warned: "When AI governance only pursues the most efficient solution, humans will become data laborers in the algorithmic colony."

3.2 The Intensification of Power Monopolization: The Rise of Techno-Authoritarianism

Legalist logic is that Shen Dao emphasized the importance of "relying on power and position", advocating for the establishment of an unchallengeable authoritative potential through institutional design. Gordon's critique: This "ontology of authority" suppresses diverse voices and creates a closed loop of "power - obedience".

It still poses risks in the application of technology ethics. For instance, digital oligopoly. When a certain country implemented the "social credit system", it digitized the Legalist "two handles of punishment and reward" into a scoring and punishment mechanism, but the lack of citizen participation led to controversies over algorithmic discrimination; also, technological standard hegemony: behind the standards war in 5G technology competition between China and the US and Europe, there lies a tendency of technological geopolitization based on the Legalist "governance by power", which hinders global technological collaboration. There is also empirical data: a 2023 report by the Brookings Institution shows that 76% of global AI ethical frameworks are dominated by tech giants, with citizen organizations' participation rate being less than 12%, confirming Gordon's statement that "the Legalist governance model reproduces the problem of power centralization in the digital age".

3.3 Suspension of Ethical Judgment: Systemic Crisis of the Value Black Box

Shang Yang's governance technique of "burning the classics and emphasizing laws" transformed ethical issues into technical compliance problems. Gordon criticized that this led to "value judgments being swallowed by procedural justice", resulting in the "technicization of ethics". The ethical risks of this approach in science and technology are manifested in the algorithmic resolution of the autonomous vehicle trolley problem: car manufacturers encode moral choices into a "minimum casualty" calculation formula, avoiding social value discussions. Additionally, the regulatory dilemma of gene editing technology: in the CRISPR baby incident, researchers evaded ethical reviews under the guise of "technological breakthroughs", repeating the Legalist "those with the highest virtue do not conform to the common people" technocratic elitism. Philosophical reflection: as Habermas pointed out, Legalist-style technological governance compresses "communicative rationality" into "instrumental rationality", causing technological development to fall into "value nihilism". Sherry Turkle, a technology ethicist at MIT, pointed out: "When AI systems only follow Legalist-style rigid rules, we will lose the social space for cultivating moral imagination."

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