

Alienation of Workers' Subjectivity in the View of New Technological Revolution

-- A Political Economy Perspective

Chenkai Niu, Wei Li

School of Economics, Minzu University of China, Beijing 100081, China

Abstract

The new technological revolution is another profound social change in human history. It has brought advanced science and technology to further promote the improvement of productivity and the change of production methods. However, the pursuit of economic benefits by science and technology has, to a certain extent, caused the alienation, or even weakening and dissolution, of workers' subjectivity. Using the analytical perspective of Marxist political economy, this paper focuses on the real problem of enhancing workers' subjectivity and eliminating their alienation in the era of the new technological revolution, and proposes that under the crisis of workers' subjectivity alienation in the context of the new technological revolution, if we can attach importance to workers' subjectivity and create a "human-technology" complementary relationship, it will be conducive to eliminating alienation and realizing the freedom and freedom of workers. In the context of the alienation of workers' subjectivity in the new technological revolution, it is suggested that if we can attach importance to workers' subjectivity and create a complementary relationship of "human-technology", it will be conducive to eliminating alienation and achieving free and comprehensive development of workers.

Keywords

New-technological Revolution; Workers; Subjectivity; Alienation.

1. Introduction

Since the industrial revolution in the 18th century, science and technology has increasingly become an important core driving force of the world's political, economic and social development. Looking at the industrial revolutions in human history, the new industries is not only greatly promoting the improvement of social productivity, but also further changing the relations of production and superstructure; improving people's living standards and quality of life, while profoundly guiding the development and changes of the world landscape.

However, with the further development of the new technological revolution, the advent of the era of Big data, the rapid development of a series of technologies such as AI technology, artificial intelligence, cloud computing, Internet+, genetic engineering, etc., have made the current science and technology increasingly penetrate into the social life when used by the actor subject - Human. Marx once pointed out, "The human nature of nature, or the natural nature of man, can be understood if industry is seen as a public display of the essential power of man." [1] He argued that science and technology first create the preconditions for man's further acquisition of the material means of production as the tools of labor. Thus, industry, or science and technology, is essentially the objectification of the essential power of man.

The ultimate purpose of scientific and technological development is to serve people. However, under the framework of capitalist relations of production, the progress of science and technology, while promoting the development of capitalist productive forces, has caused

further control and oppression of a large number of workers surviving under the capitalist system, especially causing the relative and even absolute poverty of the majority of workers. When the greed of capital, accompanied by the capitalist, the personified product of capital, unscrupulously increases the productivity of labor and seizes more profits, it will inevitably aggravate a series of outstanding social problems such as unemployment and declining wages. At this point, science and technology are no longer the direct products of the objectification of the essential power of human beings, but are restricted to the framework of capitalism and become the existence of capitalist productive forces. With the further development of science and technology, human intellect and skills, which originally functioned in the labor process, were gradually replaced by machines, so that workers gradually became "marginalized" and "alienated", and the original "harmonious interaction" between science and technology and human beings was gradually divided. The original "harmonious interaction" between science and technology and human beings gradually falls apart, and the subjectivity of workers begins to disintegrate, and is increasingly compromised with the progress of technology. Thus, in the framework of the capitalist system, "as soon as the means of labor appear as machines, they immediately become competitors of the workers themselves. The self-proliferation of capital by means of machines is in direct proportion to the number of workers whose conditions of existence are destroyed by the machines." [2] Marx hit the nail on the head: "The science realized on the machine is opposed to the worker as capital. And, in fact, all these references to science, to natural forces and to the mass of the products of labor, based on social labor, manifest themselves only as means of exploiting labor, as means of appropriating surplus labor, and, therefore, as forces belonging to capital and opposed to labor." [3]

Because of this, with the depth of the new scientific and technological revolution, the fundamental purpose of the entire capitalist production is still to obtain high profits and pursue surplus value continuously, rather than to provide services, seek welfare and increase value for laborers. At present, the rapid development of science and technology seems to free workers from the constraints of time and space, and they can freely perform odd jobs and enjoy the achievements of science and technology, but when science and technology become more and more an alien force, it will cause excessive pursuit of profit maximization in reality, and cause the damage of workers' subjectivity or even further loss, making the original "human-science-technology" "Subject-object" relationship. The original "Subject-object" relationship between "man and science and technology" will become "anti-subject", and the original instrumental existence of science and technology will gradually reduce man to a "tool existence", forcing Workers exploited by capital.

2. Overview of Alienation and Workers' Subjectivity

2.1. Alienation and its Characteristics

2.1.1. The Concept of "Alienation"

The term "alienation" is derived from the ancient Greek *Alloiosis* of the Ideal State. Plato described "alienation" as a state of "pious" religious activity. [4] During the Western Enlightenment, Hobbes argued for the need of a coercive institution (the state) to regulate and protect personal security, personal property, etc., and proposed that "alienation is the process by which we unconditionally cede to the state the natural rights of every human being". This view was opposed by the later French Jean-Jacques Rousseau. Contrary to Hobbes, Rousseau believed that "alienation" refers to the state in which "each man gives up his right to seize the property of others and acquires the right to keep his own property". Rousseau opposed both science and technology and the renaissance of literature, and in his treatise *On Science and Technology*, he focused on the idea that "as the light of science and art rises on the horizon, virtue fades away in his essay "On Science and Technology," he focused on the fact that "as the

light of science and art rises on the horizon, virtue fades away," and that man "is thus more and more corrupted by the perfection (of science and art). For this reason, he strongly opposed the development of science and technology and the revival of art, and advocated a return to the idea of "primitive nature" in an "age without technology". This view of Rousseau is unrealistic today, and people can never give up the development of science and technology and civilization and go back to the age of ignorance.

While Fichte was the first to coin the term "alienation," Hegel, the master of classical German philosophy, was the first philosopher to systematically discuss alienation, to introduce the concept of alienation and labor, and to argue for the dialectical development of consciousness, spirit, and nature and history. In Hegel's view, "alienation" means that the Active Subject, in the process of its own development, creates an individual--an object, which is "opposed" to itself due to its own contradictions; and this "alien" object, which is created by the subject, is the object of the subject. The "alien" object, in turn, acts as an external force to limit and bind the subject. Hegel focuses on the oppression and control of the subject by the externalized object, and further enriches this understanding in the *Phenomenology of Spirit*, depicting the gradual progress of consciousness from the "lower" to the "higher" level, from the "absolute spirit" to the "higher" level.

By examining the political and economic reality of capitalism, Marx, drawing especially on the essence of Hegel's ideas of "alienation" and the value of labor, argued that the root of all human alienation is the alienation of labor. This historical assertion provides a more realistic and in-depth definition of "alienation". Marx pointed out in *the Philosophical Manuscripts on Economics of 1844* that alienation "means not only that the fruit of his labor becomes an object, an external being, but also that his labor exists outside of him as something alien to him, and becomes an independent force opposed to him, meaning that he gives life to the object as something hostile and alien to him. opposed to him." [1] Marx points out that in private capitalist society, "the object produced by labor, the product of labor, exists as an alien being, as a force not dependent on and opposed to the producer, in opposition to labor." [1] This means that the product of labor produced by the worker as a subject becomes an independent and alien force opposed to the subject, but instead overrides the subject and becomes a being that controls and binds the worker, manifesting itself in the alienation of the worker from the product of labor, the alienation of the worker from labor itself, the alienation of the human-like nature from the human being, and the alienation of the human being from the human being.

Therefore, the word "alienation" reflects a state that is different from the normal productive life, deviates from the subject and even controls and binds the subject, but in fact it is still the alienation of man himself, the alienation of the worker himself. With the progress of science and technology, the products of the subject's activities do not always act in accordance with the subject's purpose, but may cause the subject to be overly dependent on the products of its activities or even to be overly dependent and "submissive", this is an obvious "alienation".

2.1.2. Characteristics of "Alienation"

First, "alienation" means "difference, renunciation or transference".

The word alienation, derived from the Latin Alienation, is used in the writings of St. Augustine to describe the distinction and transformation between "Man (Human Nature)" and "God (Divine Nature)". Although this view of "alienation" is far from the modern philosophical sense of "alienation" and even has the purpose of justifying religion to advocate human sacrifice, it also embodies the specific characteristics of the term "alienation" in another way. The term "alienation" has a specific characteristic of "distinction and transfer".

Grotius used the term "alienation" to express a transformation of rights. He argued that rights should be left to the state or to the king; this idea was later further developed by Hobbes and Locke. In *Leviathan*, Hobbes argues that because human nature is evil, man chooses to struggle

for a long time with the natural right to maximize his access to things in a state of scarcity, so that he is "lonely, poor, nasty, brutish and short-lived," and that the only way to maintain a balanced social state is to make a contract. This transfer and transformation of rights is called "alienation" by Hobbes. Rousseau, on the other hand, explaining "alienation" as a social phenomenon of self-divergence: the "alienation" of society formed by the divergence of man from nature and the "alienation" of man himself by the divergence of man from his inner nature. "alienation".

Secondly, "alienation" is characterized by "alienation, fragmentation, and obstruction".

Hegel's logic clearly shows the gradual transformation from "thinking", which is not yet prescriptive, direct and abstract, to "nothing", "quality and quantity", etc. along the lines of "theory of being - essence - concept". The "Theory of Being - Theory of Essence - Theory of Concept" clearly shows the progression from the as yet undefined, direct and abstract "thinking" to the essence through the stages of "nothing", "quality and quantity", and finally back to the "absolute spirit" itself. Hegel's thought reflects the very important view of "contradiction", emphasizing the need to look at everything in two. The original subject, due to its own contradiction, goes to its own opposite side, thus showing the power of "otherness".

Feuerbach believed that religion (God) is the alienation of man's essence, but "once God has concentrated man's essence, it becomes an external force or idol to be worshipped that rule and dominates man. [5] Feuerbach points out that the alienation of man's essence into religion is the severance of man from his essence; this "alienation" has manifested itself as a further obstacle to the development of man's essential understanding and self-awareness, and is the destruction of man's nature.

"Alienation" is also characterized by the "creation of antagonism, enslavement, control and domination of the subject".

Technological progress has more neglected the survival value of laborers themselves, and instead has resulted in the enslavement and control of laborers, making them deeply dependent on technology. Ultimately, the essence of the laborer is alienated into an alien power and faces the crisis of Subject-object inversion, and eventually the alienation of the subject leads to the weakening of subjectivity and even the risk of being dominated by the object.

2.2. Overview of Workers' Subjectivity and its Alienation

2.2.1. The Basic Connotation of Subjectivity

The ancient Greek philosopher Protagoras put forward the famous saying "Man is the measure of all things", which expresses the idea of putting people first and taking their subjectivity as the starting point, and the humanistic thinking born in the 14th ~16th centuries, which was opposed to the oppression and control of human nature by the feudal theocracy through the Renaissance movement by raising the banner of humanity. The "liberty, equality, and fraternity" of the Western bourgeois revolution further aroused people's awareness of subjectivity and emphasized the supremacy of human nature. Descartes' idea of universal doubt - "nothing is beyond doubt" - led him to deduce the first principle of "I think, therefore I am" and in "I think, therefore I am", the "I think" is the real subject of thought.

Although Kant does not explicitly refer to "subjectivity" in his work, he does use terms such as "subject" and "I" to refer to the subject. In his Critique of Judgment, Kant explains his "legislation" on three levels: "legislation for nature," "legislation for aesthetics," and "The fundamental premise of all this is that the legislator must be a free, unrestricted subject. "Man is the end, not the means."

Hegel's idea of subjectivity is an important category of his conceptual theory. "The concept is in any case always subjectivity itself". The concept "is something free, an entity force that exists as a self-conscious being". [6] Therefore, this subjectivity, as Hegel calls it, is never something

conditional and ready-made, nor does it depend on something else, but it produces itself, creates itself as a "free, creative activity", as a "completely free being". It is a "completely free existence". This subjectivity is the embodiment of the entity's own dynamism, and is ultimately reflected in the dynamism of human spirit and thinking.

In his book *Existentialism is a Humanism*, Jean-Paul Sartre, a representative of existentialism, rejects the idea that "essence precedes existence" and advocates that "existence precedes essence. He rejects the use of abstract categories to explain human subjectivity and criticizes Kant's theory of excessive "expansion" of the "purpose of knowledge" and unlimited worship of man himself; he believes that man should, by virtue of his own subjective choice and personal creative ability, constantly transcend himself in the face of the difficulties and unknown prospects of life and give concrete play to his subjective initiative. The subjective existence of the human being.

Marx said in the *Critique of Hegel's Philosophy of Law*: "Man is not an abstract dormant being living outside the world. Man is the world of man, the state, society." "Man creates religion, not religion creates man." [7] Marx profoundly criticized Feuerbach's one-sided understanding of "man", and advocated that man is never an abstract and empty being, and that his subjectivity is embodied in society and history. The *German Ideology* is a further interpretation and explanation of human subjectivity from the perspective of the materialist view of history, and finally clarifies the status and value of "human subjectivity", where Marx reveals that "real people" are the creators and pioneers of history.

Marx's exposition of human subjectivity includes his concern for the living status of workers and his human concern for their livelihood, happiness and freedom. In the *Philosophical Manuscripts on Economics* of 1844, Marx reveals the control and oppression of "alienation" on the workers themselves by specifying alienated labor, and points out that the subjectivity of workers can be realized only by eliminating alienation. Then, through the *Economic Manuscripts* of 1857-1858 and 1861-1863, Marx finally explored more details in *Capital*. Only through the ultimate realization of free and comprehensive development of human beings, free from the control of private ownership, and the full enhancement of the subjective consciousness and creativity of workers themselves, can the subjectivity of workers be finally realized.

2.2.2. Overview of the Alienation of Workers' Subjectivity

The alienation of the worker's subjectivity means that the subjectivity of the worker becomes blurred and abstract.

The alienation of the worker's subjectivity means that the subjectivity of the worker becomes blurred and abstract. What should be "free, conscious and autonomous" labor is "not one's own, but another's; it does not belong to him (the laborer), but to others". The worker's subjectivity is further blurred, and the worker himself cannot identify with his own value, let alone be identified with others and be further recognized and respected by society.

With the further development of industrial civilization, the intertwining and inseparability of science and technology with capital made the machine an instrument of exploitation and control of labor. Instead of emancipation of individuality, the workers themselves were "transformed into dull material forces" as "all discoveries and advances seem to result in giving rational life to material forces". The laborer became an appendage of the machine (technology). The subjectivity of the worker becomes even more blurred, and the excessive proliferation of instrumental reason leads to further erosion of "humanity", resulting in the fall of faith and the loss of values.

With the further development of science and technology, the ever-changing and exciting nature of information, data, and the Internet age has made the links between individuals and individuals, individuals and groups, and groups and groups of individuals in the past era even

stronger. Marcuse's formula of "progress = increase in social wealth = expansion of slavery" expresses the loss and destruction of human subjectivity; "The development of science and technology has served to justify ideology. While society is eliminating material scarcity, the power of domination by means of science and technology is increasing." With the progress of science and technology, the workers as subjects gradually empty their spiritual world and become more profoundly attached to science and technology; the subjects are submerged in the whirlpool of excessive consumption, money and "fetishism" and gradually turn into abstract entities; the absence and erosion of creativity, critical spirit and self-consciousness are also the further alienation of subjectivity. The absence and erosion of creativity, critical spirit and self-consciousness are also concrete manifestations of the further alienation of subjectivity.

3. The Alienation of Workers' Subjectivity in the Era of New Technological Revolution

3.1. Blurring and Reversal of the "Subject-object" Relationship

The study of science and technology and the subjectivity of human beings can be found in Plato's Protagoras in the Ideal State, which tells that the fire stolen by Prometheus for human beings is a kind of "technology" in Plato's view, and is a means of livelihood for human beings. Then Rousseau advocates a "technology-free age" and illustrates the idea of "a return to nature and a primitive age without technology" by examining examples in world history where the arrogance of great nations led to their eventual defeat in the struggle of small nations. Bacon proposed that "knowledge is power". He believed that the problems of "alienation" and "moral corruption" of human beings were due to human beings themselves, not to the development of science and technology.

Marx found the reality that "The more wealth the worker produces, the greater the power and quantity of his product, the poorer he becomes; the more goods the worker creates, the more he becomes a cheap commodity. The value added to the world of things is directly proportional to the devaluation of the world of men." [8] It can be seen that "man", who should be the subject, has reversed his position with "things", who should be the object: the product of labor produced by the worker, instead of belonging to the worker himself, is separated from the "subject". Instead of belonging to the worker himself, the product of labor produced by the worker is separated from the "subject" and forms the existence of "another subject". Further, with the development of science and technology, workers begin to fall into dependence on technology; technology is no longer a tool for workers to pursue their own emancipation and independence. Science and technology are in no way class-based, and are never in themselves capable of class oppression and labor control; however, science and technology necessarily serve their possessors. Engels also hinted, "Not everyone will benefit from the industrial revolution." When machines replaced manual labor and factories replaced manual markets, the roaring Luddite movement broke out. Yet this in no way conceals the profound labor-management contradiction relationship behind it as technology is caught in the vortex of capital and used by capital as a tool and means to gain greater profit, it inevitably increases its control over labor as capital continues to raise labor productivity and pursue greater profit. As Marx once said, "Everything seems to contain its own opposite... machine (technology) has the magical power to reduce human labor and make it more productive, yet it causes hunger and overwork." [9] When science and technology "turn the tables" and become a tool to control workers, it may cause the "destruction" of workers. It can be seen that once science and technology are mastered by specific capital, the workers themselves, who are originally the subjects, and the objects, that is, the products of science and technology, form the possibility of blurring or even reversing the "Subject-object" relationship; the workers themselves are controlled by science and technology, or even become the "slaves" of science and technology. The workers

themselves are controlled by science and technology, or even become "slaves" of science and technology, which has become a phenomenon and a profound reality that needs extra attention in the era of new scientific and technological revolution.

3.2. Crisis of Workers' Subjectivity in the Era of New Technological Revolution

First of all, workers in the era of the new technological revolution are facing a new status quo that is different from the previous technological revolutions. In the era of big data, in which "everything can be data-driven", the gap between the rich and the poor has become more diverse and differentiated. Under the impact of digital divide and data poverty, the subjectivity of workers is being reduced to a new type of "digital poor". The subjectivity of workers is further dissolved and weakened, and workers themselves are alienated into the materials of data. Big Data is trying to obtain workers' personal information by all means, and it is taking workers' personal data for free so as to obtain benefits more precisely; the endless smart products and smart systems in the era of new technological revolution have put forward higher requirements for workers, which means that the sectors of producing and consuming materials are greatly replaced by new technologies. Workers who lack data awareness, are not prepared with the appropriate skills, or even lack basic education will face a new round of elimination. The huge differences and unfillable gaps caused by digitization make the subjectivity of workers significantly violated, and even forced to depend on the new technology of the new technological revolution, and further lose the weakened sense of subjectivity, and become the "slaves" of science and technology and "controllers". "

Furthermore, Marcuse argues that "there is a 'False Need'" that leads people to unconsciously pursue material needs as their most essential needs. The new technological revolution is providing great convenience to human beings, making workers unconsciously fall into the "Honey Trap". Because the more the material needs of workers are satisfied, the easier it is for them to become the objects of control of science and technology and the objects of taming capital. However, what we need to pay extra attention to is that it is not science and technology itself that is deepening the "alienation" of workers' subjectivity. Science and technology without class are still neutral, and behind them lies the contradiction between capitalist production and consumption, between the monopoly bourgeoisie and the proletariat, and between the capitalists and the workers. If science and technology are still confined to the framework of capitalist relations of production, they cannot escape from the quagmire of capital; the new scientific and technological revolution seems to be "never-ending" and "of great potential", but it will eventually be dragged down and limited by capitalist relations of production. The new technological revolution provides workers with a seemingly free "platform" and "casual labor economy", but it does not need to provide fixed workplaces, fixed expenses and even necessary contracts and regulations as in the era of industrial civilization with big machines. The hidden exploitation has further weakened the subjectivity of workers, and even aggravated and dissolved them in a silent process. In addition, the "Matthew effect" has been more thoroughly manifested in the era of the new technological revolution. The emerging Internet giants are using various ways to consolidate their existing economic and political positions, while small companies, even if they are suffering, can hardly survive under the control and influence of the Internet giants and eventually must face the crisis of being acquired or simply disappearing into bankruptcy. At the same time, the giants with huge traffic capital will cleverly use public opinion communication to "create momentum" for themselves, and the hired "water army" "fans" and "marketing numbers" further sever the subjectivity and discourse rights of workers, causing them to be lost in the "tender land" of technological products.

4. The Opportunity to Rebuild Workers' Subjectivity in the Era of New Technological Revolution

The new scientific and technological revolution is an irreversible trend of the times. We cannot stay away from it and return to the "technology-free" primitive natural era as Rousseau imagined. To a certain extent, the era of new technological revolution also provides certain opportunities for rebuilding the subjectivity of workers.

4.1. Based on the Requirements of the "Productive Forces - Relations of Production" Change

Marx said that Science and Technology is the Productive Force. He also pointed out that "the productive forces it (the bourgeoisie) has developed are much more powerful than those developed in all previous epochs..." [10] and noted that "When the means of production and the means of exchange on which the bourgeoisie was formed developed to a certain extent, its feudal ownership relations were no longer adapted to the developed productive forces " [10] Marx is also had a classical formulation of the relations of production, saying that "people have certain, necessary relations in the social production in which they live, relations of production which do not depend on their will power, that is, relations of production which correspond to a certain stage of development of their material productive forces." [11] Any social productive forces need to exist, operate, change and develop within certain social relations.

The dual role of science and technology for the capitalist mode of production, as Marx had revealed, refers to the fact that on the one hand science and technology, by virtue of being introduced into the capitalist production process, becomes a powerful weapon for capital to increase its value and oppose workers' resistance; but at the same time, capital mobilizes all the forces of science and nature, which must be constantly adjusted and innovated through the source, "Unless there is a constant revolution in the instruments of production, and thus the relations of production, and thus all social relations, are constantly revolutionized, it cannot survive." [12] This reveals the fundamental contradiction that capitalism cannot eradicate and avoid. Private ownership under the control of capital cannot, in any way, eradicate the gap between rich and poor and eliminate polarization. As long as capital continues to expand production in a disorderly manner and create greater wealth through science and technology, it will never be able to avoid the outbreak of crisis. This creates conditions and opportunities for the proletariat to overthrow the bourgeoisie, eliminate private ownership, and realize the return of the subjectivity of workers.

The high speed of the new technological revolution era is in no way free from the historical existence of the workers themselves.

The invention of the new technological revolution and the popularization of the Internet, cloud computing and big data have realized the visualization, data and production, transmission and sharing of information to a higher degree. In traditional societies, because of geographical barriers and scattered power, it was difficult for workers to resist the technological system under the control of capital for a long time, or even to express their voices and opinions; the rapid development of the new technological revolution has created conditions for workers to centralize their right to express their voices, and even workers can independently enter production and participate in value creation and product innovation. The development of the new technological revolution has innovated flexible employment channels and broadened employment channels. Various resources are updated and transmitted through the Internet in a timely manner, so workers can make diversified choices according to their own conditions and gradually explore their own values in the process, and have a deeper understanding of personal subjectivity. The innovative "crowdsourcing" model, which maximizes the quality and skills of professional or non-professional workers, has greatly reduced production costs while

enhancing the willingness of workers to work and realizing the vision of Marx and Engels: "No one has a special scope of activity, but can develop in any sector, and society regulates the whole production, thus makes it possible for me to do this today and that tomorrow as I like, to hunt in the morning, to fish in the afternoon, to engage in animal husbandry in the evening, and to engage in criticism after dinner "[13]

4.2. The Return of Humanism and the Liberation of Human Beings

An important reason for the endless vitality and spiritual vigor of Marxism is that it is never free from the reality of "human beings" and always fights for the complete emancipation of workers; it is never a utopian vision or an unrealistic fantasy, but is placed in the real world and strives to explore the most realistic means to realize the freedom and liberation of all human beings. It is never a utopian vision or an unrealistic fantasy, but rather a realistic search for the most realistic means to achieve the liberation of all human beings.

The rapid development of the new scientific and technological revolution has, to a certain extent, outlined the initial blueprint for finding the communist ideal of freedom. The development of science and technology has provided a more multifaceted support and promotion role for the enhancement of workers' subjectivity. On the one hand, the progress of science and technology makes workers begin to improve themselves and hold on to the needs of the times, thus greatly mobilizing their subjectivity and practical ability and means; on the other hand, science and technology provides workers with more opportunities and time for self-improvement from the tedious working environment. Marx once pointed out in the Economic Manuscripts 1857-1858 "The individuality is freely developed, so that, instead of reducing the necessary labor time in order to obtain surplus value, the socially necessary labor is directly reduced to a minimum, and then, in line with this, as a result of freeing up time and creating means for all, the individual will be in the arts, sciences, etc. development in the arts, sciences, etc." [14] As can be seen, this greatly liberates workers from the heavy pressure and work, and relatively more autonomy in arranging their time, thus contributing to the improvement of their own quality, promoting the rational arrangement of their work demands in accordance with their own interests, and moreover enhancing their sense of self-subjectivity and their ability for all-round development.

When people are able to break away from the shackles of the mechanized work of the past, in addition to self-improvement and rest and recreation, it is possible to improve the "alienation" of workers to a certain extent and to achieve, as Marcuse puts it, "the ideal conditions in the name of mature industry, where labor is all automated In the ideal conditions of mature industry, all labor is automated, labor time is reduced to a minimum, and labor functions are interchangeable, so that these end the state of alienation." [15] In this sense, the further development of the scientific and technological revolution will further promote the improvement of workers' subjectivity on the basis of raising the level of productivity, which will help workers to reassess their own value and raise their subject status, and will help to reconceptualize the relationship between workers and science and technology, thus creating conditions for solving the past "alienation" and other This will create the conditions for solving the past crisis of "alienation" of workers.

In his speech at Tsinghua University, Zou Guangwen expressed with affection that "'the complete man' was Marx's vision. Man is a purposeful being who cannot endure a rootless life, but must always find a reason for living in the complicated world of experience", and this "reason" and "root" is " The "reason" and "root" is "the unity of science and technology and humanism". The new scientific and technological revolution has given workers an inch of space to find inner peace and regain their subjectivity, and science and technology have freed workers from the fierce means of earning a living in the past, and have instead fought for more leisure time to achieve workers' freedom, physical and mental health, and quality improvement. enrich

individual quality, formalize the real needs of the heart and soul, and realize the real value pursuit of the worker's heart.

According to Marx, "Communism is the 'Association of Free Men'". The basic prerequisite for the realization of communism is that workers can truly become "free men", produce for themselves, liberate themselves from the heavy and oppressive machine labor, and ultimately achieve a great enhancement of individual subjectivity. The representative technology of the new technological revolution will reshape the relationship between human beings and technology, rationalize the combination of human beings and machines, and thus promote the free emancipation of workers, which will make it possible to realize Marx's vision of "replacing the conditions of production in which labor is enslaved with conditions of free and united labor" and pave the way to communism.

5. Conclusions and Recommendations

5.1. Adhere to the "People-oriented", Enhance the Main Awareness

To enhance workers' awareness of the subject and eliminate subject "alienation", on the one hand, extra attention needs to be paid to the research and development of technology ethics. Science and technology in the era of the new technological revolution must ensure that workers are always in the dominant position, and any development of science and technology must not be at the expense of enslaving, controlling and eroding the subjectivity of workers, and must strictly abide by the bottom line of technology ethics, assess the harm and value impact of science and technology on the subjectivity of workers, and guarantee that science and technology are always People-oriented and take the interests of the general public as the starting point.

On the other hand, we must adhere to the principle of human-centeredness and guide the establishment of workers' correct outlook on life and values. The relationship between subject and object must not be reversed, and the weakening of subjectivity by the "object" of science and technology must not lead to moral decline, lack of rights, and blurred humanism; workers must not be controlled by science and technology, and the "object" of science and technology must not replace the subject of workers. Workers must not be controlled by science and technology, and the "objects" of science and technology must not replace workers as subjects. While workers are concerned about the great material wealth brought by science and technology, they should also pay special attention to the great harm done to their subjectivity and humanism by the instrumental rationality of the original scientific and technological products. To ensure that science and technology must serve the people, safeguard the long-term interests of the people, and adhere to the bottom line of workers' subjectivity; to protect workers' labor intensity, labor time, and labor rights and interests at the level of policy system, laws and regulations, to avoid capital-controlled technology from controlling and exploiting workers in turn, to carry out "People-oriented" policies "We should protect the workers' subjectivity and guide them to give full play to their initiative and realize their freedom and emancipation in the era of new technological revolution.

5.2. Guide Science and Technology, Harmonious "People - Technology" Relationship

The alienation of workers' subjectivity is by no means an inevitable product of the rapid development of science and technology. Science and technology have never had class attributes, but in the final analysis, the "alienation" of workers' subjectivity is still caused by capital's increasingly strong control over science and technology in the field of production. With the deepening of economic globalization, science and technology has become an inaccessible force to enhance the comprehensive national power and lead the social transformation of the country,

therefore, it is necessary to guide science and technology correctly. To this end, we should actively respond to the new challenges brought by science and technology, and strengthen the regulation and guidance of science and technology. In the face of the digital, networked and intelligent impact brought by the development of the new scientific and technological revolution, "human-machine conflict" and "new Luddism" often emerge, information security and personal privacy protection face the impact of new technologies, and workers are often lost in the abyss of technology, which brings some impact to the current regulation has certain impact. Therefore, in order to cope with the new technological revolution may bring a new round of data risks and harm to workers' personal privacy and information security, legal guidance and regulatory system setting is very necessary.

The correct guidance of science and technology is conducive to giving full play to the harmonious development of "human-technology" and creating a new form of "human-machine complementarity". Once the organic combination of human and science and technology, it can not only enhance the subjectivity of workers, but also further improve the practical ability and level of practice of the subject in reality. Once people rely more and more on science and technology, making the subject's creativity gradually weakened, and even imagination, labor ability, etc. also tends to dissolve, then human subjectivity and human nature will face further weakening, "alienation" will be more obvious.

The new technological revolution is a historical trend that cannot be avoided. The classical writers of Marxism envisioned a broad blueprint for all workers to achieve communism and pursue the free development of their personalities. All the advanced technological developments of the new scientific and technological revolution are for the people and for all workers. It is subject to the constraints of capital, science and technology from the essence of human, but rather control and domination of workers, the subject and object of workers and even inverted and "alienated", so that workers cannot really experience the value of human existence and the profound meaning of humanity in the era of the new technological revolution. In this regard, only by strengthening the guidance of science and technology and safeguarding the legitimate rights and dignity of workers can we rebuild the subjectivity of workers, eliminate the exploitation and control of workers by the capitalist mode of production, finally realize the unity of science and technology and humanistic care, and promote the restoration and enhancement of the subjectivity of workers.

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