

Alienation of Workers' Conditions of Existence under "Transitional Labor" in the Platform Economy

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Abstract—By reorganizing labor through digital platforms, algorithms, and data, the platform economy has placed a growing number of workers who depend on platforms for employment in a persistently unstable position between conventional employment and self-employment. Focusing on food-delivery couriers, ride-hailing drivers, and comparable platform workers, this article combines the Marxist view of technology and the theory of alienated labor with perspectives on mediatization and datafication to examine how platform algorithms act upon workers' bodies, time, and products of labor. The analysis yields three findings. First, the smartphone application functions as a labor interface that integrates task allocation, navigation, timing, evaluation, reward, and punishment into an executable system of real-time management, translating embodied practice into comparable and calculable data. Second, algorithmic opacity and quantified evaluation constrain workers' access to information, negotiation, and appeal, converting the flexibility claimed by platforms into less visible control over the labor process. Third, data generated by workers are continuously fed back into algorithmic models, raising efficiency benchmarks and creating a recursive sequence in which faster work produces "better" data, which then produces stricter standards. This process intensifies the alienation of the laboring subject, the product of labor, and the boundary between work and life. Platform-labor governance must therefore move beyond individualized protection toward institutional correction by strengthening collective bargaining, improving algorithmic transparency, recognizing workers' data rights, and reforming value distribution so that technological development once again serves workers' autonomous development.

Keywords— Platform economy; transitional labor; algorithmic discipline; labor alienation; datafication.

I. INTRODUCTION

The convergence of digital technology, artificial intelligence, and the mobile internet has turned digital platforms into crucial infrastructures for organizing production, connecting supply and demand, and allocating labor. A platform is not merely a technical tool. It is also an institutional medium through which new relations of production and power are constituted; within digital capitalism, it has increasingly become a vehicle for organizing labor and realizing capital accumulation [1].

At the level of everyday life, ride-hailing, food-delivery, and domestic-service platforms connect consumers with service providers through location tracking, task allocation, rating, and payment systems, substantially reducing the costs of matching and exchange. At the same time, employment opportunities are displayed through interfaces, distributed by

algorithms, and assessed with data. The platform is therefore both a channel of information exchange and the site at which labor relations take shape: through apparently neutral technical procedures, it determines who receives a task, how work is performed, and what kinds of labor become measurable and payable.

Sun Ping describes the position between conventional employment and highly automated labor as "transitional labor" [2]. Food-delivery couriers, ride-hailing drivers, and similar workers appear to retain the freedom to log on, log off, and accept tasks, yet they simultaneously face weakened employment relations, fluctuating income, individualized risk, and intensifying workloads. "Transition" does not necessarily indicate movement toward freer labor. Rather, it names a durable condition in which labor institutions, technological organization, and rights protection have not developed at the same pace.

Existing scholarship has often exposed platform exploitation through the lenses of employment relations, labor protection, or political economy. This article turns more directly to the algorithm as a mechanism of mediated management. It asks: How do platforms reorganize labor through interfaces, data, and algorithms, and how does this reorganization produce new forms of alienation in workers' conditions of existence? The discussion proceeds from the social character of technology to the datafication of labor, its alienating consequences, and possible governance responses, thereby connecting the Marxist critique of labor with communication research on platforms.

II. THEORETICAL FRAMEWORK: TECHNOLOGY, MEDIA, AND LABOR FROM A MARXIST PERSPECTIVE

(1) The Social Construction of Technology and Algorithmic Power

The Marxist view of technology does not treat technology as a neutral object detached from social relations. Science and technology can increase productivity and expand human practical capacities, but their social consequences depend on who controls them and which relations of production they serve. In *Capital*, Marx identified the dual character of machinery: it can raise labor productivity, yet under capitalist domination it can also become a means of controlling workers and reducing them to appendages of the machine system [3].

In the platform economy, machine control has not disappeared; it has been extended through algorithms, interfaces, and data infrastructures. Algorithms encode platform objectives into priorities for task allocation, estimated delivery times, service ratings, and reward-and-penalty rules, which applications continuously communicate to workers. Algorithmic operation is not a form of technical rationality independent of social relations but a rule system jointly shaped by the imperatives of capital, organizational institutions, and computational logic. Analysis must therefore move beyond efficiency to ask who defines the rules, who bears the risks, and whether workers can participate in negotiating those rules.

(2) Labor Alienation and Its Digital Extension

In Marx's account, labor should be an objectifying activity through which people affirm their capacities, form social relations, and pursue free development [4]. Under private ownership and the logic of capital accumulation, however, workers may become alienated from the product of labor, the laboring activity, their species-being, and other people [5]. Alienation is not simply a subjective sense of discomfort; it is a social relation in which workers lose substantive control over the conditions, process, and results of their labor.

Transitional labor gives this classical proposition a digital form. Platform workers are not confined within a factory but move among urban roads, commercial spaces, and digital interfaces. They appear to enjoy considerable spatial mobility, yet they must continually respond to system instructions. The appearance of autonomy coexists with algorithmic control, producing structural tensions between "freely accepting" and effectively having to accept tasks, and between "flexible scheduling" and remaining perpetually available.

Temporally, platforms divide waiting, movement, response, and service into recordable units and reorganize work rhythms through countdowns, peak-hour incentives, and logged-on time. The boundary between work and nonwork consequently becomes porous, while individual labor time is incorporated into real-time platform calculation. Under conditions of digital existence, waiting time that was previously difficult to measure can be transformed into labor time governed by the platform [6].

At the level of production relations, digital technology increases capital's visibility into and capacity to intervene in the labor process. Altenried uses the idea of the "digital factory" to describe a center-periphery mode of organization in digital production [7]: capital and the platform occupy the center of rules and data, while dispersed workers operate around that center. Algorithms thereby extend the subsumption of labor from control over outputs into control over process, integrating time, performance evaluation, and income distribution within a single datafied system. Exploitation becomes more continuous and less visible [8].

III. ALGORITHMIC DISCIPLINE: THE DATAFICATION OF THE BODY THROUGH PLATFORM MEDIATION

(1) Interfaced Labor: The Smartphone Application as an "Electronic Foreman"

For platform workers, the smartphone application simultaneously serves as the gateway to work, a task allocator, a navigation tool, a channel for communication and evaluation, and a system for wage settlement. Order countdowns for couriers and route and rating prompts for drivers do more than display information: at the interface level, they prescribe sequences of action and distribute attention. Supervision and coordination once performed by factory managers are partly transferred to a portable, continuously connected digital terminal. In this sense, the application exerts the organizational effect of an "electronic foreman."

Interfaced labor further datafies the body. Location, speed, waiting time, route deviation, and customer evaluations are continually recorded, while vision, hearing, and bodily movement are reorganized around navigation and system prompts. The body is no longer only the material vehicle through which a service is delivered; it also becomes an interface for continuous data collection. Through technical mediation, platform capital penetrates workers' perception and action, incorporating embodied practice into a system that can monitor and predict it [9].

Data collection does not end with documentation. Data enter algorithm training and business decision-making. Platforms use historical trajectories to refine maps, predict duration, and adjust allocation and pricing, extracting accumulated worker knowledge into platform-owned data assets. Yet while value accumulates on the platform side, the workers who generate the data usually lack rights to know, access, or share in the resulting revenue. Workers thus provide services and produce the data required to improve algorithms; once their experience has been technologized, it returns as a new standard that constrains them.

(2) Algorithmic Opacity and Platform Power

The force of platform control is closely associated with algorithmic opacity. Workers can observe allocation outcomes, changes in ratings, and the consequences of penalties, but rarely gain access to the complete logic of allocation, pricing, or account sanctions [2]. This asymmetry is more than a gap in information. It reflects unequal power to make and interpret rules: platforms can continually adjust parameters, while workers infer those rules from limited feedback and modify their behavior to accommodate the system.

Collective action by ride-hailing motorbike drivers in Hanoi provides an illustrative case. In March 2023, drivers working through the Be platform protested not only commission rates but also the system's erroneous identification of alleged fraud, account suspensions, and delays in appeal. Fairwork described the action as the first documented driver protest in Vietnam's platform economy directed explicitly against algorithmic management [10]. The event demonstrates that when automated decisions lack transparent explanations, human review, and effective appeal, technical problems rapidly become conflicts in labor relations.

IV. DEEPENING ALIENATION: THE CONDITIONS OF EXISTENCE OF TRANSITIONAL WORKERS

(1) *The Erosion of Laboring Subjectivity*

Platforms construct an appearance of autonomy through “free task acceptance,” but service scores, mobility scores, safety scores, acceptance rates, and other indicators continually restrict the worker’s field of choice. Rejecting a task, deviating from a route, or failing to meet a deadline can reduce task allocation, downgrade benefits, or cut income. Couriers depend on systems for orders while being continuously driven by countdowns and ratings. To avoid lateness and negative reviews, some reduce rest, travel faster, or even subordinate road safety to efficiency metrics [2]. Subjectivity is therefore not removed in a single act; it is progressively ceded to system objectives through a succession of constrained micro-decisions.

Control is also internalized through gamification. Rankings, task-completion bonuses, status badges, and staged challenges package work intensity as proof of competence and self-improvement. To reach platform-defined goals, workers voluntarily extend their logged-on time and exceed bodily limits, turning external discipline into self-discipline. The illusion of “labor justice” under digital capitalism conceals control and appropriation behind appearances of autonomy, equality, and sharing [11].

(2) *The Datafied Reversal of the Product of Labor*

Alienation from the product of labor appears in the platform economy as a datafied reversal. In industrial labor, commodities produced by workers confront them as alien powers. In platform labor, workers generate routes, durations, evaluations, and patterns of conduct as they provide services. Once detached from the individual worker, these data are aggregated and modeled by the platform before returning to the workplace as new managerial rules.

Data thereby become resources for capital accumulation. The more frequently workers and users act, the richer the platform’s data and the stronger its capacities for prediction, pricing, and control. Digital commodities are not only external products of labor; they can intervene in workers’ trajectories and information environments, increasing their dependence on digital capital [12][13]. Appropriation of the product and control of the process consequently form a closed loop within the platform system.

Delivery-time estimation illustrates the mechanism. A platform can identify the fastest completion time for a route from extensive historical records and update its expected delivery standard accordingly. Individual workers accelerate to avoid penalties, and their “excellent” data enter the aggregate model, tightening the next round of standards. Effort at the individual level does not necessarily produce greater autonomy; instead, it can generate higher performance demands for the whole workforce. The result is an efficiency ratchet: faster labor produces better data, better data produce higher standards, and higher standards accelerate labor again.

Within this feedback loop, route knowledge, service experience, and time saved by workers are not primarily used to reduce their burdens. They are absorbed by platforms as

means of strengthening control and extracting relative surplus value. Digital technology’s penetration of time and space shifts exploitation from an overt extension of working hours toward fragmented, continuous, and self-propelled appropriation of time and space [14]. Alienation from the product and alienation of the subject thus reinforce one another.

V. GOVERNANCE: FROM TECHNOLOGICAL ALIENATION TO TECHNOLOGY FOR SOCIAL GOOD

First, dispersed workers must be reconnected through collective relations that support expression and negotiation. The mobility and individualization of platform labor weaken stable connections among workers and make algorithmic rules appear as fixed conditions to which individuals must adapt. Trade unions, industry associations, and online mutual-aid networks can turn scattered experiences into collective demands concerning pay, working conditions, data use, and appeal. Only when workers can discuss rules, evaluate platform governance, and sustain negotiation can the recovery of subjectivity move beyond moral exhortation [11].

Second, law and institutional policy must clarify the rights attached to transitional labor. Governance should not focus only on formal worker classification but also cover working time, occupational safety, algorithmic explanation, review of automated decisions, and personal-data processing. Rules that materially affect allocation, income, and account rights should be explained in intelligible terms and supported by stable appeal channels and necessary human intervention. Waiting, logged-on time, and peak-hour work also require time-and-pay standards suited to platform labor [15].

Finally, distributive justice must be embedded in algorithm design and data governance. Workers provide immediate services while continuously generating data that improve platform efficiency; value distribution should therefore not be based solely on individual orders. Algorithmic audits, recognition of data rights, mechanisms for sharing gains, and worker representation can correct the one-way concentration of data value on the side of capital. Distributive justice is a historically situated institutional arrangement connected to specific modes of production [16]. In digital society, it also requires technical systems to respond to fairness, explainability, and human development [17]. Technology for social good does not require abandoning algorithms; it requires subordinating efficiency objectives to labor rights and public values.

VI. CONCLUSION

Transitional labor in the platform economy is not merely a temporary stage in a natural progression from conventional work to an automated future. It is a structural condition produced by the uneven development of technological organization, capital logic, and institutional protection. Through application interfaces, platforms embed labor commands in everyday action; through data collection, they convert bodies and time into calculable objects; and through algorithmic models and quantified evaluation, they return workers’ products as new performance standards. The

interfacing of labor, the opacity of managerial rules, and the datafication of labor products together form a chain of platform-labor alienation.

The analysis shows that the progressive and controlling capacities of technology are not separate but unfold together within particular relations of production. Governing platform labor requires the protection of individual safety, income, and data rights, as well as institutional change to workers' long-standing exclusion from rule-making. Because this article relies primarily on theoretical analysis and a secondary case, it cannot fully capture empirical variation across platforms, regions, and occupational groups. Future studies may combine in-depth interviews, digital ethnography, and platform data to examine how workers interpret, negotiate, and resist algorithmic rules. Only by placing workers at the center of technical design and institutional arrangement can platform technology be transformed from an instrument of labor control into a condition for autonomous and comprehensive human development.

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