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Tosaka Jun and the Question of Technology

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Tosaka Jun's theory of technology is the systematic focus of his entire philosophizing in which various aspects and topics of his thought converge. While it represents a major development in his theory of science, something which concerned him since the beginning of his career, this theory, as a central category of his materialism, provided the principle for his ideological critique of the Kyoto School of philosophy. Moreover, it is significant that his last publications addressed the question of technology. In other words, the theory of technology lies at heart of his philosophizing.

It is fair to say, however, that his theoretical standpoint was restricted by two major problems: "traditional Marxism" and an "ontology of presence." Therefore, it is necessary to critically examine these problems. At the same time, however, in view of today's discussions of "immaterial labor" and the "general intellect," I will argue, his theorizing appears in a surprisingly new light. While I will be arguing that his theory of technology is in part problematic, I hope to show that these difficulties contain insights which are worthy of further reflection.

Ontology of the "Technical"

In a series of essays published in *Gijutsu no tetsugaku* (*Philosophy of*

Technology, 1933), Tosaka Jun analyses various forms of technique and technology in general.[1] Tosaka begins by pointing out the fact that the term "*gijutsu*" in common language refers to "tools" and "machines" on the one hand, and to "skills" and "methods" on the other.[2] Suggesting the elusiveness of the "vernacular word" (*zokugo*), he elsewhere rephrases it as the "phenomenon of technique" (*gijutsu genshō*). Moreover, Toaksa names it as "*gijutsu teki na mono*" (the technical) or "*gijutsusei*" (technicality) in a way somewhat reminiscent of the Heideggerian language.[3]

In order to pin down this everyday concept, he then practices a *diairesis* of the term, dividing technique in terms of its "mode of being" (*sonzai yōshiki*) first into "subjective" and "objective" types, and then the subjective type further into the "ideational" (*kannen teki*) and "material." In this scheme, therefore, material technique can have both subjective and objective aspects.[4] On the other hand, he assigns the objective type to the material alone. In other words, he excludes the possibility for an ideational *and* objective technique, and for an ideational *and* material technique.

In making these distinctions, furthermore, he posits a certain hierarchy between the binaries:

> Without any exception, *actual* (*genjitsu teki*) technique always has a certain *objective* mode of being within certain relations of production and social organization. This represents the *material* moment of technique. Its *ideational*, *subjective*, and *potential* (*kanō teki*) moments obtain their own concreteness only as something that should be

1. Tosaka Jun, *Gijutsu no tetsugaku* (Philosophy of technology, originally published in 1933), in *Tosaka Jun zenshū* (Collected works), vol. 1 (Tokyo: Keisō shobō: 1966), 229-297. Hereafter the page numbers of *Philosophy of Technology* are put after the quotes in the text.
2. Here he is paying attention to the everyday use of the language rather than providing a rigid definition of technique or technology from a dogmatic standpoint. Despite his harsh criticism of "hermeneutics" as a contemporary form of idealism, he does not neglect rhetorical dimensions.
3. See Tosaka Jun, *Nihon ideorogīron* (The Japanese Ideology, originally published in 1935) in *Tosaka Jun zenshū*, vol. 2 (Tokyo: Keisō shobō: 1966), 388-9; see also Tosaka Jun, *Kagakuron* (Theory of science, originally published in 1935) in *Tosaka Jun zenshū*, vol. 1, 192.
4. See Tosaka, *Gijutsu no tetsugaku*, 255.

> mediated to material, objective, and actual moments, or has already been mediated. (236-7)

To be sure, Tosaka does not exclude the possibility that ideational, subjective and potential moments of technique can affect reality through a certain "mediation." From his standpoint, however, the primary determination of technique lies in the objective mode of being, while its subjective and ideational mode of being is secondary and even passive as something to be mediated.

What Tosaka is claiming here is a paradigmatically "ontological" standpoint that affirms the primacy of the present and actual reality.[5] For Tosaka, this presentist ontology of technology provided the important principle for criticizing idealist and hermeneutic philosophies such as Nishida Kitarō's "logic of nothingness," because the very failure of the latter, he believed, lies in its sheer inability to affect actual reality.[6] On the contrary, those categories based on the actual ontology, he claims, possess technical and technological effectiveness. Interestingly whereas, for most contemporary Marxists the opposition between materialism and idealism represented the final ideological instance, the opposition, for Tosaka, is regarded as a consequence of a prior ontological decision.

For a more specific apparatus for a social scientific analysis of technology, however, Tosaka turns to "historical materialism" which claims that the material base of the "forces and relations of production" determines the "superstructure," including the ideological formations. Starting with this formula, he not only locates technology primarily within the infrastructure, but also believes in the "progress" of technology leading to the increased forces of production and, thus, emancipation of the working class. In these respects, Tosaka's point of departure may seem to come close to what Moishe Postone calls "tra-

5. In fact, he himself employed the term "ontology" since his first book *Kagaku hōhōron* (Methodology of science) (1928), which in part was a response to Heidegger's *Being and Time*. It is significant that Tosaka's so-called "transition to materialism" was preceded by, and took place as a result of, his ontological questioning.

6. See Tosaka, *Nihon ideorogī ron*, 331-6; Tosaka, *Gijutsu no tetsugaku*, 263-4.

ditional Marxism," one of whose dominant features is "productivism" and "technological determinism"; it identifies the "forces of production" with the industrial mode of production and understands the latter "as purely technical process, intrinsically independent of capitalism."[7]

As I will argue, however, Tosaka's neatly delineated categorical distinction and hierarchy between actuality and potentiality, the material and the ideational, as well as the schema of the base/superstructure, turns out to be untenable. The ideal (ideational) and the material are neither separable nor reducible to each other, which entails necessary confusion or fusion of the opposites. There are only "ghostly demarcations" between them. Hence, the necessity to introduce something like the "spectral." As Jacques Derrida says, "one must perhaps ask oneself whether the *spectrality effect* does not consist in undoing this opposition, or even this dialectic, between actual, effective presence and its other."[8] What Derrida describes about Marx's ontology seems to hold just as true of Tosaka's:

> [E]ven as he remains one of the first thinkers of technics, or even, by far and from afar, of the tele-technology that it will always have been, from near or from far, Marx continues to want to ground his critique or his exorcism of the spectral simulacrum in an ontology. It is a—critical but pre-deconstructive—ontology of presence as actual reality and as objectivity.[9]

To be sure, Tosaka, unlike other orthodox Marxists, did not make any strong ontological commitment reducing the ideal (ideational) into the material, which in fact invited their criticism against his "idealistic deviation." But, as far as Tosaka's principle of ideological cri-

7. Moishe Postone, *Time, Labor, and Social Domination: A Reinterpretation of Marx's Critical Theory* (Cambridge: Cambridge University Press, 1993), 9. Postone's rigorous reconstitution intends not only to show "that Marx was *not* productivist," but also "how Marx's theory itself provides a powerful critique of the productivist paradigm." See ibid., 17.

8. Jacques Derrida, *Specters of Marx: The State of the Debt, the Work of Mourning, and the New International*, trans. Peggy Kamuf (New York/London: Routledge, 1994), 40.

9. Ibid., 170.

tique is concerned, such "pre-deconstructive" ontology is predominant in his writings. At the same time, it is precisely Tosaka's logical analysis itself that reveals these hierarchical binaries to be deconstructible. In other words, it is in his very text where the openness and even the "spectrality" of the ontological decision are inscribed. Therefore, it is my contention that Tosaka's considerations show crucial inconsistencies and ambiguities in a way to critically undermine both the "ontology of presence" and "technological determinism."

There is yet another twist in our discussion of Tosaka's ontology. Paradoxically enough, it is precisely in the ruptures of ontology that Tosaka's philosophizing reveals its tremendous potentials for critically examining today's social conditions. As I will show in my reading, Tosaka's discussion of technology virtually overlaps and anticipates what is discussed today under the rubric of "general intellect" and "immaterial labor."

It was Antonio Negri who took issue with Derrida's spectrality with the notion of "immateriality." While acknowledging that the old Marxist ontology based on the dichotomy is "out of date," he points out that capital as the movement of abstraction is inherently metaphysical. "Spectral reality of the world produced by capital"[10] develops not only in the forms of value, money, and, notably, technology, but also leads to "the experience of a mobile, flexible, computerized, immaterialized and spectral labor."[11] Even if the "law of value" is no longer working, "the law of surplus-value and exploitation is, in any case, constitutive of the logic of production."[12] He says:

> Today, exploitation, or rather, capitalist relations of production, concern a laboring subject amassed in intellectuality and cooperative force. A new paradigm: most definitely exploited, yet new—a different power, a new constituency of laboring energy, an accumulation of

10. Antonio Negri, "The Specter's Smile," in Jacques Derrida, Terry Eagleton, Fredric Jameson, Antonio Negri, et al. *Ghostly Demarcations: A Symposium on Jacques Derrida's Specters of Marx*, edited and introduced by Michael Sprinker (London: Verso, 2008) , 7.

11. Ibid., 9.

12. Ibid., 10.

cooperative energy. This is a new—post-deconstructive—ontology.[13]

Here it is not a place to decide for or against the word "ontology." In the following, however, I will demonstrate that Tosaka's philosophizing of technology did not remain "pre-deconstructive," but can be read as "post-deconstructive." I will also refer to those (mostly) Italian thinkers who elaborated the concept of "immaterial labor" and "general intellect" such as Antonio Negri and Michael Hardt, Paolo Virno, and so on. In addition, the fact that Tosaka, despite some historical restrictions, goes beyond orthodox Marxism will be especially clear when one contrasts him with his contemporary leftists.

Objective Technology and the Categories of Capital

a) Sociality of Technology

Let us first examine the objective and material technique, because Tosaka, based on his materialist ontology, considers "technique in its objective mode of being" as the most proper and representative area of technology. Obviously, it is in this area that Tosaka relies most heavily on the materialist view of history in its orthodox formulation. However, it will turn out that Tosaka's discussion here is not limited to a modern model of technology, to which traditional Marxism also subscribed, i.e., the model that determines technology exclusively as the instrumental action, means and process of transforming material nature as the object.

Although technology is sometimes viewed as a mere application of the natural sciences, Tosaka stresses that objective technology becomes meaningful only within certain social and historical contexts

13. Ibid., 12. Here is Derrida's response to Negri: "I agree, agree about everything with the exception of one word, 'ontology.'"; "perhaps the two of us could, from now on, agree to regard the word 'ontology' as a password, a word arbitrarily established by convention, a shibbloeth [sic], which only pretends to mean what the word 'ontology' has always meant." (Derrida, "Marx & Sons," in *Ghostly Demarcations*, 257, 261)

of the "forces and relations of production." In this sense, technology is a social scientific and historical category. This allows him to say that "machines in themselves, which are of course mere physical bodies, are not technique [technology] per se." (239) This somewhat provocative statement is certainly very different from the widespread view identifying technology primarily with machines, thereby inviting critical comments from other Marxists. For Tosaka, such a view means a mechanistic fallacy. The machines, he claims, must be related to and understood within the labor process as the social context.

> That is to say, machines (in which instruments may be included), especially in the large-scale industry, are the most representative *means of labor*, and therefore, count as one of the most crucial means of production. The objective material technique lies in the *labor process* or production process that is carried out through the means of labor or means of production,

He also adds, "we should not forget to include human and subjective factors here." (239)

By the human and subjective factors he means *labor power*. Therefore, objective technology represented in machinery constitutes one of two major components of the productive forces, along with labor power. In actual production, labor power and machines are connected and unified.

From his descriptions, we can derive several important characteristics about the objective mode of technology. First, he emphasizes the *labor process* in which material techniques are employed. Therefore, Tosaka finds it a mistake to separate and isolate technique and labor power. Second, machinery, for its part, can never exist in and for itself either. A single machine per se cannot operate. In order to function, machines need to be organized in such a way to form systematic and social networks with other items in the environment like equipments, a factory, electric power, transportation system and so on. Third, Tosaka grasps this social network of technology in its potentiality for technological development. In a word, he believes in "progress" of

technology. He names this dynamism "*gijutsu suijun*" (the technical [technological] standard) of a society, whose development Tosaka believes is both promoted and prevented by the current capitalist system. (242) As I will show, Tosaka further elaborated the concept "technical standard" in a later essay, and represents his mature understanding of technology.

b) The 1933 "Debate on Technology Theory"

Tosaka's view, which denied technicality to the machines in themselves, represents a social, rather than purely "material," understanding of technology, and makes a sharp contrast with, if not departure from, traditional Marxism. It was for this reason that leftist theorist Aikawa Haruki challenged Tosaka's view, which led to an internal controversy called "*gijutsuron ronsō*" (the debate on technology theory) within *Yuibutsuron kenkyūkai* (study group of materialism).[14] Let us take a brief look at his intervention as far as it is helpful to clarify what is at stake in Tosaka's theory.

In his essay, "The Concept of Technique and Technology," he criticized Tosaka, insisting that technology must be defined in an exclusively objective and material manner. Instead, Aikawa proposed the idea of technique or technology as "*rōdō shudan no taisei*" (organization of the means of labor).[15] Although he acknowledged that the largest constituent of the "forces of production" is the "proletariat" as the subjective factor of labor, he rather put more and excessive emphasis on the objective moment of technology. "The organization of labor, i.e., technology, that represents one element in two is always essentially opposed to labor power, that is one of two major elements

14. *Yuibutsuron kenkyūkai* was founded by Tosaka Jun, Oka Kunio and others in 1932 and is often described as one of the last sites for intellectual resistance under Japanese fascism. Aikawa Haruki was not only a member of the group, but also belonged to the Kōza-ha Marxists (or the Lecturer School), participating in the famous debate on Japanese capitalism with the Rōnō-ha camp (the Labor-Farmer Faction).

15. Aikawa Haruki, "Gijutsu oyobi tekunorogī no gainen" (The concept of technique and technology), *Yuibutsuron kenkyū*, vol.8 (June 1933), 69. Aikawa put a German phrase for it: "*Organisation des Arbeitsmittel*."

of the material productive forces in the material process of production."[16] Aikawa ascribes technology as the means of labor entirely to the side of what Marx called "constant capital" (the value of the means of production), while labor power corresponds to the other component called "variable capital" (the value of labor power).[17] If the means of production themselves are products of past, accumulated labor, constant capital is nothing but dead labor. Therefore, the distinction between variable and constant capital is, in Marx's words, the opposition of "living labor" and "dead labor."

In this way, the whole debate revolved around the exegetic question of how to understand technique or technology in terms of the categories of *Capital*. Aikawa's remark represents the then-dominant objectivist reading, which reified technology by identifying it with "constant capital" in a mechanistic manner. Arguably his hyperbolic emphasis of the dichotomy between subjectivity (labor power) and objectivity (technology) was motivated by a political strategy to stress the class opposition between the proletariat and the bourgeoisie (which, I would add, was slightly at odds with his *Kōza-ha* recognition of Japanese capitalism as a semi-feudal, late developer). While his interpretation is based on Marx's own tendency to a large degree, it is obvious that his equation of technology with constant capital derived from the stage of industrial capitalism, and therefore seems to be very inadequate, or at least have only limited value, for today's advanced post-industrial capitalism.

16. Ibid., 68.

17. He then emphasizes the historicity of technology. "It... refers to a certain organization of the means of labor in a certain stage of development of the material forces of production of a society" (ibid). Moreover, he points to a developmental tendency of technology. "This technology always has a material mode of being, whose organization has the developmental tendency to gradually increase its objective components vis-a-vis its subjective components" (ibid.) These tendencies express what Marx called the "law of the rise in the organic composition of capital," which derives from the development of the "production of relative surplus value," exemplified by the modern large-scale industry. See Karl Marx, *Capital*, trans. Ben Fowkes (New York: Penguin, 1976), 762. See Aikawa, 62.

c) "General Intellect"

From the present perspective, however, this debate has a different meaning from mere dogmatics. What is at stake in my reading is how to understand today's basic conditions of social life under the highly developed technology.

In this respect, today's discussion of so-called "general intellect" is extremely relevant. It was a number of Italian Marxists, such as Antonio Negri and Paolo Virno, who sought to critically reexamine and renew Marxian political economy in light of the emergence of so-called "post-Fordism" in the late 1970s; one of their key concepts is "general intellect," which was taken from Marx's first drafts for *Capital*, i.e., *Grundrisse: Foundations of Critique of Political Economy*. Marx wrote:

> Nature builds no machines, no locomotives, railways, electric telegraphs, self-acting mules etc...They are *organs of the human brain, created by the human hand*; the power of knowledge, objectified. The development of fixed capital indicates to what degree general social knowledge has become a *direct force of production*, and to what degree, hence, the conditions of the process of social life itself have come under the control of the general intellect and been transformed in accordance with it." [18]

Marx is describing the way in which the power of science and technology constitutes a crucial part of social production in the form of fixed (i.e., constant) capital. While Marx himself saw in "general intellect" both emancipatory potentials to reduce labor time and the risk of science and technology subsumed under capital, he certainly identified it with constant capital.

Paolo Virno proposes its wholly different use and understanding in order to revive this "concept" in the current situation in which the

18. *Grundrisse*, trans. Martin Nicolaus (New York: Vintage Books, 1973), 706. Originally written in 1857-8, it was first published in 1939.

modes of living everywhere are increasingly mediated by shared knowledge. He first criticizes Marx's simple identification of the general intellect with constant capital. General intellect as the abstract and common knowledge is generalized to the extent that it permeates every sphere of social life. "We should consider the dimension where the general intellect, instead of being incarnated (or rather, *cast in iron*) into the system of machines, exists as attribute of living labor."[19] He goes on to say:

> The *general intellect* manifests itself today, above all, as the communication, abstraction, self-reflection of living subjects. It seems legitimate to maintain that, according to the very logic of economic development, it is necessary that a part of the *general intellect* not congeal as fixed capital but unfold in communicative interaction, under the guise of epistemic paradigms, dialogical *performances*, linguistic games.[20]

These capacities are the general conditions without which no social interaction and production would be possible. And the post-Fordism, Virno points out, is a mode of production that cannot survive without constantly developing, exploiting and expropriating the very generic faculty, for instance, of language, that is common to and shared by the multitude. In other words, it exploits living labor as a pure potentiality. Insofar as it is a pure, incalculable and excessive potentiality, labor power as such is something "non-present," "non-real," and thus "immaterial."[21]

Now in light of Virno's reinterpretation, it becomes clear that Aikawa represents the very limitation Virno tries to overcome in terms of Marx. I will argue that what differentiates Tosaka Jun from Aikawa is precisely his conception of technique and technology as a dynamic, mutual transaction of subjectivity and objectivity.

19. Paolo Virno, *A Grammar of the Multitude*, trans. Isabella Bertoletti, James Cascaito, and Andrea Casson (New York: Semiotext(e), 2004), 65.

20. Ibid.

21. Ibid., 83.

Especially, his theorizing of subjective technology contains elements that are most significant from today's viewpoint. Therefore, in the next section, I will clarify how Tosaka understands subjectivity in technology.

Subjective Techniques and "Immaterial Labor"

a) Material and Ideational Techniques

What makes Tosaka's theorizing not only distinct from other contemporary theorists, but also relevant for present concerns, is his analysis of "technique in its subjective mode of being."

"Technique in its subjective mode of being" expresses, in a word, the skills and capability of a subject. While, here too, he divides technique into material and ideational aspects, Tosaka mentions the tremendous role of "hands" in the history of human development, both physical and mental. That means he emphasizes that the development of "intelligence" (*chinō*) is inseparable from its physical conditions. In turn, the notion of "intelligence" thus understood, plays a central part in his theory, and functions as a mediator between material and ideational, subjective and objective, individual and collective, aspects of technique, thereby culminating in the concept of "ntelligence" of the "masses."[22]

For subjective and material technique, he takes for example skills of "engineers" and "performances of musicians," which represent "high intelligence that is made instinctive (habits in the highest sense)" (236). Subjective techniques are basically physically acquired ones and therefore described as "material."

Furthermore, Tosaka argues that one can think of "ideational technique" (*kannen teki gijutsu*). He mentions examples such as "diagnosis of clinical doctors," "calculation by mathematicians," "rhetorical description by writers," and significantly, "analysis by theorists."

22. See Tosaka, Gijutsu no tetsugaku, 296.

These seemingly ordinary examples are far from insignificant in the context of social theory of technique. As I will show shortly, many of these physical and intellectual skills and capabilities are newly categorized today as "immaterial labor." However, let me here examine Tosaka's ontological predicament first.

b) Spectral Ontology

It is precisely here in the ideational technique that his *diairesis* as a theoretical practice stumbles. He writes:

> These *procedures* and *methods* of processing ideas have a quality of technique in that they are dependent upon the sensory and kinetic mechanism of the brain that is acquired by constant repetition, training, and improvement, that is to say, because they are made possible only through mediation of such ideational instruments or machines, as it were (*iwaba*). (237)

Here he adds "as it were." Therefore, he is speaking of a metaphor. But what is metaphorical about this? Is it because it compares the brain to the "instruments or machines" or ascribes the ideality to the latter? In addition, Tosaka affirms that theoretical "*formula* and *categories* are, more or less analogously speaking, a sort of—entirely ideational—instruments or machines" (ibid.). If this is the case, does it mean that, even without having a material support of the brain, these can serve as "instruments or machines"? What is then the ontological difference between "ideas" and "machines"? What does the "analogy" signify?

So far, the word "machine" can be taken as a mere metaphor. However, perhaps more interestingly, he mentions the example of a "logical calculator" (*ronrigaku teki keisanki*) that was invented in the late nineteenth century by the economist William Stanley Jevons (237). The context of this reference makes clear that Tosaka regards the calculator as "ideational." If this is the case, then the current information technology as embodied in the computer should be included

in "ideational technique." Does he mean that a real, objective and material body can be "ideational"? Tosaka certainly would not deny that logical calculation per se and its product is *not* material, but ideal. But, then, does it not matter who or what calculates? What is the agent of the ideational or ideal? Is he claiming a strong version of materialism that reduces thinking into the material? Then, is the ideal a ghost in the machine? On the contrary, is he unwittingly idealizing the "machine"? Is a machine not a ghost, at least in the sense of a past, "dead" labor? Where is the border between the ideal and the material, the present and the past in the machine?

In many ways, Tosaka remains undecided. Of all the ambiguities, however, one inconsistency is at least crystal clear: As I already mentioned, he excluded the possibility of an ideational *and* objective/material technique. Tosaka barely noticed that the example of the logical calculator makes an exception to his classification.

In this context, too, Aikawa Haruki criticized Tosaka. Here again, Aikawa claims any technology must be derived from objective and material dimensions.

> Even so, so-called ideational techniques in mental processes, never completely fall under the ideational subjective mode of being, as objective entities such as letters, papers, paints, medical machine, and "calculator" and so on show. Among technology in the subjective mode of being, "the sensory, kinetic mechanism of the brain" itself or human power itself exists materially.[23]

Consistent as it may be, he presupposes a strict ontological dichotomy between the material and the ideal. To use Derrida's term, Aikawa, just like Marx, is trying to "exorcize" the specter of the ideal.

In contrast, Tosaka, by trying to logically and ontologically distinguish and determine the phenomena, has invited this spectral ambiguity between ideas and matter in which both are fused and confused. Without being able to decide their ontological nature, Tosaka provid-

23. Aikawa Haruki, "Gijutsu oyobi tekunorogī no gainen," 69.

ed these examples which do not follow the strict dichotomy between materialism and idealism.

c) Tosaka's "Immaterial Labor"

At the same time, however, it is important to emphasize that, precisely through this seemingly failed theoretical practice, Tosaka virtually reached what is today called "immateriality."

According to the widespread definition by Michael Hardt and Antonio Negri, immaterial labor is "labor that creates immaterial products, such as knowledge, information, communication, a relationship, or an emotional response."[24] It is a form of labor that became dominant in the late twentieth century when industrial labor lost its hegemony. What has been categorized as "service work, intellectual labor, and cognitive labor" are all traditional forms of immaterial labor.

Obviously, Virno's conception of "general intellect" has much to do with immaterial labor. Both categories characterize highly advanced capitalism: while immaterial labor names the specific mode of labor predominant in today's capitalist society, general intellect describes the way in which knowledge and technology becomes generalized and common to all areas of social life, most notably in labor power.

However, Hardt and Negri identify as immaterial another important type: "affective labor" that "produces or manipulates affects such as a feeling of ease, well-being, satisfaction, excitement, or passion" [25] such as health care work and entertainment industry. They acknowledge that there is an ambiguity about the term "immaterial": The reason why it is called "immaterial" is that its *products*, not the labor, are intangible; it does not deny that labor itself remains material, and involves both mind and body.

Thus, provided that what Tosaka called "ideational technique"

24. Michael Hardt and Antonio Negri, *Multitude* (New York: Penguin Books, 2004), 108.
25. Ibid.

concerns primarily intellectual labor, it is quite natural that his conception qualifies as a prototype of immaterial labor. In fact, Tosaka was trying to theorize this newly emerging social category, or at least one of its areas, when he so often problematized the social status of students, engineers, and the intelligentsia.[26] Moreover, what he discussed under the term "subjective and material technique" also falls into immaterial labor, because, while Tosaka looked at this technique's aspect as a physically acquired skill, its product can be described as "immaterial." In this sense, although Tosaka did not pay much attention to affectivity in general, some of this technique, for instance, musical performance, may qualify as affective labor.

In fact, in the last essay included in *Gijutsu no tetsugaku*, Tosaka himself tries to define subjective techniques, both material and ideational, in a unified way: they both primarily signify the "ability in general to transform" matter or ideas (*henkō nōryoku ippan*).[27] In this way, technique in Tosaka cannot be reduced to merely objective, real, material entities, but is rather understood as the ability to change and produce them. To use Virno's words, these techniques are *dynamis* and potential, if not pure, which are not reducible to actual technical practices, but enable them. Thus, it can be said that Tosaka virtually exceeded the "ontology of presence" that divides reality and possibility, putting the primacy of the former over the latter.

Furthermore, Tosaka did not only anticipate the concept. But, quite surprisingly, he later used the very word "immaterial production." It was in his essay, "Theory of Intelligentsia and Theory of Technology," where he not only responded to Aikawa's criticism but reformulated his reflection of technology in a comprehensive way.

Therefore, let us conclude with this essay.

26. See Tosaka, "Gijutsuka no shakai teki chii" (the social status of engineers) and "Gijutsu to chinō" (technique and intelligence) in *Gijutsu no tetsugaku,* 268-297.

27. Ibid., 289.

Conclusion: "Technical Standard" as Tosaka's "General Intellect"

In concluding, I will demonstrate how Tosaka theorized the dynamic relationship between objectivity and subjectivity in technique and technology and anticipated today's discussions in a surprising way.

In his important essay on "Theory of Intelligentsia and Theory of Technology," included in *The Japanese Ideology* (1935), Tosaka elaborates his major concept, the "technical [technological] standard," by responding to Aikawa's critique in a fair and fundamental manner. While accepting Aikawa's two points, first, that technique in general centers on that of material production, and, second, that subjective and objective techniques must be distinguished, he contradicts Aikawa, saying that technique and technology cannot be reduced into a mere "organization of the means of labor." He begins by confirming the fact that the word *gijutsu* is a vernacular. It is in this context that he speaks of "immaterial production":

> Perhaps, what is usually named "*gijutsu*" vaguely includes skills and methods for one thing, and techniques of *immaterial production* for another. It is usually not considered that the organization of means of labor (machines, instruments, factory, transportation facilities and so forth) alone would comprise technique.[28]

Clearly, the adjective "immaterial" replaces "ideational." One possible reason why he avoided using the latter term was because it was one of the points contained in Aikawa's criticism. However, it is possible that Tosaka might have realized that "*im*material" can signify a wider delimitation of meaning—everything *not* limited to "material"—than "ideational," which is used in opposition to "material." This would also mean expansion of the concept of "production" along the same line.[29] Significantly, this expansion represents the exactly parallel move to Paolo Virno's reinterpretation of "general intellect." Just as

28. Tosaka, *Nihon ideorogī ron*, 386. Italic mine.

Virno removed the restricted use of the term in order to include living labor, Tosaka expanded the concept of production into something *un*limited and *in*finite. These negative prefixes are indices for the excessive potentiality of labor power.

Then, Tosaka contradicts Aikawa by the latter's favorite tactic—by quoting Marx: His mention to Darwin in *Capital* suggests that Marx considered "productive organs" as analogous to material technology. Tosaka goes on to say:

> Moreover, if he made an essential comparison between technology [technique] and the productive organs of plants, animals and man, it shows that technology [technique] cannot be explained away merely by a definition, i.e., the organization of the means of labor, in an *objectivistic* (or even mechanistic) way.[30]

Moreover, he points out that the essence of technology lies in productive activity for Marx. Here is his statement:

> Technology reveals the active relation of man to nature, the direct process of the production of his life, and thereby it also lays bare the process of the production of the social relations of his life, and the mental conceptions that flow from those relations.[31]

By this reference, Tosaka emphasized the subjective moment of technology. While he accepts the necessity to posit the "organization of the means of labor" as one essential moment of technology, Tosaka claims that it should not be isolated from the entire social and pro-

29. In fact, in his final 1941 essays that he could publish in his life, he talked about the "production of meaning" in the arts, and the "production of human beings" in reproduction and education, which, he added, cannot be said to be "material production." In this way, Tosaka came extremely close to the conception of immaterial "bio-political production" as Negri and Hardt use it. See Tosaka, "Kagaku to gijutsu no kannen" (the notions of science and technology), in *Tosaka Jun zenshū*, vol. 1, 354 and "Gijutsu he iku mondai" (the problem leading to technology), in ibid., 360.

30. Tosaka, *Nihon ideorogī ron*, 388.

31. Marx, *Capital*, 493.

ductive relations.

Here Tosaka proposes the concept of "technical [technological] standard" of a society that mediates both objectivity and subjectivity.

> Of course, even if one assumes something like a technological standard, it would not take a specific visible form. In this sense, it does not have materiality such as that which the means of labor has, for instance. But, just as the forces of production in a society are material, it has to be material as well. The technological standard is by far a higher social abstraction (*shakai teki chūshō tai*) than the means of production or its organization, and, therefore, it belongs to a more abstract idea of a social institution.[32]

This concept of technical standard, while being a form of abstraction, has a specific reality, and thus a certain materiality. Although having no immediate material presence, it is designated by what Aikawa called the "system or organization of the means of labor," and will play very important roles both theoretically and practically.

First, it explains how the means of labor and skills of workers need to be connected and mutually mediated. Without standardizing the level of labor skills, it is impossible to design, produce and use an automobile, for instance. Moreover, there is, he says, constant interaction between these two aspects. If this is the case, he implies the possibility that subjective skills of workers can give feedback to the objective system of the means of labor. Therefore, "the practical interaction between the means of labor and skills takes place by being converted into the technological standard that serves as a sort of a *technological equivalent*, as it were."[33] Tosaka understands the function of equivalence in a very dynamic way, because it serves as a goal to raise the subjective skills and intelligence of engineers and workers, which will result in the upgrading of the technical conditions of a society. This is the objective of a science of techniques, that is, "techno-logy" in its

32. Tosaka, ibid., 389.

33. Ibid.

strict sense, which is in itself practical and technical.

In this way, Tosaka's conception of "technical standard" plays exactly the same function as Virno's "general intellect." Unlike Marx's general intellect, the "technical standard" is not reduced to constant capital as the means of production, but essentially connected to living labor power. At the same time, it is not reducible to the subjectivity of labor power either. Moreover, in the status of social abstraction, it assumes the character of general intellect, just like what Virno describes as "real abstraction."[34] To be sure, Virno claims that general intellect under post-Fordism does not represent "commensurability" or "principle of equivalence"[35] between social units. However, what Tosaka calls "technical equivalence" is a dynamic standard and norm, and functions rather as a "constructive principle," which Virno admits to today's general intellect.[36] Without such a dynamic interaction, the "common place" for the masses and multitude would be impossible.

The abstract and material character of the "technical standard" expresses the generality of the general intellect. At the same time, it can also be taken as a recasting of that immateriality which he ascribed to subjective techniques in the societal dimension. In other words, the common is condensed in it. This generality, however, emerges as a result of numerous actions and transactions of the masses. This is Tosaka's "mass intelligence," which Negri and Virno called "mass intellectuality."

34. Virno, *Grammar*, 64.
35. Ibid., 84.
36. Ibid.