**New Proposals: Journal of Marxism and Interdisciplinary Inquiry**
Vol. 12, No. 1 (Winter 2021) Pp. 9-21

# Compound Brain or General Intellect? Paolo Virno's Transindividuality

Sam Popowich
*University of Alberta*

ABSTRACT: This article argues that dominant perspectives on transhumanism maintain a commitment to the autarkic, self-determining, isolated individual subject. As a result, transhumanist conceptions which attempt to overcome individual isolation and alienation, such as J.D. Bernal's "compound brain," reinscribe liberal-individualist notions of subjectivity in a transhumanist future. A transhumanist Marxism would need to offer an alternative theory of identity-formation, and this article investigates autonomist Marxist Paolo Virno's conception of transindividuality both to critique transhumanist individualism and to offer an alternative way of understanding individual subjectivity. With Virno's transindividualist conception of subjectivity in hand, we are better placed to connect Marx's theory of the General Intellect with possible transhumanist futures.

KEYWORDS: Marxism, Transhumanism, Technology, Individualism

In the "Critique of the Gotha Programme" (1875), Marx notes that individuals "would not be different if they were not unequal" and so argues that in a communist society justice would have to take difference into account: "right instead of being equal would have to be unequal" (Marx 1978, 530-531). Transhumanist programmes often exalt this sense of individual difference. Nick Bostrom, for example, has argued that "transhumanists typically place emphasis on individual freedom and individual choice in the area of enhancement technologies" (Bostrom 2003a) with a goal of human flourishing and the overcoming of alienation.

Transhumanism's commitment to individualism *suggests* a tolerance for those who reject enhancement (Bostrom 2003b), but this pronouncement sits uneasily with transhumanism's legacy of eugenics and close relationship with capitalist socio-economic relations. In his discussion of in vitro selective breeding – "ectogenesis" – J.B.S. Haldane recognized eugenic selection's adverse social and psychological effects but nonetheless considered the social benefits to be clear: "had it not been for ectogenesis there can be little doubt that civilisation would have collapsed within a measurable time owing to the greater fertility of the less desirable members of the population in almost all countries" (Haldane 1923, 66-67).

Leaving transhumanism's eugenic legacy unchallenged would in itself entail reinscribing race-, gender- and disability-based inequality in the fabric of a posthuman future. But in addition to the eugenic component, capitalist transhumanism is marked by the need to reduce human labour to a homogenized, measurable, average.[1] From a subjective point of view, this would appear as competition

1 "The labour-time expressed in exchange-value is the labour-time of an individual, but of an individual in no way differing from the next individual and from all other individuals in so far as they perform equal labour." (Marx 1970, 32).

among (posthuman) workers, as "no-longer-human beings would make obsolete those who decline transformation" (Dyer-Witheford, Kjøsen, and Steinhoff 2019, 159). Difference of race, gender, sexuality, or disability would either be transformed out of the homogenized, average posthuman worker or those people would be left to die. Eugenics and capitalist logic go hand in hand.

This tension between the exaltation of individualism and the eugenic erasure of undesirable difference exposes a contradiction within transhumanist thinking based on a bourgeois conception of individualism itself. As a result, transhumanism is often marked by what Audre Lorde has characterized as a threatening necessity for interdependency (Lorde 1984, 111) which it tries to resolve through the (spurious) technologically-enhanced self-sufficiency of the individual as such (Graham 2002, 70). As a result, transhumanism's attempt at bringing about a post-human future free of capitalist alienation is doomed to recreate that alienation at a higher level unless a new conception of individuality is adopted. The social production of identity which is core to Marxist theory offers an alternative way of approaching the transhuman question of alienation, collectivity, and difference.

One typically Marxist way of understanding transhumanism is to see it as a form of left-accelerationism: the extensive development of technology as a means to overcome the alienation of post-industrial capitalism. The connection between accelerationism and transhumanism is often implicit, but sometimes rises to the surface, as in Ross Abbinett's remark that for accelerationists, "digital, artificial intelligence and biotechnologies are opening up a transhumanist future" (Abbinett 2018, 2). This dominant transhumanist tendency is linked to Enlightenment theories of subjectivity and the primacy of an autarkic, self-determining, free, and independent individual (Hughes 2013). As "the creation of new technologies of the virtual holds out the promise of deliverance from the limitations of existence in physical space" (Horner 2001, 71), transhumanist technologies seek to restore the dignity and power of the individual human being from the degradation capitalism has reduced it to (Bostrom 2005; 2007).

But this is not the only form accelerationism takes. According to Dyer-Witheford, Kjøsen and Steinhoff, Nick Land's formulation of accelerationism argues that the "mutual embodiment of capital and AI leads not to human emancipation from capitalism, but, on the contrary, to capital's emancipation from the human" (Dyer-Witheford, Kjøsen and Steinhoff 2019, 7). These two possibilities – emancipation of the human from capital or vice versa – are inscribed in Marx's account of automated technology in the *Grundrisse,* which we will look at below, and can therefore be considered part of the repressed unconscious of transhumanism, a repression that would need to be overcome by a Marxist transhumanism. The ambiguity of transhumanist thinking around accelerationism is not accidental but rather arises out of the contradiction between Enlightenment individualism and the collective fact of human life.[2] These contradictions can be clearly seen in the phenomenon of alienation which transhumanists claim to be committed to overcoming.

It is important to bear in mind the ways transhumanism, Marxism, and accelerationism are related, but distinct. The crude economic determinism of the "base and superstructure" model, especially as it is found in the earlier work of Marx and Engels (for example, in *The German Ideology* of 1846), was, with the rapid development of industrial technology at the end of the 19th century, transformed into a *technological* determinism which saw the development of technology as an automatic way to overcome the contradictions of capitalist society and produce a communist future. If Engels, as Stuart Hall has suggested, tried to challenge this view in the years after Marx's death, nevertheless the tendency towards "positive science" and economic determinism "was destined to be disastrously installed as the official version in the Second International" (Hall 2021, 72).

The accelerationist and transhumanist approaches can be understood as accepting and developing the orthodox Marxist form of technological determinism, and Ross Abbinett's description of accelerationism can be applied to both:

2 This contradiction is integral to Marx's theory of labour under capitalism in which collective, cooperative, social labour is always in tension with individual private ownership.

> If we are to transform the repetitive, drive-based forms of individuation that have come to dominate hyperindustrial society, then the ecstasies of disorientation, connectivity and self-expression to which they have given rise must be pushed to the point at which they produce counter-hegemonic events that are capable of transforming the acquisitive codes of the commodity form. (Abbinett 2018, 112)

Where accelerationism and transhumanism differ is in their understanding of the production of subjectivity and therefore of what constitutes alienation. For accelerationists, technological development creates a communist society for people who remain more or less unchanged. As Aaron Bastani put it in *Fully Automated Luxury Communism,* "liberal ends, specifically the individual being uniquely placed to determine their path in life, are impossible without communist means" (Bastani 2019, 194), which rejects certain Marxist ideas around the way economic and social relations produce individual subjectivity. In this way, the overcoming of alienation (say) involves the creation of a society appropriate to a pre-existing autonomous individual. Alienation is an *objective* mediation between the autarkic subject and the world. For transhumanists, on the other hand, individual subjectivity is itself transformed along with technology: "human beings … would no longer be subject to the inherent limitations of nature, somatic life or reflective inheritance" (Abbinett 2018, 114). Alienation in this view is a subjective ordering of the individual, and overcoming alienation means using technology to overcome the limitations of subjectivity as such.[3] However, both accelerationism and transhumanism remain committed, as we will see below, to the primacy of the self-determining individual.

Heterodox Marxisms, on the other hand, reject the premise of liberal individualism. Autonomist Marxists like Paolo Virno take seriously Gramsci's insights on capitalism as a civilization rather than just a mode of production, Western Marxism's interest in "superstructures," the lessons of postmodern philosophers like Deleuze and Guattari, and the work contained in the *Grundrisse*. And they have a more sophisticated approach to technological development and the production of subjectivity itself. Overcoming alienation, in their view, involves a social transformation of human subjectivity, and Virno's explanation of the way individuality itself is socially produced has major consequences for thinking a Marxist transhumanism.

In this article, I will briefly sketch in the problem of identity and individuality for transhumanism before turning to an alternative conception drawn from autonomist Marxism. After looking at the question of alienation and identity, I will explore the notion of the "compound brain" developed by J.D. Bernal in 1929. I will then connect this idea to Marx's conception of technology as reification of knowledge as well as of labour and the concept of the General Intellect as it appears in the *Grundrisse*. Finally, I will explore the ideas of the General Intellect and transindividualism in the work of autonomist Marxist Paolo Virno.

## The Problem of Identity

Transhumanism's utopian programme seeks to abolish or overcome the three forms of alienation Marx identified in the *Economic and Philosophical Manuscripts of 1844*: alienation of the subject from themselves, alienation of the subject from their labour and nature, and alienation of the subject from other people (Marx 1977, 61-74). Transhumanism seeks to abolish the first of Marx's three forms of alienation, the alienation of an individual from themselves through the "augmentation of human intellectual, physical, and emotional capacities" (Bostrom 2005, 3) of human subjects, but also by removing what Marx saw as the cause of alienation – estranged labour – through the accelerationist abolition of labour itself. However, as James Steinhoff points out, the project of overcoming capitalist alienation while "leaving technological enhancement in the hands of profit-driven capitalist enterprise" is doomed to failure, since transhumanists are thereby "alienating the human that is to be transcended from itself" (Steinhoff 2014, 6). Transhumanism also seeks to eliminate the alienation of self from others through the construction of a "hive mind" or what J.D. Bernal has called a "compound brain." It is this last aspect of transhumanism that I will focus on in this article.

The contradiction between transhumanism's project to end alienation and the objective constraints on

3 Ross Abbinett provides a good overview of both right and left accelerationism, transhumanism, and Marxism from a Stieglerian perspective in the chapter on "Transhuman Networks" in *The Thoughts of Bernard Stiegler* (Abbinett 2018, chap. 4).

that project arise from its commitment to bourgeois individualism. James Hughes argues that transhumanism has inherited a conflicted view of human identity from the Enlightenment, a view which remained latent until the technological advances of the twentieth century. Hughes writes that

> The contradiction between the Enlightenment's concept of Lockean selfhood, foundational to liberal individualism, and the Humean empiricist recognition that the self is a fiction lay dormant until the twentieth century when neuroscience, another product of the Enlightenment, revived the debate. (Hughes 2013, 228)

For Locke, identity is founded on memory, reason, and reflection, and is the basis for self-determination and moral accountability. Hume, on the other hand, was skeptical that there was anything supporting identity but impulses, perceptions, and thoughts which our minds combine into identity in order to give us the illusion of self-determination and accountability.

> While for Locke memory was the core of personal identity, knitting together past and present self, for Hume memory was what created the illusion that there was some kind of continuity between past and present mental states. (Hughes 2013, 228)

The conflict between these two positions has long been recognized within transhumanist discourse, and the rise of both neuroscientific and postmodern perspectives on the fragmentation of the self raises the question of what, if anything, would remain of individual identity in a transhuman future. In her account of Ray Kurzweil's response to this question, Susan Schneider delineates four "leading theories" of identity: a pre-modern conception of the soul ("the ego theory"), a Lockean theory of psychological continuity, the materialism of neuroscience, and a Humean denial of the self at all (Schneider 2008, 5-6). Kurzweil himself adopts a neuroscientific conception of identity as "pattern," which can be successfully reproduced in digital machinery.

What is missing from this taxonomy is a social conception of identity. As a result, Schneider's list remains caught within the limits of bourgeois individualism. Either the self is a soul or some other kind of continuous psychological entity, or it is nothing but the reaction of cells to particular stimuli (perceptions). This dualism replays the tensions not only between the Lockean and Humean conceptions of identity, but between modernism and postmodernism, unity and fragmentation.

Under the influence of neuroscientific and postmodernist developments, the transhumanist discourse on identity has tended towards the "no-self" view exemplified by Derek Parfitt, for example in *Reasons and Persons* (Parfitt 1984). However, the end result of this circumscribed view of identity is – unsurprisingly, given the tight connections between transhumanism and high-technology capitalism – the erosion of any kind of collective project and of social relations themselves. Hughes writes that "if there is no real self and no real humanity then we are left with the question of whether we want to collectively pretend that we do exist, and if so, to what ends" (Hughes 2013, 232). This conclusion reinforces the bourgeois-liberal social theory that unless society is composed of atomistic individuals, then society cannot exist. In this way, transhuman discourse remains tightly bound to the atomism of social contract theory and libertarianism, and the no-self theory reinscribes the neoliberal fracturing of social relations themselves.

If a possible transhuman future did not do away with classes and class antagonisms, then it would necessitate a properly transhumanist Marxism. Such a Marxism would have to insist on the necessity of social relationships, as Marxism does now, in the face of the ideological insistence on pure individual agency. At no time in human history have there been individuals without collective existence. This notion, which Marx critiqued extensively in much of his work, privileges bourgeois individualism by denying the need for social relations themselves. As a result, a transindividual theory of identity, such as that proposed by autonomist Marxists, could serve to found a collective, post-capitalist vision of a transhumanist, non-alienated future, a Marxist transhumanism.

## J.D. Bernal and the Compound Brain

In *The World, The Flesh, and the Devil* (1929), J.D. Bernal identified three arenas of human struggle: "the massive, unintelligent forces of nature" (the world), the human body, health and disease (the

flesh), and human "desires and fears … imaginations and stupidities" (the devil) (Bernal 1929, 4). For Bernal, overcoming the limits of the natural world conformed to a kind of Promethean productive-force determinism common to socialists of the period. Indeed, such determinism conforms to Bernal's (and Haldane's) orthodox Marxism, as noted above.

Bernal, though, also envisaged the liberation of humanity from the constraints of earth by the exploration and colonization of outer space through the construction of self-sustaining mechanical globes. For Bernal, such globes constitute the dream of a socialist future akin to the New World colonies of Robert Owen. Bernal writes that in his globes "there would probably be no more need for government than in a modern hotel: there would be a few restrictions concerned with the safety of the vessel and that would be all" (Bernal 1929, 11). We will see later how Virno's conception of the multitude aligns with Bernal's sense of these self-sustaining, non-hierarchical communities.

Liberation from the flesh poses a greater problem, in Bernal's view, than liberation from the world. Human beings have been altering the natural world through labour for millennia, and while Bernal recognizes that evolution has changed the human body, this process is too slow and undirected to liberate us from the necessity of the flesh. He contrasts the eugenic approach of J.B.S. Haldane with his own "direct approach" through the technological combination of the human organism and tools. Echoing Engels' essay "The Part Played by Labour in the Transition from Ape to Man" (1876), Bernal writes that "when the ape-ancestor first used a stone he was modifying his bodily structure by the inclusion of a foreign substance." However, tools and other external appliances are temporary and do not alter the requirements of the flesh itself.

> They all … have the quality of being outside the cell layers of the human body. The decisive step will come when we extend the foreign body into the actual structure of living matter. … Here we may proceed, not by allowing evolution to work the changes, but by copying and short-circuiting its methods. (Bernal 1929, 14)

However, Bernal foresees that the physical augmentation of human capability would require a corresponding augmentation in cognitive capacity. The development of a cognitive apparatus adequate for the new physical one, Bernal argues, constitutes a fundamental break in human development. The connection of brains by means of machinery would at first simply improve communications, but gradually "connections between two or more minds would tend to become a more and more permanent condition until they functioned as a dual or multiple organism" (Bernal 1929, 19). Bernal does not see this cognitive linkage as a threat to individuality: "the mind would preserve a certain individuality … each brain being chiefly occupied with its individual mental development and only communicating with others for some common purpose." Bernal subscribes to Locke's view of identity and argues that the "compound brain" would at least in some sense support "the continuity of the self" as "the memories and feelings of the older members [transfer] themselves almost completely to the common stock." Just as the Promethean conquest of the world overcomes the alienation of humanity from labour/nature, so the compound brain overcomes the individual subject's alienation from the collective. Bernal writes here in a vein of utopian ecstasy:

> The individual brain will feel itself part of the whole in a way that completely transcends the devotion of the most fanatical adherent of a religious sect. … Whatever the intensity of our feeling, however much we may strive to reach beyond ourselves or into another's mind, we are always barred by the limitations of our individuality. Here at least those barriers would be down: feeling would truly communicate itself, memories would be held in common, and yet in all this, identity and continuity of individual development would not be lost. It is possible, even probable, that the different individuals of a compound mind would not all have similar functions or even be of the same rank of importance. Division of labor would soon set in: to some minds might be delegated the task of ensuring the proper functioning of the others, some might specialize in sense reception and so on. Thus would grow up a hierarchy of minds that would be more truly a complex than a compound mind. (Bernal 1929, 19-20)

Bernal, too, is limited by a bourgeois-liberal conception of individuality and identity. The way to overcome the alienation of individuals is to bring them externally together until such time as they somehow become a single complex organism in which, nonetheless, individuality is not lost. Bernal remains beholden to the social-contract idea that individuals are primary, that they pre-exist social relations, choose to enter social relations, and that they can exist without social relations. The alienation that is a *result* of capitalist development is, as Marx notes in the 1857 "Introduction" included in the English edition of the *Grundrisse*, presented for ideological purposes as the original state of human life itself. The notebooks that make up the *Grundrisse* were not published in German until the late 1930s and in English until 1973 and it is interesting to read Bernal now, in the light the *Grundrisse* sheds on Marx's conception of technology, the future, and human knowledge.

## The General Intellect and the Question of Labour

In the section of the *Grundrisse* known as the "fragment on machines" Marx appears to predict a transhumanist future in the context of his own critique of political economy. Instead of the subservience of machinery to human growth and development, Marx sees the entire assemblage of fixed capital developing into an "automatic system of machinery" (Marx 1973, 692) to which the human subject must be subordinated. The worker is an automaton who merely sets the machinery in motion. With the development of such systems labour ceases to be a human activity which uses tools, but instead becomes a system of production in which machinery performs the act of production and the worker only "supervises it and guards against interruptions" (Marx 1973, 692). Marx writes,

> It is the machine which possesses skill and strength in place of the worker, is itself the virtuoso, with a soul of its own in the mechanical laws acting through it. … The worker's activity, reduced to a mere abstraction of activity, is determined and regulated on all sides by the movement of the machinery, and not the opposite. (Marx 1973, 693)

This dystopia of machine labour, in which human activity becomes subordinated to the use of fixed capital in the production of value, seems a world away from Bernal's utopian view. But for Marx, the reduction of human labour power to the bare minimum has grave consequences for capitalist profitability itself. As we know from *Capital*, only human labour is capable of producing new value. All fixed capital can do is to transmit previously stored-up value into the commodity. As automatic systems of machinery take hold – as they have done, for example, in the current conjuncture of high-tech financial capitalism – human labour time, the measure of exchange value itself, is reduced to the minimum. However, "as soon as labour in the direct form has ceased to be the great well-spring of wealth, labour time ceases and must cease to be its measure, and hence exchange value [must cease to be the measure] of use value" (Marx 1973, 705). The very ability to produce surplus-value is thereby called into question and capitalist production and exchange themselves break down.

For Marx, this breakdown lays the groundwork for the emancipation of labour and the flourishing of human potential, and he describes

> The free development of individualities, and hence not the reduction of necessary labour time so as to posit surplus labour, but rather the general reduction of the necessary labour of society to a minimum, which then corresponds to the artistic, scientific, etc., development of the individuals in the time set free, and with the means created, for all of them. (Marx 1973, 706)

Once the breakdown occurs, fixed capital can go back to being a tool of human development, as it is with Bernal. But here Marx offers an important insight into the nature of technology. We already know from *Capital* that machinery is the embodiment or reification of human *physical* labour. But Marx suggests an awareness of technology as also the embodiment of cognitive and intellectual labour. Just as the microscope embodies theories of optics, lenses, etc., so too does the vast system of industrial machinery need to be understood as "the power of knowledge, objectified" (Marx 1973, 706). The development of fixed capital at every stage of economic development

"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" (Marx 1973, 706).

The general intellect is an indication of one way in which human social relations of knowledge, understanding, and wisdom can provide a transindividual matrix for individuality itself. The embodiment of human knowledge in machinery determines who we are as individuals, and the conditions of production produce subjectivity itself. We can understand this embodiment as a particular kind of reification with specific affordances. In the *Critique of Dialectical Reason*, Sartre calls these reified objects and structures the "practico-inert," which Fredric Jameson describes as "matter which has been invested with human energy and which henceforth takes the place of and functions like human action." Jameson argues that while "the machine is of course the most basic symbol of this type of structure. … It is really only a physical symbol of it, and in concrete daily life the practico-inert most frequently takes the form of social institutions" (Jameson 1972, 244-245). This correspondence between machinery and social institutions, united by the concept of reification, is an important one to which we will return below.

Earlier in the *Grundrisse*, Marx notes that a human being is quite literally a political animal, "an animal which can individuate itself only in the midst of society" (Marx 1973, 84). This insight was hugely influential on Italian autonomist thought (see Dyer-Witheford 1999) and, combined with the encounter with Spinoza on the part of Antonio Negri, Paolo Virno, and others, provided the basis for a transindividual theory of identity which is extremely suggestive for a properly Marxist transhumanism.

The core of Marx's insight can perhaps be summed up in the following remark: "Production by an isolated individual outside society – a rare exception which may well occur when a civilized person in whom the social forces are already dynamically present is cast by accident into the wilderness – is as much of an absurdity as is the development of language without individuals living *together* and talking to each other" (Marx 1973, 84). We will see in the next section how questions of language and technology combine in Virno's work to offer us a powerful transindividual social theory.

## Paolo Virno and the Word

The theories of identity and individuality mentioned above all assume that subjects are always-already individual. The only question is what constitutes their individuality. The pre-modern concept of soul has a divine origin, while the Lockean conception of individuality is tightly linked to the state of nature in social contract theory. Virno takes a completely different approach, one which does justice to Marx's claim that a subject "can only individuate itself in the midst of society." For Virno, the question is not what constitutes an individual subject out of nothingness, but what is the "principle of individuation" for a subject born into an existing structure of social relations.

Virno, born in 1952, was like Negri arrested and jailed in 1979 under suspicion of being connected to Italian left-wing terrorist groups. Also like Negri, Virno's encounter with Spinoza was highly influential on his work, especially *The Grammar of the Multitude* (2004; *Grammatica della moltitudine*, 2003). For both thinkers, the concept of the *multitudo* as it appears in Spinoza provided a communist social formation as an alternative to the state authoritarianism of the Soviet Union and China and the traditional working-class institutions, the Communist Party and the unions.[4] Distrust of these traditional institutions, the development of new social movements in the 1960s, and especially the uprisings of 1968 in the name of social justice and the liberation of desire, fit into the idea of workers' autonomy, the self-directed form-of-life of the working class independent of the strictures of capital that had developed in Italy since the 1950s. For autonomist Marxists, the irrepressible, self-determining constituent power of the multitude is an always present and vital force, and many of them have adopted the multitude as the conceptual apparatus most appropriate to this idea. Besides Virno's *Grammar of the Multitude*, Negri's *Insurgencies* (1999; *Il potere costituente*, 1992)

4 Negri has described the encounter with Spinoza in the 1960s by himself, Gilles Deleuze, Pierre Macherey, and others as "affirming democratic thought and … encouraging struggles open to the desire for happiness" (Negri 2020, vii). For an account of automatism and the extra-parliamentary left in Italy, see Wright (2002).

and Hardt and Negri's *Multitude* (2004) explore the concept most deeply.

In philosophical terms, the encounter with Spinoza gave both French and Italian thinkers a way to engage with process, development, and change without having to accept the teleological closure of the Hegelian dialectic. Spinoza's immanent account of the productivity of nature and of human beings' place within that totality provided a framework for a non-teleological, open-ended political theory which nonetheless avoided the pitfalls of the static logic and politics of liberal thought. The closed authoritarianism of parliament, political party, and union, as well as the anti-colonial uprisings of the 1950s and 1960s (and the work of anti-colonial critics of Hegelianism like Franz Fanon) forced autonomist Marxists to seek out an alternative to dialectical closure which they saw as deeply implicated in Promethean technological theories as well as oppressive imperial politics.

In *When the Word Becomes Flesh* (2015; *Quando il verbo si fa carne*, 2003), Virno explores the relationship of language to individuality, drawing mainly on the work of Ludwig Wittgenstein, child psychologist Donald Winnicott, and philosopher Gilbert Simondon. Simondon's philosophy of individuation, in particular, was highly influential on Virno's account (for an overview of Simondon's philosophy, see Bluemink 2020). Virno begins by offering an account of language adequate to a Spinozan social and political theory. Speech, Virno argues, is a performance, like playing an instrument, and in a very real sense, speech is the height of praxis. Virno writes:

> The way a cellist or dancer operates is neither strange nor marginal. It is, on the very contrary, the iconic recapitulation of all the characteristics that define human *praxis* in general. Contingency, instability, absence of purpose, inseparability between the 'product' and the actions that realize it, necessary institution of a public sphere [the audience]: all of these define ethical and political conduct. (Virno 2015, 23)

Human speech, Virno argues, is not work because language-use is not a tool to an external end; its end is immanent to itself: "verbal praxis is not dependent on extra-linguistic goals, just as a memorable piano *performance* is not dependent on the pianist's desire for riches" (Virno 2015, 25). Virno, drawing on Winnicott, argues that language is a "transitional phenomenon" like play itself. Winnicott described transitional phenomena as necessary for the child to accustom itself to an external reality that is not constructed to satisfy its needs. At first, whenever the infant needs something, the mother is there to change reality to conform to the need. The development of the individual personality – separate from the mother and separate from external reality – utilizes transitional objects and transitional phenomena in order to effect this individuation (Winnicott 1953). For Virno, language is the most widespread and important of these transitional phenomena, because language is "the biological organ of public [i.e., ethical and political] praxis" (Virno 2015, 32).

Virno links Winnicott's concept of transitional phenomena with Simondon's principle of individuation to argue that it is the fact of speech, the emergence of actual speech from an infant's nonsensical, babbling monologues (and therefore the emergence of a speaking subject) that individuates subjects from their social matrix. This supposes, in a manner foreign to the identity-theories of Kurzweil and others, a pre-individual set of relations out of which an individual is formed. Virno uses the "maternal language"[5] as a classic example of pre-individuality:

> It belongs to everyone and no one; it is a public and collective dimension. It shows with great clarity the preliminary sociality of the speaker. Egocentric language individuates (actually, it is the very principle of individuation) precisely because it allows us to detach ourselves from our language in the only possible way: emphasizing the generic ability to speak. … In the external monologue, the child behaves as a translator, not because he passes to a different natural-historical language, but because he or she becomes familiar with the precondition that makes such a passage possible: the partial detachment from the impersonal amniotic liquid of the maternal language and the manifestation

5 The gendered quality of the "mother tongue" is important here as Virno connects it with the "transitional objects" that mediate between the body of the newborn self and the body of another ("Winnicott thinks that the first transitional object coincides with the mother's breast") (Virno 2015, 145). However, there is no need to bind the notion of "mother" to a particular sex or biological essence; it is perhaps helpful to think of "mother" in this context as a non-gendered verb ("to mother") rather than as a gendered noun.

> of the linguistic faculty. It is thanks to that detachment and that ability that the speaker can achieve his or her own *individuation.* (Virno 2015, 65)

Virno's reliance on Wittgenstein's later philosophy is clear. For Wittgenstein, all language is inculcated into individuals by the social relations into which they are born. The relationship between words and things is not objectively necessary or natural but neither is it purely arbitrary. Rather, it is the result of historical, social, and cultural unfolding which produces language-games at a given moment and produces subjects who know the rules of those games.[6] Spinoza, Wittgenstein, Winnicott, and Simondon all fit together to support Virno's radically democratic, radically open political thought.

## Reification, Technology, and Language

The problem with capitalist/accelerationist transhumanism is that, in striving to overcome alienation, it places the solution in external things, even if those external things are absorbed within the human body. As a result, transhumanism risks the fetishism that Marx describes in the early chapters of *Capital*: the technological modifications of the human body mistake problems of human social relations for problems of things themselves; new technologies, new organs, new bodies will somehow overcome the problems of social relationships. The dominant transhumanist discourse reinforces and reproduces capitalist structures of oppression by fetishizing the technology intended to liberate us.

In Marxist discourse, fetishism and reification are often treated interchangeably. Virno, however, draws a strict distinction between fetishism and reification proper. The first mystifies social relations by offering up a thing (commodity, technology) to take their place; the second is a real embodiment of subjective, social energy into a public, objective phenomenon. When Marx describes the general intellect embodied in a system of machinery, that is a concrete reification which may – depending on the social and political situation – also be fetishized. But the two processes are not the same, and Virno argues that we need a nuanced understanding of reification to fully comprehend the emancipatory potential of both language and technology.

Fetishism, as described in *Capital*, stands for a particular form of alienation: the objectification and externalization of subjective and social experience. Marx writes, "The mysterious character of the commodity-form consists … simply in the fact that the commodity reflects the social characteristics of men's own labour as objective characteristics of the products of labour themselves, as the socio-natural properties of these things" (Marx 1976, 164-5).

Compare this with the following passage from the *Economic and Philosophic Manuscripts* on the estrangement of labour:

> The object which labour produces – labour's product – confronts it as *something alien*, as a *power independent* of the producer. The product of labour is labour which has been embodied in an object, which has become material: it is the *objectification* of labour. Labour's realization is its objectification. Under these economic conditions this realization of labour appears as a *loss of realisation* for the workers; objectification as *loss of the object and bondage to it;* appropriation as *estrangement*, as *alienation.* (Marx 1977, 63)

If fetishization and reification are the same thing, reification is just as complicit in the process of alienation as fetishization is. And yet Virno makes the claim that "reification is the only antidote for the dispossession caused by alienation" (Virno 2015, 137). If the project of transhumanism is actually to overcome and abolish the alienation of capitalist society, rather than simply to reproduce it in a more technologically advanced form, then by Virno's logic we will need to embrace reification while avoiding fetishism:

> The difference between these two ways to satisfy the same need [to externalize subjective phenomena] is radical, as is the contrast between fetishism and reification as alternatives to alienation. If we don't understand this contrast and we assimilate the two terms to the point of treating them as synonyms, we will fatally end up defending from reification the alienated interiority just to keep fetishism at bay … I believe that a total reification of human nature … could stop the infinite proliferation of the fetish. (Virno 2015, 138)

6 Wittgenstein's later philosophy is deeply marked by his encounter with Marxist ideas through conversations with the economist Piero Sraffa (Sen 2003).

The difference between fetishism and reification can be understood in terms of the difference between the fetishized commodity and fixed capital. In the commodity, as we have seen, relations between people appear in the form of relations between things. The relations between people are mystified and obscured by this objectification: fetishism exacerbates alienation by cutting us off from our social relations. By contrast, fixed capital is the *real* objective and public form of cooperative labour and scientific knowledge. Rather than mystifying social relations, in Virno's view reified fixed capital makes the labour-capital relationship and the work and knowledge embodied in that relationship objective and therefore graspable, tractable, and transformable. It is in this sense that we can understand Virno's mention, which must appear utterly outlandish to an orthodox Marxist, of "the crucial role that reification could play in a truly unrepentant materialism" (Virno 2015, 135). We can anticipate, here, a possible conclusion: Bernal's compound brain is fetishized cognitive technology; Marx's general intellect is a properly reified set of social relations. Virno writes:

> Reification does not concern the people entering the relation, but the relation itself. This is what is manifested as *res*, as an array of objects and sensible phenomena. The relation among men, which can never be reduced to mental representation, is incarnated in the *objects of the relation.* This is very different from its fetishistic transformation in a *relation among objects*. Reification operates on the relation, fetishism on the participants. (Virno 2015, 143)

In Bernal's compound brain, communication, emotion, thoughts, all these remain individualized; the compound brain facilitates communication between already-constituted individuals. The general intellect, on the other hand, is an objective expression of pre- and transindividual relationships. This way of understanding the general intellect brings us to Virno's conception of language and technology as reification processes *par excellence*.

Drawing on Winnicott's perspectives on language and Simondon's on technology, Virno elaborates a concept of reification immediately suggestive for a Marxist transhumanism. According to this concept, reification acts on the idea of "among" (*il "tra"*), which Virno suggests is often overlooked in discussions of social relations. The "among"

> does not define a single individual, but precisely what, in each human animal, goes beyond the individual, pertains to the species and is shared by all before the emergence of the single "I." The "among" preceding individual consciousness appears as sensible *res*, and insofar as it becomes an external object, what precedes the "I" ceases to dominate it. (Virno 2015, 144)

Both language and technology, as pre-individual matrices of individual subjectivity, constitute this "among." In contrast to the conceptions of individuality dominant in capitalist theories of the transhuman, Virno's position sees social and natural relations – Bernal's "world" – as not constituted by already-individuated, already-constituted subjects, but as a preindividual and transindividual space, common and public. It is this sense of the pre- and transindividual that gives rise to individuality, whether through Winnicott's transitional objects or Simondon's principles of individuation, the most powerful of which are language and technology.

In order to avoid the technological fetishism inherent in capitalist transhumanism, we need to understand how technology can reify the "among," how it can stand as a principle of individuation.[7] For Simondon, the principle of individuation is never total. "The 'subject' transgresses the limits of the 'individual' because it contains a non-eliminable component, that is, a certain measure of undetermined pre-individual reality, unstable and yet full of potential" (Virno 2015, 146). The competing outcomes of the automatic system of technology underline this instability and potentiality; Nick Dyer-Witheford has remarked that in Marx's "fragment on machines" a bourgeois nightmare lives inside the bourgeois dream (Dyer-Witheford 1999, 4).

The preindividual, for Simondon, is never fully assimilated by the individual (as it must be in liberal social thought), but coexists with it, and thereby makes collective experience possible. The

7 In this way, the potential for what Maurizio Lazzarato has called "machinic subjection" can also be avoided. See Lazzarato (2012).

collective, transindividual experience arises out of the preindividual matrices of language and technology. Virno neatly sums up his view of reification in terms that resonate with the transhumanist imagination:

> The machine gives a spatio-temporal dimension to the collective, species-specific aspects of human thought. The preindividual reality present in the human subject, unable to find an adequate expression in the representations of the individual consciousness, is projected in the external world into systems of universally receivable signs, intelligent machines, logical schemes made *res*. We find again a crucial philosophical issue: thanks to technology, we can see what precedes the individual in the external world. (Virno 2015, 148).

It is precisely this concept of the preindividual that is lacking from the theories of identity pronounced by Kurzweil and Schneider. As a result, the transindividual capability of technology is blocked, and the transhuman is constrained to repeat the isolated, alienated individualism of bourgeois society. To put it in terms of the dialectic, Bernal's compound brain constitutes only an external relation between individual minds; the transindividual network of machinery under the rubric general intellect is a true internal set of interrelationships, a real "among."

## Conclusion: Towards a Marxist Transhumanism

In order to "decouple [transhumanism] from its blindly capitalist trajectory" (Dyer-Witheford, Steinhoff and Kjøsen 2019, 161), three aspects need to be challenged. Firstly, transhumanism's individualism needs to be replaced with transindividualism, collective experience and action; secondly, transhumanism's fetishism of technology needs to be replaced by a reification of technology; and finally its legacy of eugenics and its reputation for the erasure of difference[8] needs to be squarely addressed.

A properly transindividual understanding of technology and the way it produces subjectivity can help us avoid the temptation of individualism and the resulting fetishism of technology. Only if we do that can capitalist alienation be overcome. However, this cannot remain a merely conceptual exercise. A Marxist transhumanist future would have to result from a real, material transformation of social relations. Accelerationism is not the answer: a transhuman Marxism must remain revolutionary. With technology as a reified "among" the technological component of a real collective revolutionary movement can be recuperated. Rather than fear contemporary fetishized technologies like artificial intelligence, currently used for surveillance and the reproduction of capitalist structures of oppression, reified technologies can be put to revolutionary purposes to build a transhuman future. This process, I think, helps to address the first two objections to capitalist transhumanism.

The question of difference is perhaps more difficult. We can see first-hand how difference is both repressed and subjugated under capitalism while at the same time celebrated and promoted in its consumerist and ideological modes. The legacy of eugenics and the attendant erasure of difference must be combated by a fully antiracist, antisexist, antiableist transhumanism. With this in mind we can conclude with a few remarks on the place of difference within Virno's conception of the multitude.

Virno argues that those who take the individual as a starting-point – like Bernal and Kurzweil, for example – are unable to see collectivity as anything but a threat to individuality. However, if – following Simondon – we understand individuality to emerge from the preindividual and to be constituted by transindividual relationships, then "contrary to what our deformed common sense might tell us, collective life is the opportunity for a further, more complex individuation" (Virno 2015, 234). The multitude, the social formation of the "many as many," irreducible to a singularity such as people, nation, or class,

> reaches its highest level in common action, in the plurality of voices and, finally, in the common sphere. Collectivity does not prevent or diminish individuation, but it continues it in a more powerful way. (Virno 2015, 234)

8 Transhumanism is often seen as celebrating difference through the flexible customization of human bodies, but I would suggest that when these differences are fetishized rather than reified then they serve to homogenize difference rather than celebrate it. Every tattooed person is tattooed even if every tattoo is different.

The oppressive hierarchies of race, gender, sexuality, and disability can only be properly challenged if we reject individualism in favour of "collective individuation" and the non-representative democracy of the multitude. It is here that Bernal's socialist prognosis – the outer-space globes with no need for government – has a chance of being realized. But this requires enshrining real difference within the reified structures of technology and difference not simply as a mental or linguistic exercise but through real social transformation. Virno concludes *When the Word Becomes Flesh* with a comment on the significance for democracy of real difference within the multitude:

> Since the collectivity is the stage for an emphasized singularization of experience, constituting the place where what is incommensurable and unique in every human life can express itself, nothing in it can be extrapolated or, even worse, "delegated." But let's be careful: the collectivity of the multitude, as individuation of the general intellect and the biological basis of the species, is the opposite of any form of naïve anarchism. … The collectivity of the multitude doesn't enter into any covenant, nor does it transfer its right to a sovereign, because it is composed of individuated singularities: the universal is not a promise but a premise. (Virno 2015, 236)

"The multitude doesn't enter into any covenant" is reminiscent of Audre Lorde's rejection of white feminist pluralism in "The Master's Tools Will Not Dismantle the Master's House." Lorde writes that

> advocating the mere tolerance of difference between women is the grossest reformism. It is a total denial of the creative function of difference in our lives. Difference must not merely be tolerated, but seen as a fund of necessary polarities between which our creativity can spark like a dialectic. Only then does the necessity for interdependency become unthreatening. Only within that interdependency of different strengths, acknowledged and equal, can the power to seek new ways of being in the world generate, as well as the courage and sustenance to act where there are no charters. (Lorde 1984, 111)

Capitalist transhumanism still sees the necessity for interdependency as a threat, valorizing the radical individuality of the cyborg even in the fetishized context of the hive mind or the compound brain. A properly Marxist transhumanism, founded on a properly transhumanist Marxism, can only be achieved through the radical transformation of social relations with a view to "acting where there are no charters" and the institution of the creative, unruly, irrepressible constituent power of the multitude itself. Only in this way can transhumanism's project of overcoming alienation in a form adequate to a just, sustainable, high-technology future be accomplished.

**References**


Abbinett, Ross. 2018. *The Thought of Bernard Stiegler: Capitalism, Technology and the Politics of Spirit*. Abingdon: Routledge.

Bastani, Aaron. 2019. *Fully Automated Luxury Communism: A Manifesto*. New York: Verso.

Bernal, J.D. 1929. *The World, The Flesh and the Devil: An Inquiry into the Future of the Three Enemies of the Rational Soul*. London: Foyle.

Bluemink, Matt. 2020. "Gilbert Simondon and the Process of Individuation." *Epoché*, September 26, 2020. https://epochemagazine.org/gilbert-simondon-and-the-process-of-individuation-61b11bf079bc

Bostrom, Nick. 2003a. "Transhumanist Values." https://www.nickbostrom.com/ethics/values.html

Bostrom, Nick. 2003b. "The Transhumanist FAQ: A General Introduction." https://www.nickbostrom.com/views/transhumanist.pdf

Bostrom, Nick. 2005. "In Defense of Posthuman Dignity." *Bioethics* 19 (3): 202-214.

Bostrom, Nick. 2007. "Dignity and Enhancement." https://www.nickbostrom.com/ethics/dignity-enhancement.pdf

Dyer-Witheford, Nick. 1999. *Cyber-Marx: Cycles and Circuits of Struggle in High-Technology Capitalism.* Champaign, IL: University of Illinois Press.

Dyer-Witheford, Nick, Atle Mikkola Kjøsen, and James Steinhoff. 2019. *Inhuman Power: Artificial Intelligence and the Future of Capitalism*. London: Pluto Press.

Graham, Elaine. 2002. " 'Nietzsche Gets a Modem': Transhumanism and the Technological Sublime." *Literature and Theology* 16 (1): 65-80.

Haldane, J.B.S. 1923. *Daedalus, Or, Science and the Future*. London: E.P. Dutton.

Hall, Stuart. 2021. "Rethinking the 'Base and Superstructure' Metaphor." In *Selected Writings on Marxism*, edited by Gregor McLennan, 62-90. Durham, NC: Duke University Press.

Hardt, Michael and Antonio Negri. 2004. *Multitude: War and Democracy in the Age of Empire*. London, New York: Penguin.

Horner, David Sanford. 2001. "Cyborgs and Cyberspace: Personal Identity and Moral Agency." In *Technospaces: Inside the New Media*, edited by Sally Munt, 71-84. Cambridge: MIT Press.

Hughes, James. 2013. "Transhumanism and Personal Identity." In *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future,* edited by Max More and Natasha Vita-More, 227-233. Hoboken: Wiley.

Jameson, Fredric. 1972. *Marxism and Form: Twentieth-Century Dialectical Theories of Literature.* Princeton, NJ: Princeton University Press.

Lazzarato, Maurizio. 2012. *The Making of the Indebted Man: An Essay on the Neoliberal Condition.* Cambridge, Mass: MIT Press.

Lorde, Audre. 1984. "The Master's Tools will never Dismantle the Master's House." In *Sister Outsider*, 110-113. Freedom, CA: Crossing Press.

Marx, Karl. 1970. *A Contribution to the Critique of Political Economy*. Moscow: Progress Publishers.

Marx, Karl. 1973. *Grundrisse*. London: Pelican.

Marx, Karl. 1976. *Capital, Volume 1*. London: Penguin.

Marx, Karl. 1977. *Economic and Philosophic Manuscripts of 1844*. London: Lawrence and Wishart.

Marx, Karl. 1978. "Critique of the Gotha Program." In *The Marx-Engels Reader*, edited by Robert C. Tucker, 525-541. New York: Norton.

Negri, Antonio. 1999. *Insurgencies: Constituent Power and the Modern State*. Minneapolis: University of Minnesota Press.

Negri, Antonio. 2020. *Spinoza: Then and Now.* London: Polity Press.

Parfitt, Derek. 1984. *Reasons and Persons*. Oxford: Oxford University Press.

Schneider, Susan. 2008. "Future Minds: Transhumanism, Cognitive Enhancement and the Nature of Persons." https://repository.upenn.edu/neuroethics_pubs/37

Sen, Amartya. 2003. "Sraffa, Wittgenstein, and Gramsci." *Journal of Economic Literature* 41 (4): 1240-1255.

Steinhoff, James. 2014. "Transhumanism and Marxism: Philosophical Connections." *Journal of Evolution and Technology* 24 (2): 1-16.

Virno, Paolo. 2004. *A Grammar of the Multitude.* MIT Press.

Virno, Paolo. 2015. *When the Word Becomes Flesh: Language and Human Nature.* MIT Press.

Winnicott, Donald. 1953. "Transitional Objects and Transitional Phenomena." *International Journal of Psycho-Analysis* 34: 89-97.

Wright, Steve. 2002. *Storming Heaven: Class Composition and Struggle in Italian Autonomist Marxism*. London: Pluto Books.