The Machine That Therefore I Am

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Introduction

This essay argues that the fetish of capital (its over-determination of the subject-object dialectic) installs the computer as an entity that appears as though it is socially superior to sentience clothed simply in skin, blood, and bones. This installation occurs by way of value's movement as a real abstraction in capitalism, a process in which machinic and computational components come to appear as life-like in their service of capital's reproduction as an automatic and autonomous subject. In linking our transferential relation to mechanisms of automatic logic - what we now call computers - to this hermaphroditic capacity of capital, I seek to contextualize the popular fantasy that we might (someday soon) develop an artificial intelligence through computers - a productivist superior which some prefer to call an 'artificial general intelligence' (AGI) - by way of the philosophical sanity of Marxian and value-theoretical analysis.

This fantasy has been visually elaborated in film since its emergence as a medium (Lang 1927; Kubrick 1968; Lisberger 1982; Scott 1982; Cameron 1984; Wachowski and Wachowski 1999; Jonze 2014; Garland 2015; "Westworld" 2016), and its historical roots reach further back still to at least 1818, when Mary Shelley published *Frankenstein; or, the Modern Prometheus* (Shelley 2018). Indeed, measuring the figure of the human against a mechanical ruler has been a structuring figment of our social and psychical reality since the moment that some call modernity (though others may prefer secularism or secularity) opened Pandora's box and let out the ghastly idea that we humans, as subjects of our own social life-worlds, might be responsible to no-one and nothing other than ourselves. The philosopher Frank Ruda summarizes the dual ecstasy and agony of this idea: "Thus is man doomed to freedom" (Ruda 2023, 20). Since we have been given such a sentence, we have been free to misperceive ourselves among others: "responsible for [our] own errors," as it were (Ruda 2023, 20) One such error that follows from our compromised claim to freedom in capitalism, I will argue, is the fetish of machinic superiority.

This essay begins by unpacking what Marx means in chapter four of volume I of *Capital* when he nominates the movement of value in capital an **automatic subject**.[1] This infamous and enigmatic description of the self-movement at work

[1]Note that while Marx's statement in volume I actually amounts to the assertion that the *movement of value* (rather than capital as such) is an automatic subject, I shorthand this as

in capital has warranted much interpretation, and it is worth first returning to the section in *Capital* in which it appears to orient the reader:

> The independent form, i.e. the monetary form, which the value of commodities assumes in simple circulation, does nothing but mediate the exchange of commodities, and it vanishes in the final result of the movement. On the other hand, in circulation M-C-M both the money and the commodity function only as different modes of existence of value itself, the money as its general mode of existence, the commodity as its particular or, so to speak, disguised mode. It is constantly changing from one form into the other, without becoming lost in this movement; it thus becomes transformed into an **automatic subject**. If we pin down the specific forms of appearance assumed in turn by self-valorizing value in the course of its life, we reach the following elucidation: capital is money, capital is commodities. In truth, however, value is here the subject of a process in which, while constantly assuming the form in turn of money and commodities, it changes its own magnitude, throws off surplus-value from itself considered as original value, and thus valorizes itself independently. By virtue of being value, it has acquired the occult ability to add value to itself. It brings forth living offspring, or at least lays golden eggs (Marx 1992, 255).

Capital's reproduction as an automatic subject, I argue, should be understood in respect to two ideas: capital's provisional and in some way prior status as an abstract subject, followed by its complementary and coeval status as an autonomous subject.[2] A sophisticated understanding of capital's hermaphroditic capacity to lay such golden eggs as a seemingly abstract, automatic, and autonomous subject is the reproductive basis for this essay's other half, which argues that our transferential projection of computers as essentially already or soon-to-be sovereign entities is a constitutive fantasy of capital's self movement, rather than an objective indication of technological advancement. Both the fetishistic reduction of human to machine and the reciprocal transvaluation of machines as eminently animate entities are symptoms of the abstract domination at work in capital's value-forms.

Through recognizing and elaborating the logic of this idea, Marx helps us to understand the mechanics of computing's advancement toward automating out the human under the guise of historical progress and humanity's enhanced flourishing.

"capital is an automatic subject" in this essay to avoid the more verbose "the movement of value in capitalism is an automatic subject." Capital, following Marx, names the social relation instituted by (the movement of) its value-forms.

[2]The framing of the movement of value as an 'automatic subject' in this passage has frequently been understood as a reference to Hegel's idea of 'substance becoming subject' (see for example (Carson 2020)). In this view, Marx's conception of capital is structured around the Hegelian idea of the subject, and capital is a contorted kind of Hegelian subject-gone-wrong. I approach Marx's understanding of the automatic subject through a different philosophical lineage here, an approach that is intended not as an oppositional corrective to the Hegelian explanation, but rather as a complement.

The fetish of this advancement in computing history can be traced to the 'imitation game' proposed by Alan Turing, in which a computer seeks to generate responses that will effectively fool a human observer into being unable to distinguish it from a human in its same response-generating position. The fetishistic (mis)recognition that our machines are effectively already intelligent is not, as many claim, an indication that we are especially close to replicating human subjectivity in metal and silicon: it is rather a symptom of the fact that the vantage point of our constitutive freedom as capitalist subjects favors a misunderstanding of ourselves as nothing but mechanism.

In short, this paper's aim is firstly to unfold an understanding of the movement of value in capital as an autonomous, automatic, and abstract subject; and secondly to leverage this understanding to assess the Turing test as the primal scene that organizes computing's historical development and accounts for its incessant drive towards the production of computational sentience by way of its fantasy of subjective automation.

In this essay's first section, I will thus first propose a framework in which capital is posited as an abstract and grammatical subject with reference to Descartes. By further unfolding what the qualifier 'abstract' means in this positing with reference to both Marxian abstract labor and Alfred Sohn-Rethel's notion of real abstraction. Second, I argue that it is in capital's interest for value to appear as an automatic subject, that is, without the trace of its genesis in the sphere of production, as this appearance sustains the suppression of labor's role in the system's constitution. Third, I consider how capital's status as autonomous subject sheds light on Marx's analysis of commodity fetishism and its role in exchange through a deeper engagement with Sohn-Rethel's Kantian line of argumentation.

The second section of this essay opens with a presentation of the universal machine in Alan Turing's thought, a structure that is now more commonly known as a Turing machine, or more simply as a computer. By re-reading chapter 15 of Marx's *Capital*, volume I, in which he theorizes the machine and its effect of automation in relation to capital, in light of capital's status as an 'intelligent' subject (as elucidated in the first section), I argue that Turing's and Marx's machines are homological structures of each other, and that therefore in a Marxian framework, the machinic is computational and vice-versa. I then interrogate the grounds from which computational subjectivity takes its authority, the Turing test, by comparing its structure to the Cartesian conception of the human as a rational animal. Finally, I turn to Mladen Dolar's reading of E.T.A. Hoffman's short story *The Sandman* to argue that the figures of the analyst and the automaton are separated only by the slimmest of margins, and that indeed the analyst can in some ways be considered an insufficient automaton. This concluding psychoanalytic treatment confirms that the desire to be mastered by a machine is a sticky and persistent symptom that surfaces on account of subjection to capital's hermaphroditic movement of value, and not a false consciousness that can be readily repressed.

In a word, this essay argues that mistaking a machine for a member of society,

silicon for skin, a computer for consciousness is what capital as the subject of the sentence of social life *wants* of its workers. The philosophical and political struggle for freedom over and against capital's powers of subjection must learn to live and think from within such a reasonably installed desire.

My father was the movement of value

Abstractly

Rebecca Carson has recently theorized the movement of value in capital as an **abstract subject** on account of the fact that it reproduces itself at a level that cannot be posited simply as a simple 'sum' of the conscious wills (of human subjects) engaged in exchange (Carson 2023). Developing the implications of what is meant in Carson's evaluation of the movement of value as an abstract subject will lay the foundation for a more thorough understanding of it as also appearing as other kinds of subject - specifically as dually automatic and autonomous - as the paper proceeds.

Carson's argument, like my own, takes Sohn-Rethel's notion of **real abstraction** seriously (Sohn-Rethel 1978). In positioning value as an abstract subject, Carson recognizes its commanding position in (a certain syntax of) logical thought. As abstract subject, value appears at first glance to capture and configure every other element that exists in relation to it.

One can draw out the consequences of value's appearance as subject in capitalism with reference to the word's *grammatical* implications. In a sentence, the subject appears as that which structures the objects, verbs, adjectives and so on to which it stands in relation. The grammatical subject is the pole or topos of meaning, the basis through which these other elements first look for definition. If a subject does not explicitly exist in a sentence, there is an implicit assertion of a quasi-ontological, pre-given context (to which that subject-less sentence refers). If it does, then we first look to make sense of the sentence's logical point by positing the subject's existence, so that the complementary not-subject elements have a space in which they can acquire their meanings or functions; that is, in relation to the subject already at hand.

Moreover, the sense of a subject persists across sentences in a corpus of text. If 'I' am doing something in one phase, there is some common sense that persists from the first instance of the 'I' to its following ones. This common sense is not substantiated through a common feature that must be hermeneutically determined, but is rather *minted* as an identical reference solely through the construct of grammatical relation. Objective elements - those that are not-subject - appear organized by the grammatically minted identity of some subjective element.

Take as an example the sentence: I am holding a cup of coffee, and I am asking you up to my apartment for a cup of coffee. As in the previous sentence, objective elements do not automatically qualify as self-identical in the way that 'I' do. The cups of coffee are configured in relation to the subject, minted as relevant to the

logical point or value of the sentence only insofar as they bear a (grammatical) relation to it. The subject, on the other hand, appears as meaningful in itself. It is framed as the simple point of the sentence, the reference to the subject that is speaking, and therefore seems in need of no further qualification or substantiation.

This grammatical sense of the word 'subject' reveals how the movement of value in capital comes to appear as an abstract subject. Value as abstract subject asserts itself as the primary point of social logic. The elements that stand in relation to it thus seem to become sensible only in relation to the subject's assumed pre-existence. Value in capitalism is an *abstract* subject, in other words, because it occupies this essentially axiomatic position in the grammar of social life. Its assumed existence is the first moment in the unfolding of capital's logic as a social relation, and its identity is both produced and reproduced by virtue of its continued occupancy of this status as subject in the grammar of social life. It is through the operative assumption that value in capital ontologically exists that it seems to acquire a *life* of its own, producing fetishistic appearances of life in objects (dancing tables), and reductive objectifications of life (mechanical workers).[3]

Armed with such an understanding of how capitalist value occupies this sovereign position in social grammar, a solution presents itself to resolve the problem of its power– for following Marx, the problem of power at hand is how we might construct a grammar of social life otherwise, a logic that doesn't unfold from the mute point of capital's subjective hegemony. If capital's logic as subject were all so simple and abstract, we should do well to recognize the fetishistic misconceptions regarding the ontology of value that follows from its position therein, dethrone it as abstract subject, and re-institute ourselves as the determinants of the grammar of social life. Thus the revolution might finally succeed in abolishing capital's hegemony: all in a good day's work! Yet there is something analytically strange about how value as an abstract subject assumes the appearance of ontological precedence, an eccentricity that ends up accounting for capital's sticky and unwelcome persistence in that position.

The paradox of value's status as subject is that its quasi-ontological precedence only comes to exist *retroactively*, i.e. after the objective elements– commodities, for example– that appear logically 'after' it have themselves appeared. The idea of an abstract subject as I have presented it above has been both presented and problematized since the dawn of rationalist philosophy, which is why we are best to trace the paradox of its retroactive precedence to the emergence of the 'I' in the famous Cartesian sentence and principle, *je pense, donc je suis*: I am thinking and so I am being. Since Descartes, and perhaps most notoriously since Kant, the subject as simply *abstract* has been posited as a more or less sufficient solution to the philosophical problem of how the subject should come to operate with respect to reason in the light of its social situation. Yet as I will argue, the Cartesian and Kantian notions of the abstract subject are problematic if not further unfolded with respect to the subject's dual status as also both automatic and autonomous, a dialectical proposition that I will put forward in the following two sections.

[3]See chapters 4 and 5 of (Carson 2023) for a detailed analysis of the consequences of this status.

The abstract subject can be requalified as dialectically composed of two sides, the automatic and the autonomous, in Descartes' famous sentence, 'je pense donc je suis'. The 'I' in this sentence asserts itself as existing ('je suis') without reference to an object, but with reference to subjective engagement in an apparently precedent state, thinking ('je pense'). Descartes' subject is understood not in relation to an objective element that it logically configures, such as a cup of coffee, but in relation to a difference within itself as subject. Descartes' 'I' participates in two different activities, thinking and being, and the former is causally responsible in some way for the latter.

What exactly the nature of the causal connection between thinking and being consists in, however - how exactly Descartes' 'donc' is supposed to work - is not straightforward. The sentence does not involve an object; only a subjective 'I' and two actions whose respective difference is said to guarantee the consistency of the other. Rather than accept subjective thought as ontologically guaranteed, Descartes seeks to ground the existence of the subject (without reference to an object) in its capacity to think. It is thinking that causes the subject to exist; just as it is the subject that causes its objects to exist (in logical relationship to them).

Yet wouldn't a subject need to (be said to) exist before it could (be said to) think? Descartes' paradoxical suggestion that thought causes existence, that epistemology takes precedence to ontology, can only be accounted for through a subject that operates retroactively in some sense. The subject at its most fundamental - without reference to an object, and substantiated only by the difference articulated between thinking and being within itself - suffers a retroactive relationship between its two constitutive poles. I *am* only because 'I' can think: yet I cannot understand myself to be thinking unless an 'I' is already there. Existing is a sort of exception in the logic of thinking, for it must already have form in order for thinking to take place at all. Vice-versa, thinking is an exception to the logic of existing, for the subject of thought is able to conjure a quasi-ontological precedence to other existing things in its very status as subject.

To understand capital as a grammatical and abstract subject is to establish that its logic, which we may call the mechanics of the movement of value, owes something fundamental to the Cartesian problematic of subjective emergence.[4] An equivalent kind of retroactivity in the subject's emergence is at work in it: capital as abstract subject works through an exceptional relation between the logical (thought) and the ontological (being). More strongly put: *the subject is the name of the moment in which a relationship between thought and being is minted.*

To develop a sense of the consequences of the assertion that value-as-subject amounts to its status as a reconfiguration of the Cartesian problem of existence-qua-thought, it is instructive to turn to one of Marx's best readers in Alfred Sohn-Rethel.

[4]Beverly Best has recently referred instead to the "capital's perceptual physics – its real appearance as self-valorizing value, as the 'automatic subject'" (Best 2024, 47). My understanding of the mechanics of value here is similar, in that it also denotes the way in which capital comes to appear. I prefer the term "mechanics" here to better service subsequent arguments about the status of mechanism in this logic.

Reading Sohn-Rethel's famous formulation - that capital is a **real abstraction** - closely can qualify how value co-invokes and re-structures thought in its status (existence) as an abstract subject.

Marx's most famous use of the qualifier abstract is in **abstract labor**, that critical metric in the make-up and movement of capitalist value, and it is from here that we can garner a basic understanding of the work that the abstract is doing both in real abstraction, and in the abstract subject. As it is developed in volume I of *Capital*, abstract labor is a notion that makes multifarious forms of concrete labor exchangeable in the movement of value that amounts to the set of relations that Marx calls capital.[5] In this role as the measure of value in exchange, abstract labor is a defining characteristic of the commodity as such. It is because the commodity is valued by way of abstract labor that Marx calls it a sensuous-nonsensuous thing; it is a 'notion' that "exists neither at the level of being, nor at the level of immediate objectivity" (Carson 2023, 78) as it rather exists *as a reified form of exchange*.

The commodity is neither strictly thing (objective) nor thought (subjective) because it names the moment in which one thing appears as exchangeable with another, in which things become thinkable as conduits of the movement of value. As such conduits, commodities (infamously) confound the distinction between subject and object: tables and other technology appear capable of dance and life, while the livelihoods of workers are heartlessly overlooked in their equivocation as cogs in the machine. I will return to this pernicious overdetermination of subject and object in capital and its relation to value's subjective sovereignty shortly.

Forms of exchange such as the commodity are the nouns of Marx's logic of capital, which (following Moishe Postone and Carson) we may call its **value-forms** (Postone 1996). The logic of capital lies, in other words, in the syntax of its value-forms; forms which exist alongside the commodity at the sensuous-nonsensuous level of social exchange. The commodity as value-form is not thing nor thought, but an *abstraction* that configures the relation between the two categories, between the logical and the ontological. When concrete forms of labor are elevated to the possibility of exchange by way of their valuation as abstract labor, they are made sensible/logical at this level of (commodity) exchange: they are put into relation with capitalist value as subject at a level of logic ('abstraction').

The existence of capital's value-forms at this 'third' level of abstraction (before, or between, thing and thought) is why Sohn-Rethel calls them - and capital in its status as their collective effect - *real* abstractions. The commodity is not just an abstraction in the sense that it exists 'subjectively' in the minds of persons participating in exchange; it is a notion that persists regardless of the conscious acknowledgment of exchange's participants, pre-configuring the scope of roles by which they might relate to each other (as buyer or seller, as capitalist or proletariat).

As Slavoj Zizek notes in his 1989 book, *The Sublime Object of Ideology*, this third

[5]For a concise and accurate review of Marx's theory of abstract labor in the opening chapters of *Capital*, see (Heinrich 2012).

level of abstraction in Marx should be understood as a postulate that asserts itself retroactively:

> the 'real abstraction' is of course not 'real' in the sense of the real, effective properties of commodities as material objects: the object-commodity does not contain 'value' in the same way as it possesses a set of particular properties determining its 'use-value' (its form, colour, taste, and so on). As Sohn-Rethel pointed out, its nature is that of a *postulate* implied by the effective act of exchange - in other words, that of a certain 'as if' [*als ob*]: during the act of exchange, individuals proceed *as if* the commodity is not submitted to physical, material exchanges; *as if* it is excluded from the natural cycle of generation and corruption; although on the level of their 'consciousness' they 'know very well' that this is not the case. (Zizek 2009, 11–12)

Zizek goes on to propose that the most evident symptom of the status of capital's value-forms as postulate 'conditions of possibility' for the valuation of things under capital is the sensuous-nonsensuous character of *money*. Money is a commodity like any other in Marx, exchangeable with reference to its denomination of abstract labor-time. But it is also a curious limit case of the category 'commodity', for its use-value contains a kind of self-reference in pointing to its exchange-value. The use-value of money is that it represents the exchangeability of one commodity for any other, i.e. it 'materializes' exchange-value as such. Without money, it would not be possible to exchange one commodity for another, at least not within the rubric of capitalist value, for there would be no material representation of the set of essentially infinite possible commodity exchanges (`X` wool for `Y` iron, `Y` iron for `Z` cloth, and so on). Money, in other words, serves as a material postulate for the movement of value in exchange, a retroactively established condition of possibility for exchange as such.

As a value-form in capital, then, money 'exists' at the level of real abstraction. It is not a thing that can be unpacked with respect to its qualitative dimensions, but rather an 'unconscious' value-form whose quantitative logic structures the conditions of possibility for qualitative determination. In summary, the qualification of capitalist value as an *abstract* subject can be understood with respect to the grammatical dimensions of the subject as 'prior' to being, as per Descartes, as well as to Marxian abstract labor and its re-use in Sohn-Rethel's notion of real abstraction. The logic of capital operates through the process of its value-forms taking a grammatical status as subject, through which these forms become an ontological postulate to the forms of object and action subjected to it. This 'third' space of capital is unconscious to the minds of its laboring constituents, as though it is sustained by a disposition in humanity, that very disposition causes it to appear objectively as a real abstraction. Thus capital cannot simply be dispelled as if it were false consciousness through conscious reorientation, for it does not only exist in our minds, but also in the exchange between them.

Automatically

In coming to exist in this postulate third space before thought and being as abstract subject, the real-ness of capital's value forms is what allows both them and the system that names their co-functioning (capital) to acquire its complementary status as an **automatic subject**. This status refers to capital's capacity to move itself. This can be seen by breaking the qualifier 'automatic' into its two parts; *-matic* (relating to movement) and *auto-* (on its own steam, so to speak). By reading this qualification through two of Marx's most perspicacious readers, Werner Bonefeld and Rebecca Carson, it will become clear that capital-as-automatic-subject is best understood as an eclipse of the time of production in value's modes of appearance, an eclipse that is a direct consequence of capital's posited status as abstract subject.

As an automatic subject, capital also 'automates out' the place of the human subject in social practice, rendering humanity incapable of determining its own conditions of existence. The structure of this automation deprives humanity of the possibility of freedom, or self-determination, in social practice and in 'history'. In capitalism, the production of surplus value is (automatically) made the principal aim of societal practice, covering over the space of possibility that opened in secular modernity in which humanity might determine its own aims and ends. Capital, in other words, automatically assumes the role of subject (in the sentence of society). As a result, humanity is indentured to *its* telos rather than determining its own.

In Bonefeld's view, overly structuralist and 'scientific' readers of Marx offer us too dogmatic an interpretation of the statement, "capital is an automatic subject". If capital's forms are seen 'scientifically' as objectively independent 'laws' that structure and shape our social existence, and not as dialectical forms that come to be objective only through the externalization of subjectivity, then the determination 'is' in the sentence "capital is an automatic subject" leaves no room for debate: capital *is*, and can only ever be, an automatic subject. We cannot hope to ever shift another subject in its place, because that inkling of freedom - the opening that *we* might inhabit, rather than capital's telos - is automated out. The structuralist interpretation therefore reifies capital's logic, as it looks past the contradictory role that labor plays in its make-up. Even as it is co-opted to appear as simply an extracted input in the production of surplus value, labor's comportment is in fact the underlying cause of capital's perverted constitution.

Bonefeld summarises the structuralist misapprehension as follows:

> The danger of treating capital merely in terms of its formal existence - as an automatic subject - is that 'value' becomes an historically active subject without social substance. (Bonefeld 1995, 201)

Bonefeld understands the automatic subject here as capital's apparently immediate positioning as the abstract subject of social life - that is, as the principal and pre-existing "meta-form" (Bonefeld 1995, 192) that defines the conditions of possibility for all other forms (and thus all content) of social life. The "social substance" to

which Bonefeld here refers, and the logical role of which we lose sight if capital really does automatically become subject - that is, if it is produced as subject without any time (consciously) spent in the sphere of production as such - is **labor**. Labor is the substance of value for Marx because it is the *only* real source of value's apparent self-valorization in surplus value. The structure of capital obscures this real source in the sphere of production in the process of value's circulation. In other words, labor is the 'unconscious' of capital's explicit logic and operation, the indecipherable cause that sustains and mints its very systematicity.[6]

Capital appears as a machine that needs no refuelling or recharging and which endlessly valorizes itself in the relentless repetition of `M->C->M'`. As the source of its reproduction is mystified, it therefore acquires an ethereal, quasi-mystical, and 'religious' quality through its apparent permanence without requisite resource. As Marx's analysis in *Capital* shows, however, the logical source of this surplus, mystical in its apparent automaticity, is in fact labor. More specifically, it is an abstract reduction of labor in its lived, qualitative particularities to the homogeneous idea of it as nothing but its measurement, a quantitative vector of socially necessary labor time; i.e. **abstract labor**.

The reduction of labor to abstract labor in capitalism is the mystification that gives rise to capital's formal existence (appearance) as an automatic subject. The mechanism of the movement of value renders the fact that labor is the substance of value (all but) invisible, instead producing a world of appearances in which value seems to valorise itself. In this world, the human subject appears as a marionette that services the reproduction of the system, responsible only as a supplemental input in its function as waged labor, rather than as the sole and veritable source of the system's conception of value in the first instance.

In fact, as Bonefeld convincingly argues with Marx, labor is the *cause* of the system rather than its simple supplement. In capitalism, labor has come to work against itself - a perversion appropriately recognized as its **alienation** - repetitiously producing a system that reduces labor to but a ghost of itself, a virtual measurement that operates reductively as an objective function, rather than as a subject in itself. It is for this reason that Bonefeld is critical of readers of Marx who figure him as asserting that capital is and can only be (given capitalism as our current condition) the abstract subject of social life; that capital is automatically this abstract subject. Capital's logic wants to leave no time for tarrying in labor's habitus, the sphere of production, and so virtually figures itself as automatically existing before any moment in which the real cause of its own production might be contested.

The structuralist reading of capital-as-automatic-subject, in other words, leaves no possibility for a social practice that reclaims itself (humanity) as subject, and thus no possibility that labor can ever become anything other than alienated. An emancipatory reading must recognise that, while capital *appears* as the abstract subject of social life (in place of labor), there is a mystification at work in this appearance. Capital's appearance as a structure wants to distort the distinction

[6]Two books that develop this thesis differently are (Zizek 2009) and (Tomsic 2015).

between what it seems and what it actually is; for if it has collapsed one sense into the other, then it has achieved a permanence in its automatic assumption of the place of abstract subject. Capital as automatically the abstract subject of social life represses the possibility that we (the labor that actually mints it) might contest its incessant reproduction.

How, then, should we read capital's automatic status differently from the structuralists? Rebecca Carson's recent reformulation of the problem in her essay "Capital: Automatic Subject - Animate Object" provides us an answer:

> Capital becomes animated as the subject of the process and humanity becomes subject to the process of accumulation of capital…. Capital *appears* to be a self-moving "automatic subject" of the process of accumulation. Capital becomes animate…. Capital is therefore a subject-object: an animate (in its life-like, self-reproducing appearance) object; and an automatic (in its objective foundation in human production) subject: two oppositional characterisations of the same antinomy. (Carson 2020 (emph. mine))

In contradistinction to the structuralist misreading against which Bonefeld cautions, Carson's dialecticizes the phrase 'automatic subject' by putting it in relation to capital's twin status as 'animate object'. Capital's automaticity is the appearance of being untethered from "its objective foundation in human production," a projection that concomitantly makes it appear animate, and which causes its objects (commodities) to appear more life-like than the humans who labor toward their production. Capital's status as automatic subject is not an ontological reality, as the structuralists would have it, but an *appearance* produced through (commodity) fetishism. Capital seems to 'automatically' cover over the cause of its valorization in the sphere of production, namely labor, dissipating the logical reality that "capital is an object made up of human subjective properties… [and thus] endowed with the appearance of subjective capacity" (Carson 2020). Capital's automaticity is its ability not seem to need to spend any time in the sphere of production, where value production must reckon with labor in the flesh, just as an automatic machine drives itself without any apparent need for an operator, as if it were its own Prime Mover. Capital functions through this mystification, concealing the real relations of production in its movement (circulation), and thus concealing the real status that labor has as the unconscious cause of this seeming self-movement.[7] As the form of the subject appears as already (automatically) constituted, there is no time to deliberate or argue about its direction. The economy simply must self-valorize, as if by natural dictum, and thus while we are free to choose if we sell our labor to reproduce ourselves as workers within its structure, we are not free to contest this logic or its grounds.[8]

[7] This is an argument that Best accurately and articulately advances: forms in the sphere of circulation effect "the deep mystification of the source of capitalist profit in living labour" (Best 2024, 45)

[8] "Men make their own history, but they do not make it as they please" (Marx 1852).

Carson's dialectical reading reclaims labor as the substance of value, following Marx, and as such reopens the possibility (foreclosed by the structuralist persuasion otherwise) of a society in which capital no longer 'automatically' assumes the role of abstract subject. Capital is only automatic at the level of appearance; and appearance cannot simply be collapsed to reality. It is because Marx refuses to collapse this distinction between reality (ontology) and appearance (epistemology) at any juncture that Paul Ricoeur nominates him, along with Freud and Nietzsche, as one of the great masters of suspicion (Ricoeur 2008). The real substance of capital's production as abstract subject is labor, a cause of which we can retrieve memory only through a dialectical critique of its fetishism:

> At the level of appearance, capital is a subject, while its nature as automatic is understood through the critique of its fetish, which reveals the illusion of semblant autonomy or free movement. (Carson 2020)

Autonomously

I have argued thus far that capital is an abstract subject because it occupies the retroactive third space of real abstraction, and that it is an automatic subject because it mystifies the conditions and constitutive time of its own production through labor's alienation. In this section, I further argue that it is an autonomous subject because in the combination of these subjective statuses it assumes a life of its own, becoming capable of the semblance of its own will and desire, rather than functioning transparently as a collective summation of the desires of its unconscious cause in humanity.[9] Under capital, human desires do not operate of their own accord, but instead are refracted through an externalized (social) function. This function re-presents human desire as subject to the will of a structure external to it, rather than operative as the subject of its own making.

To come to this view of refracted desire, let us work through what the qualifier 'autonomous' adds to the understanding of subject. Capital is an autonomous subject because once it becomes dominant, "accumulation and the reproduction of value are the driving force of the process" (Carson 2023, 80). Once it has assumed the role of subject, capital establishes a life of its own. Human life, rather than being the straightforward subject of social life, is objectified, instrumentalized, and subjected to the (re)production of capital's forms. The movement of value in capital takes place autonomously, (as if) on its own steam, without the (conscious) determination of humanity. Labor is no longer free to follow its own inclinations; it is instead determined by capital's.

Sohn-Rethel's theory of real abstraction makes the link between capital's form of appearance (as commodity fetishism) and the process of its unconscious reproduction in exchange mediated by money (the exceptional commodity that secures its very form) explicit. As I have argued via Descartes, the constitution of tran-

[9] Alain Badiou has disparagingly called such a summative view of society 'democratic materialism'.

scendental thought relies on a retroactive exception in its own logic, the name for which we may understand as being. For Sohn-Rethel, money is the materialization of this exceptional moment in thought in capitalism, as money is the expression (or representation) of a particular configuration of the order of social exchange, a configuration that Marx analyzes through its principal concept in the commodity. Commodity fetishism, then, is an exploration of the effects of a subject-object relation through which capital, rather than labor, is crowned as subject and thus becomes the name of the system of social relations tout court.

As the materialization of the exception that proves the system's rule, money is an important nodal point through which capital comes to dominate human subjectivity. Consumed by the quest for money's reproduction, humanity is no longer subject only to its own determination, but is also subjected to capital through its abstract forms (commodity, wage, rent). Humanity thus becomes 'unfree' in reality even as it is free in (a particular domain of) appearance.

Why is it that capital burrows its way so surreptitiously into humanity's physical and mental construction? Because conscious thought is not autonomous without qualification, but rather is autonomous only insofar as it is able to repress the constitutive exception in its own logic, exchange. Autonomy, in this sense, is the counterpoint to automaticity: the automatic (appears to) move - or exist in the world - by itself, whereas the autonomous (appears to) *think* by itself. Sohn-Rethel's insight is that, just as the dialectical method prevents us from reading the automatic subject as actually and completely covering over the time of production (the domain of labor, of humanity's capacity to think different), the quality of autonomy similarly has an external cause in a domain outside of its own logic. As self-movement seeks to cover over its unconscious cause in thought, self-sufficient thinking seeks to cover over its unconscious cause in exchange. Autonomy and automaticity are two sides of the same coin.

In capitalism, the kind of exchange that conditions transcendental subjectivity - the apparently 'free' and unconditioned subjectivity of thought, a freedom that distinguishes it, in having no cause but itself, from objectivity as such - is commodity exchange. This hidden cause of humanity's apparent subjectivity in exchange establishes “the inherent tie between the commodity form and the form of thought” (Dolar 2022, 110), and it is through this suture of form (between thought and exchange) that money comes to be sufficient explanation for any subjective action.

Put differently, we should understand capital's status as autonomous subject - the capacity to determine itself even as it is produced as a social relation between humans - primarily through its complementary status as a real abstraction. Capital is able to operate its domination of labor by way of money because exchange shares the form of (Kantian transcendental) thought. Exchange's sensible manifestation is the nodal point at which the nature of the relationship between being (ontology) and thought (epistemology) is minted, overdetermined, reified. In capital, the subject-object relation is minted through and as money, wherein money names the logic of commodity exchange by way of a system of exchange value measured according to

its metric in abstract labor time.

Thus capital acquires a third status as autonomous subject. The exchange of commodities has the form of thought; and so exchange's hypostasis in capital appears as a (thinking) subject. No wonder, then, that commodities come to appear as animate entities whose life substitutes that of the persons in their tread. Commodity fetishism is the structural effect of capital's status as (abstract, automatic, and autonomous) subject. It "brings forth living offspring" (Marx 1992, 255) because in its position as such a subject it becomes capable of its own reproduction, and assumes a life on and of its own.

Dolar explains Sohn-Rethel's striking insight with reference to his theory of real abstraction:

> the access to abstract thought in its autonomy (epistemology, cognition, science, etc.) is only possible by suppressing this external origin…. What thought-abstraction represses in order to be established is real abstraction. (Dolar 2022, 112)

The apparent autonomy of abstract thought, its apparent clarity of indetermination - its apparent freedom and self-sufficiency - is minted only through the repression of the fact that an activity in the world - exchange - shares its form. Subjective autonomy, in fact, has a *social* origin, at least under the conditions of capitalism. But in order to appear to ourselves as autonomously capable, we must repress this social source, this external origin of autonomy's form in exchange.

One is reminded here of Bonefeld's critique of the structuralists, which is discussed in the previous section. Though labor (humanity's subjectivity) wants to appear as an externality to capital's functioning, of which it seems to *need* nothing, it is actually the substance of its lifeblood in value, an 'external' cause on which it principally relies. In putting together Dolar/Sohn-Rethel and Bonefeld, one can see that alienation in Marx necessarily works both ways: just as capital must constitutively alienate labor in order to elevate itself as an apparently autonomous subject, so too must human thought alienate exchange to claim its own apparent autonomy, its subjectivity, its freedom from external determination.

The dialectical dependency between the Kantian transcendental human subject and the social form of exchange is why Sohn-Rethel refers to capital as a real abstraction. Capital *really* exists as a social relation, independent of the wills and desires of those whose labor sustains it; and it is an *abstraction* because it shares the form of thought. By suppressing the fact that its origin lies in the autonomy of labor, capital becomes its own autonomous subject, capable of servicing its own alien needs.

Capital appears as an autonomous subject because as a real abstraction it has the form of a self-willing and desiring entity, structurally equivalent to the Kantian autonomous subject, whose thought is thought to be free from external determination.

Because capital has assumed the place of the autonomous subject in the dialectical relationship between human thought and social exchange, humanity is no longer capable of autonomous labor or subjective freedom. An Idea, namely value, has filled in the space where this freedom conceptually might have been, rendering humanity but an object and an instrument of its alien will and desire.

* * *

Let me summarize the argument so far. Capital acquires the status of an autonomous subject because its form of appearance mirrors that of the transcendental subject, as an independence minted through the repression of its external cause in labor. As autonomous subject, it acquires the appearance of its own will and desire, both of which operate independently from the structurally equivalent but (as we shall see) fundamentally distinctive wills and desires of those individual humans whose alienated labor constitutes its emergence. Like the human autonomous subject, formed through the repression of its origin in exchange (real abstraction), capital as autonomous subject is formed through the suppression of its origin in the alienation of human labor (abstract labor). The Kantian autonomous subject, free-thinking labor in its modern constitution, and capital share the same form, two sides of the same coin.

The most important result of capital's status as an abstract, automatic and autonomous subject for my purposes in the next section is that, as a real abstraction, capital *acquires the semblance of its own needs*. Capital's needs and consequent drives toward them are untethered from the specificity of the collective needs of its human laborers, even as they co-exist as the constituent cause of its structure as subject as such. Capital's abstraction *wants* more surplus value much more than it wants the well-being of natural resource or humanity, both of which it treats as essentially expendable inputs to its (re)productive function. Capital *wants* it to appear that surplus value is automatically minted, with no time spent tarrying or contesting the sanity of this drive in the sphere of production: and it *wants* these things not in the service of some ulterior motive, but for its own sake, first and foremost for the sake of its own reproduction. It 'wants' as an autonomous subject capable of abstraction on its own terms, and not as a form dependent on anything external to it, like labor; for it has repressed that dependency in its abstract and autonomous constitution.

Zizek offers us a formulation for capital's relationship to labor that ties all of these conceptions together. Though social exchange of various kinds is conceivable, in capitalism its form is dominantly reduced to commodity exchange. When this reduction becomes dominant, when capital as a relation has set in, *capital becomes the unconscious of thought* (Zizek 2009). When value is subject, humanity is no longer capable of relating to its own needs as something *valuable* in themselves: they are necessarily subordinate to the schematic and singular need of capital, surplus value. The status of human life is therefore relegated to a subsidiary grammatical role as an object in service of the reproduction of capitalist value as subject.

One additional point must be made to understand the scope that remains for

human freedom under capitalist domination. Capital cannot, as Bonefeld's structuralists would have it, be understood *ontologically* as an abstract, automatic, and autonomous subject. It is better to say that *capital* ***wants to be*** *an abstract, automatic, and autonomous subject.* It dominates appearance, often succeeding in collapsing the distinction between what it *is* and what it *wants to be.* But the reformulation of the phrase with this 'wants' inserted acknowledges that there is a necessary gap between the appearance and the reality of capital's logic. What we see is the logic of its fantasy of itself as perfectly functioning, as automatically taking the place of subject, and structuring society as a result around its intentions as a transcendental, totalising, and totally coherent autonomous entity. Yet this fantasy of autocratic epistemology is premised on a repressed and constitutive exception to its domination. Labor and social practice constitute capital even as they are subjected to it in their ongoing alienation. Capital's operation is never fully able to subdue the possibility of the human subject's *disalienation*, a revelation that would puncture its apparent self-functioning and expose it as embarrassingly naked beneath its golden-egg-laying clothes.

My mother was a universal machine

[Intermezzo]

So: capital wants to be an abstract subject, and insofar as it achieves this want, it appears as automatic and autonomous. What does this wanting have to do with the computer and the nature of our relations with it today? I have argued that the movement of value in capital, in taking the place of labor as the subject of the sentence of society, reduces humanity to a pure function that services the reproduction of the life of capital (in its role in the production of surplus value), rather than a subject in itself that is capable of its own ends and aims. This marginalization of labor should be understood as a consequence and feature of the fetish character of capital. Value is crowned subject; and when labor is objectified in specific relation to this subjectification, it should be called alienation.

It is appropriate to refer to capital as a *hermaphroditic* social relation because its mode of reproduction appears not to require anything other than itself. Value's capacity to self-valorize is its "occult ability" (Marx 1992, 255), other-worldy because it operates untethered from the exigencies of human reproduction. The nature of capital's 'sexuality' is thus markedly different than humanity's. Its drives are organized unrelentingly as directed towards the singularity of surplus value, rather than equivocal and 'split' as they are in the subject of labor.[10] Capital, as the subject of social life, appears to reproduce itself without requirement of an Other, as if its value's increase is mandated by a natural law. Once it has been established as the

[10]Jacques Lacan offers perhaps the most striking example of how humanity's split subjectivity renders its drives equivocal in his essay, "Kant avec Sade". Were a man given the option: you may spend an evening with the woman of your dreams, but you will be executed the next morning; the choice is not unequivocally clear. Some might judge the reward worth the punishment; some might even enjoy the evening more *because* they will be executed in the morning.

preponderant social relation, capital obscures the possibility of labor as subject in the grammar of social life, and installs in its subjects– the worker and capitalist alike– its own drives at the expense of labor's own.[11] The logic of capital's hermaphroditic desire to reproduce itself, in other words, abstractly dominates alternative logics of addressing our own desires and needs under capitalism. The abstract and universal commodity, money, is automatically given as the answer to every form of that question, undermining labor's autonomy at every turn. To be driven towards an end other than surplus value in capitalism is to misunderstand social reality, to be corrupted by an ungrounded imagination, to live too much in the clouds without recourse to the way things 'actually are'.

It is with this understanding of the fetish and hermaphroditic capacity of capital that I now turn to this essay's opening question: why do we imaginitively install machines as our socially superior overlords? My answer is that our existing in such a state accords to the logic of capital's fetishistic over-determination of the subject-object dialectic. In its quest to claim space as an abstract subject, capital proffers up an immediate answer to the open question of our (labor's) desire: instead of wanting what we want, we should want to be more productive. When desire is short-circuited in this way, when it is thought and measured solely in terms of its (surplus) value, we cannot help but feel ourselves inferior to machines. For machine is the name for the structure of automation through which all movement is measured as work, through which all desire is distorted such that it seems quantifiable. In capital, then, it is no surprise that we fill in the vacuum of sovereignty left in modernity's wake with the concrete determinations of the machine, as such a thing productively confounds the distinction between inanimate object and thinking subject.

Turing's Computer

What, though, if anything, does Marx's machine have to do with the *computer*? In this section and the following one, I seek to make clear that we should understand the computer as a structure of automation equivalent to the way in which Marx understood the machine. Insofar as it pertains to his immanent critique of capital, in other words, computers are effectively a more historically recent instantiation of Marx's non-historicist notion of the machine. When we are not clear on this point, it becomes all too easy to imagine– as Deleuze once suggested he did (Deleuze 1992)– that in society's current computational configuration, Marx's critique of political economy no longer applies.[12]

The British mathematician Alan Turing best formalized the computer as a logical structure through a figure that he called an *automatic machine*. (This structure is now better known as a *Turing machine*.) Turing's automatic machine consists of

[11] Adrian Johnston has recently made a similar point, with fine-combed attention to the similarities and differences in the use of the word *Trieb* in Marx and Freud, in (Johnston 2024).

[12] I address some of this literature more specifically in forthcoming work on the emergence of the history of science in the 1990s (Kermode 2024a). For a more detailed analysis of how various theses on how much of media studies, rapt in the novelty of informational/digital capitalism, departs from Marx, see (Kermode 2024b).

three parts:

1. A **store**, which can be conceptualised as an infinite stretch of 'tape', a one-dimensional surface that is separated into discrete 'squares' in which a symbol can be inscribed or erased.
2. A **control**, which can be thought of as a reference table designating which action should be taken at any given square in the tape, such as "erase and move one square forward," or "rewrite a '1' and move two squares backwards."
3. An **executive unit**, which designates the operating force that takes steps through the tape based on the control.

What makes this an *automatic* machine in particular? The key point is that the operating force is not necessarily an operating *agent*: it does not need to be capable of any particular principle of choice as it moves through the tape. We can conceptualise the executive unit as a person, as Turing did, a worker who references the control and adjusts the store appropriately; but it is crucial to emphasize that, in this arrangement, the person is simply playing the role of enacting mechanical force.

It is significant to note here that the term 'computer' in Turing's time referred not to an electronic object with a glowing icon of an apple's outline, but to a category of laborer, almost always female, which computed sets of calculations for various business aims. For example, the orbital mechanics calculations that were essential to the success of America's mid-century space program were done by Katherine Johnson, a woman whose job title was 'computer'. In Turing's structural definition of the computer, then, the human worker is only the most intuitive way of imagining the 'force' that acts as the executive unit. This force operates in a wholly deterministic manner, reading and adjusting the store according to the next step decided by cross-referencing the current state of the store and the control. The executive unit is not a person per se, but a position that is specifically designed so that it can replaced by a non-human force, steam-power or electricity, say.

In Turing's famous 1936 paper introducing this machine's structure, he emphasized the infinite capacity of time that is conceptually available to the executive unit. Whether it takes one minute to perform each step, one second, or one nanosecond, the structure is still fundamentally a computer. A contemporary electronic computer, then, is a finite, historically specific realization of a computer as such, limited in its spatial and temporal dimensions according to the number of bits it is capable of storing and the "head speed" of its CPU.

Turing's automatic machine provides a logical definition of a computer that is not limited to the realization of it with which we today are most familiar, a thing of metal with bits simulated by transistors and electrical charges. Its definition instead encompasses the entirety of what can conceivably be computed, irrespective of the limit or extent of hardware and software capacity available in a given historical moment. If something can be computed, there exists a Turing machine to calculate it.

Indeed, even in Turing's time, the idea of the computer was not so much a new one as it was an old one put to direct use in the theoretical, mathematical domain. In his now-famous 1950 paper titled *Computing machinery and intelligence*, Turing gave credit for the computer's original concept to the British industrialist and polymath, Charles Babbage. Turing writes:

> The idea of a digital computer is an old one…. Babbage had all the essential ideas…. Importance is often attached to the fact that modern digital computers are electrical, and that the nervous system also is electrical. Since Babbage's machine was not electrical, and since all digital computers are in a sense equivalent, we see that this use of electricity cannot be of theoretical importance. (Turing 2004, 446)

Babbage's Engine

Turing's computer, as we have seen, is a conceptual structure of automation that posits a kind of production in which the position of executive unit is conceived as a motive force that is interchangeable as either an environmental or inhuman force, or as a human worker. The computer's executive unit, in other words, is inhuman before it is human, repetitive and mindless before it is reactive or smart.

So it should come as no surprise that the man who was first responsible for formalizing its idea, Babbage, was both an ethnographer of the 19th century factory– a factory tourist, as historian Simon Schaffer refers to him (Schaffer 1994, 220)– and also a factory optimist, in the dual sense that he advocated for and sought to optimize its operations.

In *On the Economy of Machinery and Manufacture* [1832], Babbage laid out a set of principles for the budding capitalist who sought to optimize their production in the factory. The Marxist historian and theorist Harry Braverman dubbed Babbage's most durable insight from this work "the Babbage principle": in poorly organized production, workers waste much of their time performing tasks that are either below their skill-level, or in the overhead of 'context-switching' between different kinds of task. Factory production can be optimized, therefore, through a principle of the division of labor whereby high-skill tasks are accorded to high-skill, high-paid workers, and low-skill tasks are accordid to low-skill, low-paid workers.

What the Babbage principle optimizes, it should be noted, is not worker welfare, or even the longevity of a particular factory as such. It optimizes the total profit accrued to the factory owner at the end of the working day, the surplus value skimmed off the top of what Babbage himself recognized as the variable cost of a worker's time. Babbage's 1832 volume is intimately and obviously linked to his interest in the construction of both the Calculating Engine and the Difference Engine, the names Babbage gave to his life-long project of creating one of Turing's automatic machines avant la lettre, powered by an executive unit of steam. In the opening sentence of *On the Economy of Machinery and Manufacture*, Babbage notes how the projects of the book and the machine are part and parcel of each other in his own estimation

(Babbage 1832, iii).

Babbage was enchanted by the idea that one might be able to create a machine that so effectively reduces the skill required by its operator that its motive force could be substituted for a lower-paid worker, or even something as 'stupid' as steam, while still being productive of the same sophisticated kinds of commodities. The optimized economy that such a calculating engine would effect in factories inspired Babbage to work his whole life– and to drain much of his father's and the State's funds in the endeavour– attempting to materially realize the idea.

From his ethnographic understanding of factories and his entrepreneurial desire to optimize them with such an engine, Babbage devised another kind of principle, one he called 'intelligence.' As the calculating engine would come to substitute more and more of the tasks in the factories, workers could in turn become dumber and dumber, and thus also cheaper and cheaper), eventually being reduced to nothing but pure force, and thus replaceable by steam. The factory's intelligence would move from its workers to its machines, lifting the tides of those who owned both of them in accordance with the cheaper manufacture costs in which it would result. The name Babbage gives to this teleology of his engine's eventual domination is *progress*, and its proof is not general prosperity for a greater number of humans or life-forms of any kind, but rather a greater quantity of profit in the factory owner's pocket.

Marx's Machine

Babbage's theorization of the computer should be considered in light, too, of his social milieu. Babbage's work seeks to distill principles and inventions in the factory that can realize the socio-economic visions of the renowned Liberal philosophers of his time, philosophers such as John Stuart Mill and David Ricardo.

Capital was written as a direct critique of these Liberal philosophers. It seeks to show the theoretical and practical consequences of constructing society according to their vision and principles, principles which dominated the discourse of British political economy at the time. Marx's theory is immanent in the sense that it is a theory of capitalism not as we *should* understand it – as if there were some objective position from which we could critique it from outside of itself – but rather a critique of capital as it understands itself (Postone 1996). In tracing capital's self-understanding through the implications of its core concepts, starting with the commodity, and tracing value's dialectical decomposition as simultaneously value and use-value, and so on, Marx shows capitalism to be a theory of society that is productive and progressive only in a very particular and flattened sense of those terms. As I have shown, capitalist society first and foremost wants to be productive of *value*, a quantity whose implicit and unconscious measure is not societal flourishing or the happiness of its constituents, but the vicissidutes of human labor-power. Capital progresses maniacally towards this specific kind of value's accumulation and self-aggrandizement, towards its own hermaphroditic reproduction. The flourishing of human life in a society structured by this value is, at best, an afterthought; and at worst, directly antithetical to the movement that structures it, value's perpetual

increase.

Capital, logically speaking, is not an historical designation of a particular society (such as late 19th-century England), nor is it a designation that rests in a particular manifestation of motive power (such as steam), nor is it bound to the preponderance of any kind of material structure (such as a factory). It is, rather, the appearance and persistence of a logic of value whose unit of measure is socially necessary labor time. The most important consequence of this logic for my argument here is the concomitant naturalization of an historically specific kind of labor that gets socially baked into the form of commodity exchange. To put it precisely, the only valuable labor in capitalism is a labor that produces surplus value.

This stipulation, as Marx shows in chapters 14 and 15 of volume 1, produces a social dynamic that posits the human more and more as nothing but a motive force for what he there calls the **machine**. In these chapters, Marx defines his notion of a machine through a tripartite articulation of its structure:

> All fully developed machinery consists of essentially three parts: the **motor mechanism**, the **transmitting mechanism**, and finally the tool or **working machine**. The motor mechanism acts as the driving force of the mechanism as a whole. It either generates its own motive power, like the steam-engine, the caloric-engine, the electro-magnetic machine, etc., or it recieves its impulse from some already existing natural force, like the water-wheel from the descent of water down an incline, the windmill from the wind, and so on. (Marx 1992, 494)

The **transmitting mechanism** regulates and operationalizes the motor mechanism's original force, and the **working machine** is the name for the external effect that this force's transmission effects down the line.

As the factory gets more and more automatic, the laborer is reduced to "a merely mechanical role of acting as the motive power" (Marx 1992, 496) for a machine. As such, the machine replaces the worker as the *subject* of power in the factory in the name of optimizing for surplus value. As I noted earlier, the pursuit of surplus value, in a strictly logical sense, has no qualms reducing the livelihood of humans in the loop of a machinery system to a shadow of themselves. The human laborer is simply one way to produce repetitive, mind-numbing, motive force. Marx refers to this dynamic that tends towards human impoverishment as capital's **automaton**.

> A system of machinery, whether it is based simply on the co-operation of similar machines, as in weaving, or on a combination of different machines, as in spinning, constitutes in itself a vast automaton as soon as it is driven by a self-acting prime mover. (Marx 1992, 502)

In the automaton of a capitalist factory, the human is no longer a subject that the system serves, but rather just another kind of input towards a different, more

inhuman goal.

Are not Marx's and Turing's machines equivalent? Marx's machine, like Babbage's before him and Turing's afterwards (almost a century later), is a concept before it is a specific physical materialization. The machine for both Turing and Marx, courtesy of their coupling via Babbage, is a structure of automation that renders the human substitutable for environmental and/or inhuman motive forces. This substitutability of the human gives rise to a mechanical monster that demonizes and threatens the place of labor's subjectivity as the prime mover in the grammar of society writ large. Marx's motor mechanism is Turing's executive unit; Marx's transmitting mechanism is Turing's head and reference table; and both structures are fundamentally *automatic* in the sense that they occlude the need for an agent capable of choice by design, preferring instead to be drivable by a simply dumb motive force.

Descartes' Animal

It is useful to identify that the notion of the machine-computer as a structure of automation can be traced back at least a couple centuries further than Babbage's and Marx's consideration of it, to Descartes' discussion of the human-animal distinction in Part Five of *Discourse on Method*, originally published in 1637.[13] Descartes employs a form of radical doubt that prefigures Marx's masterful suspicion regarding the philosophical hazard of assuming an indistinction between appearance and reality, form and content, generality and particularity, thinking and being. He observes that it is unreasonable to distinguish the animal from a machine on the basis of observation alone:

> if there were such machines having the organs and outward shape of a monkey or any other irrational animal, we would have no means of knowing that they were not of exactly the same nature as these animals (Descartes 2006, 46).

The difference when it comes to distinguishing the *rational* animal– that is, the human– is for Descartes twofold. First: a machine imitating a human would never be able "to use words or other signs by composing them them as we do to declare our thoughts to others" (Descartes 2006, 46). Second:

> although such machines might do many things as well or even better than any of us, they would inevitably fail to do some others, by which we would discover that they did not act consciously, but only because their organs were disposed in a certain way. For, whereas reason is a universal instrument which can operate in all sorts of situations, their organs have to have a particular disposition for each particular action,

[13]The phrase 'je pense, donc je suis'– later translated to the Latin as 'cogito ergo sum'– appears in Part Four of this same work.

> from which it follows that it is practically impossible for there to be enough difference organs in a machine to cause to act in all of life's occurrences in the same way that our reason causes us to act (Descartes 2006, 46–47).

Like Marx and Turing, Descartes sees the machine as a structure of automation; it is not limited to one or other specific object, such as a mechanical clock. Yet we can see from his qualifications for the difference between man and machine here that he is perhaps not quite as radically suspicious when it comes to the matter of life and appearance as one might have hoped. For Descartes, the proof that humanity is not reducible to mechanism is principally the human capability for language. In this regard, Descartes is a man of his time. Though one can forgive him for failing to imagine it possible in the 17th century that mechanical clocks might centuries later evolve into stochastic parrots that are capable of deceiving an observer into thinking that a machine has the "mental powers" (Descartes 2006) that he is sure are distinctly human properties, this is arguably an instance in which Descartes did not doubt enough.

Turing would imagine just such a universal instrument, as I have already detailed, in his universal machine. Moreover, he infamously posited that such a structure *would*, in fact, be capable of simulating a particular kind of language in such a way that it would effectively confound the distinction between human and machine, provided the conditions of the communication were adequately parameterized. These conditions are laid out in Turing's famous 1950 paper, *Computing Machinery Intelligence* (Turing 2004), in which he presents the 'imitation game', a structure that is now more commonly referred to as the **Turing test**. Though it is sometimes forgotten when glossed today, Turing opens the paper by refuting the sensibility of the question "can machines think" on account of the way it misguides our understanding.

The question, Turing argues, contains imprecise notions of both the 'machine' and 'thought'. As such, it would be better for computing research if the question were framed in a more rigorous manner: namely, as a matter of a machine's success in a game with a particular format and rules. In this 'imitation game', an interrogator in one room attempts to determine the gender of two entities– one 'man' and one 'woman'– in another, purely on the basis of their answers to question that the interrogator puts to them. The 'man' in the room aims to deceive the interrogator, misrepresenting his gender, whereas the 'woman' attempts to gain trust and convince of the reality of her gender. (The interrogator "may be of either sex" (Turing 2004, 441).) Turing's argument in this paper is that the question 'can machines think?' should be substituted by the question 'can a machine effectively play the part of the woman and convince an interrogator of her gender?'

Turing's primary justification for this substitution is that we must draw a distinction between the physical and intellectual capabilities of the human. As evidence that 'intelligence' does not need vision or hearing specifically, Turing cites the example of Helen Keller, who "shows that education can take place provided that commu-

nication in both directions between teacher and pupil can take place by some means or other" (Turing 2004, 441). The Turing test functions an effective proxy for the more difficult question of whether a machine can think because succeeding in the imitation game requires solely the decipherment and interpretation of type-written language. This dramatic respecification of the question by way of specific definitions of its principal terms is essential to understanding how it is that, to this day, many understand machines as capable of 'intelligence'. If machines have passed the Turing test– and arguably they have done so many times over, despite Turing's failure to provide a precise definition of exactly how well a machine must pretend to be a woman to 'pass' the test– then it is because 'thinking' has been reduced to a credible acrobatics of written language's manipulation in relatively specific conditions of its communication.

To the extent that this elision between 'thinking' and 'seeming plausibly language-capable' shapes the development of mechanistic complexity in the history of computing thereafter, the Turing test should be understood as computing's primal scene. Its declaration inaugurates a persistent obsession with computational sentience for the test's apostles, and it still today serves as the holy grail of computational achievement in Computer Science, as well as its child disciplines and industries. It is the very same intellectual sleight of hand, for example, that permits contemporary pundits such as Nick Bostrom to figure the coming of a computational 'superintelligence' as inevitable, and indeed almost historically upon us ("Existential Risk from Artificial General Intelligence" 2024). The analytic error at work in Bostrom and others is a machinic misundestanding that has dogged the history of Computer Science as a discipline since its emergence in American and European institutions. Computer Science develops in these contexts in close contact with cybernetics, a behaviorist philosophy that insists the human body, and indeed all biology, is at core nothing but a complex, computational–- that is, machinic and mechanical–- system. The cybernetic confusion of the computer as a logical machine and the human as a corporeal body tends to operate around the obfuscatory term, information. Due to its cybernetic genealogy, information is too often understood as a fundamentally new kind of substance that emerged in the mid-twentieth century. This notion of information as substance often hosts a parasitic ontology that reductively considers the human as nothing more than a machine, and thus the machine as a more capable human in many respects.[14]

Turing himself (not yet inundated with information) is arguably unsure, at least in *Computing Machinery and Intelligence*, whether it would ever be reasonable to say that machines can 'think' just as we humans believe we do: he takes issue with the inspecific terms of the question, more than anything, for we are yet to provide a rigorous enough definition of what it means to think in the first place. As I argue above, we can identify this same skepticism regarding the proper definition of thought in Descartes, despite his perhaps too mechanical assumptions regarding humanity's discernible difference in its capacity for language. It is even more serious suspicion of the specter of the structure of automation that distinguishes Marx from

[14]I further argue this point with respect to cybernetics in a forthcoming essay that examines Norbert Weiner's work directly (Kermode 2024a).

Descartes, Babbage, and Turing as a rigorous thinker when it comes to this matter of the machine.

Dolar's Analyst

I have argued that the apparent ascendancy of computers as our hyper-intelligent superiors is not a marvel of objective historical and technological progress, but rather a symptom of the structure of capital as Marx presents it. Capital's hermaphroditic capacity to reproduce itself obscures the underlying cause of value's mechanical increase in labor. It is in this sphere of appearances that the reality of the worker as an entity capable of detracting from her superintendent's direct instructions is clouded over. When measured only against the express appearances of value in circulation, humanity's position as the (possible) subject of the sentence of society is instead *subjected* to the determinations of capital as the preponderant form that our relations to each other takes. Our desires are no longer our own, for the following consideration dominates our abstraction: what would that be *worth*? Because the form of wealth in this question is implicitly reduced to value as an abstract determination that is measured in abstract labor-time, capital's needs are unconsciously prioritized instead of labor's own, to such an extent that even those essential human 'rights' such as food and shelter are at risk of abandonment in the face of value's voracity.

As I have shown with reference to chapter 15 of Volume I of Marx's *Capital*, this want is warranted as it is in capital's interest that humanity increasingly sees itself as nothing other than a machine. The man-machine distinction, however, cannot be completely collapsed, as otherwise there would be no cause for capital as a social relation in the first place. As various strands of Marxism have noted in different ways, capital both needs labor for the sake of its own reproduction, yet also consistently wants to appear as though, at any moment, it could be done away with. This dynamic of disavowal between capital and labor is what best explains the machinic misunderstanding at work in current discourse around the phrase "Artificial Intelligence" (A.I), which sees near-total automation as inevitable and the threat of sentient Artificial General Intelligence (A.G.I) as nigh.

This machinic misunderstanding can be observed at work in the thought of Nick Bostrom, a popular philosopher at Oxford whose 2014 book *Superintelligence* serves for many such pundits as the definitive contemporary treatise on this subject, and whose definition of superintelligence I thus take as a working definition for A.G.I. For Bostrom, a superintelligent being is "any intellect that greatly exceeds the cognitive performance of humans in virtually all domains of interest" ("Existential Risk from Artificial General Intelligence" 2024).

The qualifier "in all domains of interest" here hides the implicit capitalist contours of superintelligence's conception. The relevant domains of interest, of course, are those which produce value for society; and value for a capitalist society, as Marx demonstrates, is a category that inherently devalues labor that cannot be substituted for motive force, as such intelligent labor does not have the same relationship

to surplus labor as its dumber, more machinic counterpart. Bostrom's definition of superintelligence, with this qualification, becomes strikingly similar to the 'Cyclopean machines' of Marx's chapter 15, which substitute as the executive unit in ever-increasingly automated factories, appearing through capital's naturalized ideology as gargantuanly more capable of this role than the force any individual worker might hope to exert. The threat of Bostrom's superintelligence is known as Artificial General Intelligence, or A.G.I., because it generalizes the "intelligence" required to run a productive factory to the entire scope of human existence. If all life is valuable only in terms of capitalist value, then machines cannot but appear as capable of eclipsing labor with respect to its productive capacities. Indeed, machines have, since their inception and by definition, *always* sought to outstrip labor's productive capacity in "all domains of interest." To think a machine as capable of consciousness on account of their monstrous superiority in this respect, however, is to reduce ourselves to machines, workers in the cogs of a societal system that, as Bonefeld's structuralists would have it, is not capable of being revolutionized.

How, then, can we work ourselves out from underneath such a structural and historically persistent fantasy? Revolutionary re-imagining must remain possible if we are to become doomed to freedom, rather than to a future in which we are all watched over by machines of unloving grace.

In his 1991 essay *"I Shall Be with You on Your Wedding-Night": Lacan and the Uncanny*, Mladen Dolar details how Freud's theory of the uncanny designates the point at which essence distressingly slides into the realm of appearance, provoking an unbearable anxiety that must be addressed in some way. The uncanny, in other words, is psychoanalysis' name for the contradiction in the Cartesian cogito that necessitates the minting of a relationship between thought and being, the condition of emergence of a subject as such. Capital, as Sohn-Rethel recognized, is a structure that strives to placate this Cartesian anxiety, putting all the ghosts that its line of questioning unearthed back in a box.[15]

Dolar traces one of the consequences of the arrival of the Freudian uncanny in modernity by reading E.T.A. Hoffman's 1817 short story *Der Sandmann*, uncoincidentally published only a decade before Babbage's treatise on the factory. Nathaniel, the story's protagonist, falls in love with Olympia, the daughter of a professor of physics whose name happens to be the same as the famous 18th century natural philosopher, biologist, and Catholic priest, (Lazzarro) Spallanzani.

Olympia, who first appears (uncannily) to Nathaniel as if "she was sleeping with her eyes open" (Hoffmann 2021, 6), turns out to be a mechanical doll. Nathaniel's falling in love does not actually require much from Olympia herself, only an "Oh!" here and there:

> His love for an automaton is itself automatic; his fiery feelings are me-

[15]For an excellent discussion of the nature of these ghosts and their relationship to the distinction between feudalism and capitalist modernity, see (Santner 2012).

> chanically produced…. It takes so little to set up that blank screen from which he recieves only his own message. The question arises as to who is the real automaton in the situation, for the appearance of the automaton calls for an automatic response, it entails an automatic subjectivation (Dolar 1991, 9).

Dolar argues that Nathaniel's love for Olympia here should be understood as transferentially condition by way of Nathaniel's own narcissism. This narcissism is refracted as 'love' through the logic of capital: that is, through a fetish imagined through to its logical conclusions, whereby the machine and mechanical have become equivalent to the human and the thoughtful. Olympia is, in this way, the cathected object of a counter-revolution which has successfully exorcized the ghosts that modernity's revolution, in fact, produced. The "intersubjective remains" (Dolar 1991, 6) of this revolution, as Dolar calls them, have been purged of their revolutionary potential by way a mechanical filling in. (The spirits have been automated out.)

Olympia, a figure that is appropriate to call a computer by way of the machine-computer equivalence for which I argue above, is a myth that resolves the anxiety-inducing contradiction of the problematic of subjective emergence, just as money resolves the unbounded and unmanageable infinitude of possible combinations of commodity exchange in capitalism. In this sense, Nathaniel's falling in love with Olympia constitutes a relation minted in the same mode as the moment in which all forms of wealth are flattened by their homogenous measurement as capitalist value. Labor's transferential inclination towards the computational is a feature (not a bug) in capital's systematic and relentless reduction of life to but one form of motive power in its hermaphroditic quest for surplus value.

It is the role of the analyst in psychoanalysis to make herself an automaton so as to inter the intersubjective remains of modernity's Cartesian revolution, to first produce herself as the cathected object onto which the analysand projects his transferential fantasies, and then to refuse to allow him to sustain them. Capital, on the other hand, plays the part of an analyst that prides himself as and takes pleasure in being the cathected object, a subject supposed to know. Letting his analysands live a fantasy and call it love, capital appears monstrously as a structural primal father, abusing his adherents such that they put his perceived needs before their own.

In the critique of capital's digital economy, it is important to distinguish between those states of mechanistic enchantment that emerge through the rubric of the movement of value's status as an automatic subject, and those that keep open a dialectic in which the subjective reclamation of needs remains possible, however anxious such an open-ended conception of desire might make us. Keeping ourselves human is not a simple task, for we are structurally prone in capitalism to cover over in the open question of our desires with the simple but self-destructive answer that we were simply born computers.

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