



## I. THE TRANSFORMATION PROBLEM

IN GLANCING OVER my correspondence with Herr Marx, especially the letters written during the period in which he struggled to complete his opus, *Capital*, even whilst I was remanded to the Victoria Mill of Ermen and Engels in Weaste to simultaneously betray the class I was born into and the class to which I'd dedicated my life, I was struck again by the sheer audacity of my plan. I've moved beyond political organizing or even investigations of natural philosophy and have used my family's money and the labour of my workers—even now, after a lifetime of railing against the bourgeoisie, their peculiar logic limns my language—to encode my old friend's thoughts in a way I hope will prove fruitful for the struggles to come.

I am a fox, ever hunted by agents of the state, but also by political rivals and even the occasional enthusiastic student intellectual *manqué*. For two weeks, I have been making a very public display of destroying my friend's voluminous correspondence. The girls come in each day and carry letters and covers both in their aprons to the roof of the mill to burn them in a soot-stained metal drum. It's a bit of a spectacle, especially as the girls wear cowls to avoid smoke inhalation and have rather pronounced limps as they walk the bulk of letters along the roof, but we are ever attracted to spectacle, are we not? The strings of electrical lights in the petit-bourgeois districts that twinkle all night, the iridescent skins of the

dirigibles that litter the skies over The City like peculiar flying fish leaping from the ocean—they even appear overhead here in Manchester, much to the shock, and more recently, glee of the street urchins who shout and yawp whenever one passes under the clouds, and the only slightly more composed women on their way to squalid Deansgate market. A fortnight ago I took in a theatrical production, a local production of Mr Peake’s *Presumption: or the Fate of Frankenstein*, already a hoary old play given new life and revived, ironically enough, by recent innovations in electrified machine-works. How bright the lights, how stunning the arc of actual lightning, tamed and obedient, how thunderous the ovations and the crumbling of the glacial cliffs! All the bombast of German opera in a space no larger than a middle-class parlour. And yet, throughout the entire evening, the great and hulking monster never spoke. *Contra* Madame Shelley’s engaging novel, the “new Adam” never learns of philosophy, and the total of her excellent speeches of critique against the social institutions of her, and our, day are expurgated. Instead, the monster is ever an infant, given only to explosions of rage. Yet the audience, which contained a fair number of working-men who had managed to save or secure 5d. for “penny-stinker” seating, were enthralled. The play’s Christian morality, alien to the original novel, was spelled out as if on a slate for the audience, and the monster was rendered as nothing more than an artefact of unholy vice. But lights blazed, and living snow from coils of refrigeration fell from the ceiling, and spectacle won the day.

My burning of Marx’s letters is just such a spectacle—the true correspondence is secreted among a number of the safe houses I have acquired in Manchester and London. The girls on the roof-top are burning unmarked leaves, schoolboy doggerel, sketches, and whatever else I have laying about. The police have infiltrated Victoria Mill, but all their agents are men, as the work of espionage is considered too vile for the gentler sex. So the men watch the girls come from my office with letters by the bushel and burn them, then report every lick of flame and wafting cinder to their superiors.

My brief digression regarding the *Frankenstein* play is apposite, not only as it has to do with spectacle but with my current operation at Victoria Mill. Surely, Reader, you are familiar with Mr Babbage’s remarkable Difference Engine, perfected in 1822—a year prior to the first production of Mr Peake’s theatrical adaptation of *Frankenstein*—given the remarkable changes to the political economy that took place in the years after its introduction. How did we put it, back in the heady 1840s? *Subjection of Nature’s forces to man, machinery,*

*application of chemistry to industry and agriculture, steam-navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalisation of rivers, whole populations conjured out of the ground—what earlier century had even a presentiment that such productive forces slumbered in the lap of social labour?* That was just the beginning. Ever more I was reminded not of my old work with Marx, but of Samuel Butler's prose fancy *Erewhon*—*the time will come when the machines will hold the real supremacy over the world and its inhabitants is what no person of a truly philosophic mind can for a moment question.*

With the rise of the Difference Engine and the subsequent rationalization of market calculations, the bourgeoisie's revolutionary aspect continued unabated. Steam-navigation took to the air; railways gave way to horseless carriages; electric telegraphs to instantaneous wireless aethereal communications; the development of applied volcanisation to radically increase the amount of arable land, and to tame the great prize of Africa, the creation of automata for all but the basest of labour...ah, if only Marx were still here. That, I say to myself each morning upon rising. *If only Marx were still here!* The stockholders demand to know why I have not automated my factory, as though the clanking stove-pipe limbs of the steam-workers aren't just more dead labor! As though *Arbeitskraft*—labour-power—is not the source of all value! *If only Marx were still here!* And he'd say, to me, *Freddie, perhaps we were wrong.* Then he'd laugh and say, *I'm just having some fun with you.*

But we were not wrong. The internal contradictions of capitalism have not peacefully resolved themselves; the proletariat still may become the new revolutionary class, even as steam-worker builds steam-worker under the guidance of the of Difference Engine No. 53. The politico-economic chasm between bourgeoisie and proletarian has grown ever wider, despite the best efforts of the Fabian Society and other gradualists to improve the position of the working-class vis-à-vis their esteemed—and *en-steamed*, if you would forgive the pun—rulers. The Difference Engine is a device of formal logic, limited by the size of its gear-work and the tensile strength of the metals used in its construction. What I propose is a device of *dialectical logic*, a repurposing of the looms, a recording of unity of conflicts and opposites drawn on the finest of threads to pull innumerable switches, based on a linguistic programme derived from the correspondence of my comrade-in-arms.

I am negating the negation, transforming my factory into a massive Dialectical Engine that replicates not the arithmetical operations of an abacus

but the cogitations of a human brain. I am rebuilding Karl Marx on the factory floor, repurposing the looms of the factory to create punch-cloths of over one thousand columns, and I will speak to my friend again.

## 2. THE LITTLE MATCH GIRLS

Under the arclights of Fairfield Road I saw them, on my last trip to The City. The evening's amusement had been invigorating if empty, a fine meal had been consumed immediately thereafter, and a digestif imbibed. I'd dismissed my London driver for the evening, for a cross-town constitutional. I'd catch the late airship, I thought. Match girls, leaving their shift in groups, though I could hardly tell them from steam-workers at first, given their awkward gaits and the gleam of metal under the lights, so like the monster in the play, caught my eye.

Steam-workers still have trouble with the finest work—the construction of Difference Engine gears is skilled labour performed by a well-remunerated aristocracy of working-men. High-quality cotton garments and bedclothes too are the remit of proletarians of the *flesh*, thus Victoria Mill. But there are commodities whose production still requires living labour not because of the precision needed to create the item, but due to the danger of the job. The production of white phosphorous matches is one of these. The matchsticks are too slim for steam-worker claws, which are limited to a trio of pincers on the All-Purpose Models, and to less refined appendages—sledges, sharp blades—on Special-Purpose Models. Furthermore, the aluminium outer skin, or shell, of the steam-worker tends to heat up to the point of combusting certain compounds, or even plain foolscap. So Bryant and May Factory in Bow, London, retained young girls, ages fourteen and up, to perform the work.

The stories in *The Link* and other reformist periodicals are well-known. Twelve-hour days for wages of 4s. a week, though it's a lucky girl who isn't fined for tardiness, who doesn't suffer deductions for having dirty feet, for dropping matches from her frame, for allowing the machines to falter rather than sacrifice her fingers to it. The girls eat their bread and butter—most can afford more only rarely, and then it's marmalade—on the line, leading to ingestion of white phosphorous. And there were the many cases of “phossy jaw”—swollen gums, foul breath, and some physicians even claimed that the jawbones of the afflicted would glow, like a candle shaded by a leaf of onion skin paper. I saw the gleaming of these girls' jaws as I passed and swore to myself. They were too

young for phossy jaw; it takes years for the deposition of phosphorous to build. But as they passed me by, I saw the truth.

Their jaws had all been removed, a typical intervention for the disease, and they'd been replaced with prostheses. All the girls, most of whom were likely plain before their transformations, were now half-man half-machine, monstrosities! I couldn't help but accost them.

"Girls! Pardon me!" There were four of them; the tallest was perhaps fully mature, and the rest were mere children. They stopped, obedient. I realized that their metallic jaws that gleamed so brightly under the new electrical streetlamps might not be functional and I was flushed with concern. Had I humiliated them?

The youngest-seeming opened her mouth and said in a voice that had a greater similarity to the product of a phonographic cylinder than a human throat, "Buy Bryant and May matchsticks, Sir."

"Oh no, I don't need any matchsticks. I simply—"

"Buy Bryant and May matchsticks, Sir," she said again. Two of the others—the middle girls—lifted their hands and presented boxes of matchsticks for my perusal. One of those girls had two silvery digits where a thumb and forefinger had presumably once been. They were cleverly designed to articulate on the knuckles, and through some mechanism occulted to me did move in a lifelike way.

"Are any of you girls capable of independent speech?" The trio looked to the tallest girl, who nodded solemnly and said, "I." She struggled with the word, as though it were unfamiliar. "My Bryant and May mandible," she continued, "I was given it by...Bryant and May...long ago."

"So, with some struggle, you are able to compel speech of your own?"

"Buy...but Bryant and May match...made it hard," the girl said. Her eyes gleamed nearly as brightly as her metallic jaw.

The smallest of the four started suddenly, then turned her head, looking past her compatriots. "Buy!" she said hurriedly, almost rudely. She grabbed the oldest girl's hand and tried to pull her away from our conversation. I followed her eyes and saw the telltale plume of a police wagon rounding the corner. Lacking any choice, I ran with the girls to the end of the street and then turned a corner.

For a long moment, we were at a loss. Girls such as these are the refuse of society—often the sole support of their families, and existing in horrific poverty,

they nonetheless hold to all the feminine rules of comportment. Even a troupe of them, if spotted in the public company of an older man in his evening suit, would simply be ruined women—sacked from their positions for moral turpitude, barred from renting in any situation save for those reserved for women engaged in prostitution; ever surrounded by criminals and other lumpen elements. The bourgeois sees in his wife a mere instrument of production, but in every female of the labouring classes he sees his wife. What monsters Masters Bryant and May must have at home! I dared not follow the girls for fear of terrifying them, nor could I even attempt to persuade them to accompany me to my safe-house. I let them leave, and proceeded to follow them as best I could. The girls ran crookedly, their legs bowed in some manner obscured by the work aprons, so they were easy enough to tail. They stopped at a small cellar two blocks from the Bryant and May works, and carefully stepped into the darkness, the tallest one closing the slanted doors behind her. With naught else to do, I made a note of the address and back at my London lodgings I arranged for a livery to take me back there at half past five o'clock in the morning, when the girls would arise again to begin their working day.

I brought with me some sweets, and wore a threadbare fustian suit. My driver, Wilkins, and I did not have long to wait, for at twenty-two minutes after the hour of five, the cellar door swung open and a tiny head popped out. The smallest of the girls! But she immediately ducked back down into the cellar. I took a step forward and the largest girl partially emerged, though she was careful to keep her remarkable prosthetic jaw obscured from possible passing trade. The gutters on the edge of the pavement were filled with refuse and dank water, but the girl did not so much as wrinkle her nose, for she had long since grown accustomed to life in the working-class quarters.

"Hello," I said. I squatted down, then offered the butterscotch sweets with one hand and removed my hat with the other. "Do you remember me?"

"Buy Brya..." she began. Then, with visible effort, she stopped herself and said. "Yes." Behind her the smallest girl appeared again and completed the slogan. "Buy Bryant and May matchsticks, Sir."

"I would very much like to speak with you."

"We must...work," the older said. "Bryant and May matchsticks, Sir!" said the other. "Before the sun rises," the older one said. "Buy Bryant and May—" I cast the younger girl a dirty look, I'm shamed to say, and she ducked her head back down into the cellar.

“Yes, well, I understand completely. There is no greater friend the working-man has than I, I assure. Look, a treat!” I proffered the sweets again. If a brass jaw with greater familial resemblance to a bear-trap than a human mandible could quiver, this girl’s did right then.

“Come in,” she said finally.

The cellar was very similar to the many I had seen in Manchester during my exploration of the living conditions of the English proletariat. The floor was dirt and the furnishings limited to bails of hay covered in rough cloth. A dank and filthy smell from the refuse, garbage, and excrements that choked the gutter right outside the cellar entrance, hung in the air. A small, squat, and wax-splattered table in the middle of the room held a soot-stained lantern. The girls wore the same smocks they had the evening before, and there was no sign of water for their toilet. Presumably, what grooming needs they had they attempted to meet at the factory itself, which was known to have a pump for personal use. Most cellar dwellings of this sort have a small cache of food in one corner—a sack of potatoes, butter wrapped in paper, and very occasionally a crust of bread. In this dwelling, there was something else entirely—a peculiar crank-driven contraption from which several pipes extruded.

The big girl walked toward it and with her phonographic voice told me, “We can’t have sweets no more.” Then she attached the pipes, which ended in toothy clips similar to the pincers of steam-workers, to either side of her mechanical mandible and began to crank the machine. A great buzzing rose up from the device and a flickering illumination filled the room. I could finally see the other girls in their corners, standing and staring at me. The large girl’s hair stood on end from the static electricity she was generating, bringing to mind Miss Shelley’s famed novel. I was fascinated and repulsed at once, though I wondered how such a generator could work if what it powered, the girl, itself powered the generator via the crank. Was it collecting a static charge from the air, as the skins of the newest airships did?

“Is this...generator your sustenance now?” I asked. She stopped cranking and the room dimmed again. “Buy...” she started, then recovered, “no more food. Better that way. Too much phossy in the food anyhow; it was poisonin’ us.”

In a moment, I realized my manners. Truly, I’d been half-expecting at least an offer of tea, it had been so long since I’d organized workers. “I’m terrible sorry, I’ve been so rude. What are you all called, girls?”

“No names now, better that way.”

“You no longer eat!” I said. “And no longer have names. Incredible! The bosses did this to you?”

“No, Sir,” the tall girl said. “The Fabians.”

The smallest girl, the one who had never said anything save the Bryant and May slogan, finally spoke. “This is re-form, they said. This is us, in our re-form.”

### 3. WHAT IS TO BE DONE?

I struck a deal with the girls immediately, not in my role as agitator and organizer, but in my function as a manager for the family concern. Our driver took us to his home and woke his wife, who was sent to the shops for changes of clothes, soap, and other essentials for the girls. We kept the quartet in the carriage for most of the morning whilst Wilkins attempted to explain to his wife what she should see when we brought the girls into her home. She was a strong woman, no-nonsense, certainly no Angel of the House but effective nevertheless. The first thing she told the girls was, “There’s to be no fretting and fussing. Do not speak, simply use gestures to communicate if you need to. Now, line up for a scrubbing. I presume your...equipment will not rust under some hot water and soap.”

In the sitting room, Wilkins leaned over and whispered to me. “It’s the saliva, you see. My Lizzie’s a smart one. If the girls’ mouths are still full of spit, it can’t be that their jaws can rust. Clever, innit?” He lit his pipe with a white phosphorous match and then told me that one of the girls had sold him a Bryant and May matchbox whilst I booked passage for five on the next dirigible to Manchester. “They’d kept offerin’, and it made ’em happy when I bought one,” he said. “I’ll add 5d. to the invoice, if you don’t mind.”

I had little to do but to agree and eat the butterscotch I had so foolishly bought for the girls. Presently the girls marched into the sitting room, looking like Moors in robes and headwraps. “You’ll get odd looks,” the driver’s wife explained, “but not so odd as the looks you might have otherwise received.”

The woman was right. We were stared at by the passengers and conductors of the airship both, though I had changed into a proper suit and even made a show of explaining the wonders of bourgeois England to the girls from our window seat. “Look girls, there’s St. Paul’s, where all the good people worship the triune God,” I said. Then as we passed over the countryside I made note of



the agricultural steam-workers that looked more like the vehicles they were than the men their urbanized brethren pretended to be. “These are our crops, which feed this great nation and strengthen the limbs of the Empire!” I explained. “That is why the warlords of your distant lands were so easily brought to heel. God was on our side, as was the minds of our greatest men, the sinew of our bravest soldiers and the power classical elements themselves—water, air, fire, and ore—*steam!*” I had spent enough time observing the bourgeoisie to generate sufficient hot air for the entire dirigible.

Back in Manchester, I had some trusted comrades prepare living quarters for the girls, and to arrange for the delivery of a generator sufficient for their needs. Then I began to make inquiries into the Socialistic and Communistic communities, which I admit that I had been ignoring whilst I worked on the theoretical basis for the Dialectical Engine. Just as Marx used to say, commenting on the French “Marxists” of the late ’70s: “All I know is that I am not a Marxist.” The steam-workers broke what proletarian solidarity there was in the United Kingdom, and British airships eliminated most resistance in France, Germany, and beyond. What we are left with, here on the far left, are several literary young men, windy Labour MPs concerned almost entirely with airship mooring towers and placement of the same in their home districts, and...the Fabians.

The Fabians are gradualists, believers in parliamentary reforms and moral suasion. Not revolution, but evolution, not class struggle but class collaboration. They call themselves socialists, and many of them are as well-meaning as a yipping pup, but ultimately they wish to save capitalism from the hammers of the working-class. But if they were truly responsible somehow for the state of these girls, they would have moved beyond reformism into complete capitulation to the bourgeoisie. *But we must never capitulate, never collaborate!*

The irony does not escape me. I run a factory on behalf of my bourgeois family. I live fairly well, and indeed, am only the revolutionary I am because of the profits extracted from the workers on the floor below. Now I risk all, their livelihoods and mine, to complete the Dialectical Engine. The looms have been reconfigured; we haven’t sent out any cotton in weeks. The work floor looks as though a small volcano had been drawn forth from beneath the crust—the machinists work fifteen hours a day, and smile at me when I come downstairs and roll up my sleeves to help them. They call me Freddie, but I know they despise me. And not even for my status as a bourgeois—they hate

me for my continued allegiance to the working-class. There's a word they use when they think I cannot hear them. "Slummer." A man who lives in, or even simply visits, the working-men districts to experience some sort of prurient thrill of rebellion and *faux* class allegiance.

But that is it! That's what I must do. The little match girls must strike! Put their prostheses on display for the public via flying pickets. Challenge the bourgeoisie on their own moral terms—are these the daughters of Albion? Girls who are ever-starving, who can never be loved, forced to skulk in the shadows, living Frankenstein's monsters? The dailies will eat it up, the working-class will be roused, first by economic and moral issues, but then soon by their own collective interest as a class. Behind me, the whirl and chatter of loom shuttles kicked up. The Dialectical Engine was being fed the medium on which the raw knowledge of my friend's old letters and missives were to be etched. *Steam*, was all I could think. *What can you not do?*

#### 4. THE SPARK

I was an old hand at organizing workers, though girls who consumed electricity rather than bread were a bit beyond my remit. It took several days to teach the girls to speak with their jaws beyond the Bryant and May slogan, and several more to convince them of the task. "Why should we go back?" one asked. Her name was once Sally, as she was finally able to tell me, and she was the second-smallest. "They won't have us."

"To free your fellows," I had said. "To express workers' power and, ultimately, take back the profits for yourselves!"

"But then we'd be the bosses," the oldest girl said. "Cruel and mean."

"Yes, well no. It depends on all of the workers of a nation rising up to eliminate the employing class," I explained. "We must go back—"

"I don't want to ever go back!" said the very smallest. "That place was horrid!"

The tedious debate raged long into the night. They were sure that the foreman would clout their heads in for even appearing near the factory gates, but I had arranged for some newspapermen and even electro-photographers sympathetic to Christian socialism, if not Communism, to meet us as we handed out leaflets to the passing trade and swing shift.

We were met at the gate by a retinue of three burly looking men in fustian suits. One of them fondled a sap in his hand and tipped his hat. The journalists

hung back, believers to the end in the objectivity of the disinterested observer, especially when they might get hurt for being rather too interested.

“Leaflets, eh?” the man with the sap asked. “You know this lot can’t read, yeah?”

“And this street’s been cleared,” one of the others said. “You can toss that rubbish in the bin, then.”

“Yes, that’s how your employers like them, isn’t it? Illiterate, desperate, without value to their families as members of the female of the species?” I asked. “And the ordinary working men, cowed by the muscle of a handful of hooligans.”

“Buy Bryant and May matchsticks, Sir!” the second-tallest girl said, brightly as she could. The thuggish guards saw her mandible and backed away. Excited, she clacked away at them, and the others joined in.

“How do you like that?” I said to both the guards and the press. “Innocent girls, more machine than living being. We all know what factory labour does to children, or thought we did. But now, behold the new monsters the age of steam and electricity hath wrought. We shall lead an exodus through the streets, and you can put that in your sheets!” The thugs let us by, then slammed the gates behind us, leaving us on the factory grounds and them outside. Clearly, one or more of the police agents who monitor my activities had caught wind of our plans, but I was confident that victory would be ours. Once we roused the other match girls, we’d engage in a *sit-down* strike, if necessary. The girls could not be starved out like ordinary workers, and I had more than enough confederates in London to ring the factory and sneak food and tea for me through the bars if necessary. But I was not prepared for what awaited us.

The girls were gone, but the factory’s labours continued apace. Steam-workers attended the machines, carried frames of matches down the steps to the loading dock, and clanked about with the precision of clockwork. Along a catwalk, a man waved to us, a handkerchief in his hand. “Hallo!” he said.

“That’s not the foreman,” Sally told me. “It’s the dentist!” She did not appear at all relieved that the factory’s dentist rather than its foreman, who had been described to me as rather like an orang-outan, was approaching us. I noticed that a pair of steam-workers left their posts and followed him as he walked up to us.

“Mister Friedrich Engels! Is that you?” he asked me. I admitted that I was, but that further I was sure he had been forewarned of my coming. He ignored

my rhetorical jab and pumped my hand like an American cowboy of some fashion. “Wonderful, wonderful,” he said. He smiled at the girls, and I noticed that his teeth were no better than anyone else’s. “I’m Doctor Flint. Bryant and May hired me to deal with worker pains that come from exposure to white phosphorus. We’re leading the fight for healthy workers here; I’m sure you’ll agree that we’re quite progressive. Let me show you what we’ve accomplished here at Bryant and May.”

“Where are the girls?” the tallest of my party asked, her phonographic voice shrill and quick, as if the needle had been drawn over the wax too quickly.

“Liberated!” the dentist said. He pointed to me. “They owe it all to you, you know. I reckon it was your book that started me on my path into politics. Dirtier work than dentistry.” He saw my bemused look and carried on eagerly. “Remember what you wrote about the large factories of Birmingham—the *use of steam-power admit of the employment of a great multitude of women and children*. Too true, too true!”

“Indeed, sir,” I started, but he interrupted me.

“But of course we can’t put steam back in the kettle, can we?” He rapped a knuckle on the pot-belly torso of one of the ever-placid steam-workers behind him. “But then I read your philosophical treatise. I was especially interested in your contention that quantitative change can become qualitative. So, I thought to myself, Self, if steam-power is the trouble when it comes to the subjugation of child labour, cannot more steam-power spell the liberation of child labour?”

“No, not by itself. The class strugg—”

“But no, Engels, you’re wrong!” he said. “At first I sought to repair the girls, using steam-power. Have you seen the phoss up close? Through carious teeth, and the poor girls know little of hygiene so they have plenty of caries, the vapours of white phosphorous make gains into the jawbone itself, leading to putrefaction. Stinking hunks of bone work right through the cheek, even after extractions of the carious teeth.”

“Yes, we are all familiar with phossy jaw,” I said. “Seems to me that the minimalist programme would be legislative—bar white phosphorous. Even whatever sort of Liberal or Fabian you are can agree with that.”

“Ah, but I can’t!” he said. “You enjoy your pipe? I can smell it on you.”

“That’s from Wilkins, my driver.”

“Well then observe your Mr Wilkins. It’s human nature to desire a strike-anywhere match. We simply cannot eliminate white phosphorous from the

marketplace. People demand it. What we can do, however, is use steam to remove the human element from the equation of production.”

“I understood that this sort of work is too detailed for steam-workers.”

“It was,” the dentist said. “But then our practice on the girls led to certain innovations.” As if on cue, the steam-workers held up their forelimbs and displayed to me a set of ten fingers with the dexterity of any primates. “So now I have eliminated child labour—without any sort of agitation or rabble-rousing I might add—from this factory and others like it, in less than a fortnight. Indeed, the girls were made redundant this past Tuesday.”

“And what do you plan to do for them,” I said. “A good Fabian like you knows that these girls will now—”

“Will now what? Starve? You know they won’t, not as long as there are lampposts in London. They all contain receptacles. Mature and breed, further filling the working-men’s districts with the unemployable, uneducable? No, they won’t. Find themselves abused and exploited in manners venereal? No, not possible, even if there was a man so drunk as to overlook their new prosthetic mandibles. Indeed, we had hoped to move the girls into the sales area, which is why their voiceboxes are rather...focused, but as it happens few people wish to buy matches from young girls. Something about it feels immoral, I suppose. So they are free to never work again. Herr Engels, their problems are solved.”

For a long moment, we both stood our ground, a bit unsure as to what we should do next, either as socialist agitators or as gentlemen. We were both keenly aware that our conversation was the first of its type in all history. The contradictions of capitalism, resolved? The poor would always be with us, but also immortal and incapable of reproduction. Finally the dentist looked at his watch—he wore one with rotating shutters of numerals on his wrist, as is the fashion among wealthy morons—and declared that he had an appointment to make. “The steam-workers will show you out,” he said, and in a moment their fingers were on my arms, and they dragged me to the entrance of the factory as if I were made of straw. The girls followed, confused and, if the way their metallic jaws were set was telling, they were actually relieved. The press pestered us with questions on the way out, but I sulked past them without remark. Let them put Doctor Flint above the fold tomorrow morning, for all the good it will do them. Soon enough there’d be steam-workers capable of recording conversations and events with perfect audio-visual fidelity, and with a dial to

be twisted for different settings of the editing of newsreels: Tory, Liberal, or Fabian. Indeed, one would never have to twist the dial at all.

We returned to Wilkins and our autocarriage, defeated and atomised. Flint spoke true; as we drove through the streets of the East End, I did espy several former match girls standing on corners or in gutters, directionless and likely cast out from whatever home they may have once had.

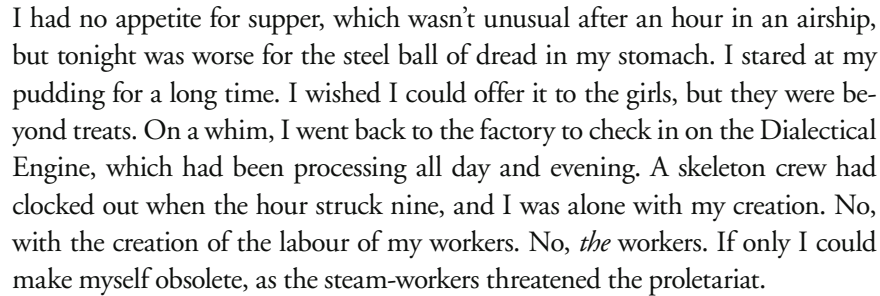
“We have to...” but I knew that I couldn’t.

Wilkins said, “The autocarriage is overburdened already. Those girlies weigh more than they appear to, eh? You can’t go ’round collecting every stray.”

No—charity is a salve at best, a bourgeois affectation at worst. But even those concerns were secondary. As the autocarriage moved sluggishly toward the airship field, I brooded on the question of value. If value comes from labour, and capital is but dead labour, what are steam-workers? So long as they needed to be created by human hands, clearly steam-workers were just another capital good, albeit a complex one. But now, given the dexterity of the latest generation of steam-workers, they would clearly be put to work building their own descendents, and those that issue forth from that subsequent generation would also be improved, without a single quantum of labour-power expended. The bourgeoisie might have problems of their own; with no incomes at all, the working-class could not even afford the basic necessities of life. Steam-workers don’t buy bread or cloth, nor do they drop farthings into the alms box at church on Sunday. How would bourgeois society survive without workers who also must be driven to consume the very products they made?

The petit-bourgeoisie, I realized, the landed gentry, perhaps they could be catered to exclusively, and the empire would continue to expand and open new markets down to the tips of the Americas and through to the end of the Orient—foreign money and resources would be enough for capital, for the time being. But what of the proletariat? If the bourgeoisie no longer need the labour of the workers, and with the immense power in their hands, wouldn’t they simply rid themselves of the toiling classes the way the lord of a manor might rid a stable of vermin? They could kill us all from the air—firebombing the slums and industrial districts. Send whole troupes of steam-workers to tear men apart till the cobblestones ran red with the blood of the proletariat. Gears would be greased, all right.

We didn’t dare take an airship home to Manchester. The mooring station was sure to be mobbed with writers from the tabloids and Tory sheets. So we settled in for the long and silent drive up north.



With a start, I realized that down on the floor I saw a spark. The factory was dark and coated with the shadows of the punched sheets, so the momentary red streak fifty feet below was obvious to me. Then I smelled it, the smoke of a pipe. Only a fool would light up in the midst of so much yardage of inflammable cotton, which was perplexing, because Wilkins was no fool.

“Sow-ry,” floated up from the void. But then another spark flitted in the darkness, and a second and a third. Wilkins held a fistful of matches high, and I could make out the contours of his face. “Quite a mechanism you’ve got all set up here, Mister Engels. Are these to be sails for the masts of your yacht?”

→ Arbeitskraft ←



“Extinguish, eh? Well, you got a good look, and so did I, so I think I will.” And he blew out the matches. All was dark again. What happened next was quick. I heard the heavy thudding—no, a heavy *ringing* of boots along the catwalk and in a moment a steam-worker was upon me. I wrestled with it for a moment, but I was no match for its pistons, and it threw me over the parapet. My breath left my body as I fell—as if my soul had decided to abandon me and leap right for heaven. But I didn’t fall far. I landed on a taut sheet of fine cotton, then rolled off of it and fell less than a yard onto another. I threw out my arms and legs as I took the third layer of sheet, and then scuttled across it to the edge of the scaffold on which I rested. Sitting, I grasped the edge with my hands and lowered myself as much as I dare, then let go. Wilkins was there, having tracked my movements from the fluttering of the sheets and my undignified oopses and oofs. He lit another match and showed me his eyes.

“Pretty fit for an older gentlemen, Mister Engels. But take a gander at the tin of Scotch broth up there.” He lifted the match. The steam-worker’s metallic skin glinted in what light there was. It stood atop the parapet of the catwalk and with a leap flung itself into the air, plummeting the six storeys down and landing in a crouch like a circus acrobat. Remarkable, but I was so thankful that it did not simply throw itself through the coded sheets I had spent so long trying to manufacture, ruining the Dialectical Engine before it could even be engaged. Then I understood.

“Wilkins!” I cried. “You’re a police agent!”

Wilkins shrugged, and swung onto his right shoulder a heavy sledge. “Fraid so. But can you blame me, sir? I’ve seen the writing on the wall—or the automaton on the assembly line,” he said, nodding past me and toward the steam-worker, who had taken the flank opposite my treacherous driver. “I know what’s coming. Won’t nobody be needing me to drive ’em around with these wind-up toys doing all the work, and there won’t be no other jobs to be had but rat and fink. So I took a little fee from the police, to keep an eye on you and your...” He was at a loss for words for a moment. “Machinations. Yes, that’s it. And anyhow, they’ll pay me triple to put all this to the torch, so I will, then retire to Cheshire with old Lizzie and have a nice garden.”

“And it?” I asked, glancing at the automaton on my left.

“Go figure,” Wilkins said. “My employers wanted one of their own on the job, in case you somehow bamboozled me with your radical cant into switching sides a second time.”



“They don’t trust you,” I said.

“Aye, but they pay me, half in advance.” And he blew out the match, putting us in darkness again. Without the benefit of sight, my other senses flared to life. I could smell Wilkins stepping forward, hear the tiny grunt as he hefted the sledge. I could nearly taste the brass and aluminium of the steam-worker on my tongue, and I certainly felt its oppressive weight approaching me.

I wish I could say I was brave and through a clever manoeuvre defeated both my foes simultaneously. But a Communist revolutionary must always endeavour to be honest to the working-class—Reader, I fell into a swoon. Through nothing more than a stroke of luck, as my legs gave way beneath me, Wilkins’s sledgehammer flew over my head and hit the steam-worker square on the faceplate. It flew free in a shower of sparks. Facing an attack, the steam-worker staved in Wilkins’s sternum with a single blow, then turned back to me, only to suddenly shudder and collapse atop me. I regained full consciousness for a moment, thanks to the putrid smell of dead flesh and fresh blood. I could see little, but when I reached to touch the exposed face of the steam-worker, I understood. I felt not gears and wirework, but slick sinew and a trace of human bone. Then the floor began to shake. An arclight in the corner flickered to life, illuminating a part of the factory floor. I was pinned under the automaton, but then the tallest of the girls—and I’m ashamed to say I never learned what she was called—with a preternatural strength of her own took up one of the machine’s limbs and dragged him off of me.

I didn’t even catch my breath before exclaiming, “Aha, of course! The new steam-workers aren’t automata, they’re men! Men imprisoned in suits of metal to enslave them utterly to the bourgeoisie!” I coughed and sputtered. “You! Such as you, you see,” I told the girl, who stared at me dumbly. Or perhaps I was the dumb one, and she simply looked upon me as a pitiable old idiot who was the very last to figure out what she considered obvious. “Replace the body of a man with a machine, encase the human brain within a cage, and dead labour lives again! That’s how the steam-workers are able to use their limbs and appendages with a facility otherwise reserved for humans. All the advantages of the proletariat, but the steam-workers neither need to consume nor reproduce!” Sally was at my side now, with my pudding, which she had rescued from my supper table. She was a clever girl, Sally. “The others started all the engines they could find,” she said, and only then I realized that I had been shouting in order to hear myself. All around me, the Dialectical Engine was in full operation.

## 5. ALL THAT IS SOLID MELTS INTO AIR

In my office, the styluses scribbled for hours. I spent a night and a day feeding it foolscap. The Dialectical Engine did not work as I'd hoped it would—it took no input from me, answered none of the questions I had prepared, but instead wrote out a single long monograph. I was shocked at what I read from the very first page:

*Das Kapital: Kritik der politischen Ökonomie, Band V.*

The *fifth* volume of *Capital*. Marx had died prior to completing the *second*, which I published myself from his notes. Before turning my energies to the Dialectical Engine, I had edited the third volume for publication. While the prior volumes of the book offered a criticism of bourgeois theories of political economy and a discussion of the laws of the capitalist mode of production, this fifth volume, or extended appendix in truth, was something else. It contained a description of socialism.

The internal contradictions of capitalism had doomed it to destruction. What the bourgeoisie would create would also be used to destroy their reign. The ruling class, in order to stave off extinction, would attempt to use its technological prowess to forestall the day of revolution by radically expanding its control of the proletariat and his labour-power. But in so doing, it would create the material conditions for socialism. The manuscript was speaking of steam-workers, though of course the Dialectical Engine had no sensory organs with which to observe the metal-encased corpse that had expired in its very innards the evening prior. Rather, the Engine *predicted* the existence of human-steam hybrids from the content of the decade-old correspondence between Marx and myself.

What then, would resolve the challenge of the proletarian brain trapped inside the body of the steam worker? Dialectical logic pointed to a simple solution: the negation of the negation. Free the proletarian *mind* from its physical *brain* by encoding it onto a new mechanical medium. That is to say, the Dialectical Engine itself was the key. Free the working-class by having it exist in the physical world and the needs of capitalism to accumulate, accumulate. Subsequent pages of the manuscript detailed plans for Dialectical Engine Number 2, which would be much smaller and more efficient. A number of human minds could be “stitched-up” into this device and through collective endeavour, these

beings-in-one would create Dialectical Engine Number 3, which would be able to hold still more minds and create the notional Dialectical Engine Number 4. Ultimately, the entire working-class of England and Europe could be up-coded into a Dialectical Engine no larger than a hatbox, and fuelled by power drawn from the sun. Without a proletariat to exploit—the class as a whole having taken leave of realm of flesh and blood to reconstitute itself as information within the singular Dialectical Engine Omega—the bourgeoisie would fall into ruin and helplessness, leaving the working-class whole and unmolested in perpetuity. Even after the disintegration of the planet, the Engine would persist, and move forward to explore the firmament and other worlds that may orbit other stars.

Within the Dialectical Engine Omega, consciousness would be both collective and singular, an instantaneous and perfect industrial democracy. Rather than machines replicating themselves endlessly as in Mister Butler's novel—*the machines are gaining ground upon us; day by day we are becoming more subservient to them*—it is us that shall be liberated by the machines, through the machines. We are gaining ground upon them! *Proletarier aller Länder, vereinigt euch!* We have nothing to lose but our chains, as the saying goes!

The Dialectical Engine fell silent after nineteen hours of constant production. I should have been weary, but already I felt myself beyond hunger and fatigue. The schematics for Dialectical Engine Number 2 were incredibly advanced, but for all their cleverness the mechanism itself would be quite simple to synthesize. With a few skilled and trusted workers, we could have it done in a fortnight. Five brains could be stitched-up into it. The girls and myself were obvious candidates, and from within the second engine we would create the third, and fourth, and subsequent numbers via pure unmitigated *Arbeitskraft*!

Bold? Yes! Audacious? Certainly. And indeed, I shall admit that, for a moment, my mind drifted to the memory of the empty spectacle of Mister Peake's play, of the rampaging monster made of dead flesh and brought to life via electrical current. But I had made no monster, no brute. That was a bourgeois story featuring a bogeyman that the capitalists had attempted to mass produce from the blood of the working-class. My creation was the opposite number of the steam-worker and the unphilosophical monster of stage and page; the Engine was *mens sana sine corpore sano*—a sound mind outside a sound body.

What could possibly go wrong...?