

These devices

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A few days ago I received a late birthday present: A Pinephone, a still very experimental smartphone, running almost exclusively open source software. Part of tinkering with such a device is reading a lot of forum discussions. Reading through the PinePhone forums, I came across a link to a video of the phone's production lines in Shenzhen which made me reflect on the topics of this post.

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Shiny stuff



If you ever dare to open up one of those shiny devices of yours, you will quickly realize that there is far more manual labour involved in putting them together than you would originally think of such a wondrous thing made of metal, plastic and glass. It sits before you as if it was never apart, as if it was cast in one swift movement of an autonomous robot, standing in a white clean room on its own. But once you had to claw your fingernails or a credit card into the side of a device like that, to open its backside, or after you maybe even turned two or three (or fifteen) little screws to lift another layer, you can see more and more of the steps a human hand had to perform to put it together. One quickly realizes: There is crooked duct tape holding my ereader's

internals together, there are random dabs of glue fixing the display onto my smartphone and somebody had to plug my laptop's WIFI card onto that mainboard manually.

As every other commodity produced under capitalism, our technical devices try to hide their own history, their own *manufacturedness*, the (hi-)story of them being-made. The sleek surfaces of these devices especially try to hide the conditions under which they were produced, as one of the many forms of labour which is actively made invisible by capitalism¹.

There are many forms of invisible labour under capitalist patriarchy². Making certain forms of labour invisible is an old function $f()$ which still structures new developments of what is now often discussed as *Digital Capitalism*. A similar function $f()$ - you could call it a *subroutine* of our hegemonic or ideological apparatus - is embedded in the concept discussed as *post-industrial* society. Here classic factory jobs don't exist any more, or at least don't *seem* to exist any more. Many contemporary discussions on 'datafication,' 'knowledge economy' or 'information society' revolve around this idea that mental labour has replaced manual labour. As if all the devices and gadgets making the commodification of our every experience possible, really just automagically popped into existence, or as if all the thinkers homes were serviced and their meals cooked on their own, without being embedded in global (re-)production processes, histories and continuities of struggle or extractive processes destroying our planets ecosystems.

But as every other commodity, they have to be made, they don't just appear before us, even if they want to tell us so. The form of such commodities is curious thing. In the way it structures our societies, it hides our relations to and from each other, while at the same time puts us at each others disposal - *as commodities*. By embedding devices like smartphones deeply into our daily lives, we are intrinsically connected to the people involved in the extremely complex process of creating those devices and bringing them to us. But the way they present themselves to us - as shiny things without a history, *as commodities* - hides those people from us, makes them invisible to us.

„In communicative capitalism, capitalist productivity derives from its expropriation and exploitation of communicative processes. This does not mean that information technologies have replaced manufacturing; in fact, they drive a wide variety of mining, chemical, and biotechnological industries.“

¹There are many adjectives being put before the word *capitalism* nowadays. They all try to describe specific aspects of the changes the widespread use of digital communication technologies has brought to the worldwide regime of production. I often used *communicative capitalism*, a term used by scholars like Jodi Dean to describe forms of accumulation in current capitalism, which rely on exploiting every aspect of our daily lives and experiences, e.g. through systems of capture and surveillance (Dean 2015) In this text, I will mostly refer to *digital capitalism* as this is a more general term. But this terminology and its reasoning definitely needs more work.

²One very often discussed example is *housework*, the reproductive labour of cooking, cleaning, caring for others, which was split away from what capitalism (and also mainstream marxism at the time) defined as *labour* and therefore shouldn't have to be paid. Patriarchy taught everyone that all of these activities were part of what it meant to be 'a woman,' and should be done out of love for your family. "They call it love, we call it unwaged work!" is the beginning of a famous manifesto written by Italian feminist marxists (Federici 1975) to fight against this patriarchal division of labour.

Jodi Dean (2015), p. 4

The marks on my machine



I am really excited about the phone I have lying on my desk next to me while writing these words. As it's probably become obvious by now, I like thinking about the social implications, the hidden economies and the embedded power structures of the technologies digital capitalism builds around us. The possibility to understand and tinker with all aspects of a smartphone - arguably the device most important to most of our daily lives nowadays - is intriguing to me. I have no illusions about the free software community or an army of hackers and nerds bringing down capitalism and building a better world on its own, but I like the possibilities to think through things being unmade or made differently. This possibility of making things differently is what draws me to objects like the Pinephone.

Getting a Pinephone is quite a process. Or at least one you need patience for. It is a very specific device, with quite a small audience and an active community, which is well looked after by Pine64 the creators of the phone. In monthly updates about the state of the company, the development of new devices or community-created software, they always include a section called 'housekeeping,' in which they discuss various things about their company, community achievements and updates regarding the shipment of their devices running off the conveyor belts in Shenzhen.

These updates bring us surprisingly close to the actual production process of the Pinephone. They of course talk about it from the perspective of "end users," mostly by explaining why they have to wait longer for their devices due to Covid or the holiday season in China: "Lunar New Year is coming up soon, expect some shipping delays in March!" One of Pine64's community managers posted a link to a video of some Pinephones being put together on the forum, you can see a short snippet below. The responses reach from users wondering if the Coronavirus could survive on the surfaces long enough to reach them after shipping, to others thinking about various hardware versions or even being concerned about security. The comments on the YouTube-Video itself vary

from users being angry because of shipping problems to others talking about low key sexist jokes.

None of the replies ask about the workers in this video. About their wages, their working conditions or their safety during this global pandemic. I am able to sit at home, getting paid for working on my PHD thesis, whereas the people we see in the video have to be in the factory often more than 60 hours a week to put together a device I want to tinker with while thinking about capitalism. *This is not a text dunking on Pine64 for producing under such conditions.* Not even projects explicitly trying to produce a smartphone under ‘fair’ conditions could live up to their own standards, since some materials are just not acquirable from sources which can guarantee humane working conditions.³ It is also not about the forum users not asking about the workers. Current capitalism tries to hide these things from us as it’s subjects, especially when we are addressed as consumers. So the commenter’s disregard for the people in the video is ‘just’ an example of how the commodity form makes us relate to each other as objects - as *things* rather than people.

It is important to think these commodity forms not as separate from structures like racism or sexism. Quite the opposite is actually true: Our current mode of production is built upon centuries of colonialism and patriarchy, so both of these systems are intertwined with capitalism and have shaped the way it works right now. This may sound like a truism, and it is: But one it is worth repeating, if only for myself and people around me - Namely white scholars. This is also the reason I need to be careful in what I write *about* the workers in those factories, as not to *overwrite them*.

Instead this text is an exercise to explicitly look at these relations. The Pinephone may be a step in the direction of finding alternatives to specific aspects of surveillance capitalism, namely open sourced devices.⁴ And user freedom may be an important part of our movements to build a better world, as it is often talked about in regard to projects like the Pinephone. But I want to start exploring my pinephone by looking into the other direction. I do not want to only think about the black box of proprietary LTE-modems, but also about the black box of *capitalist production* in the special economic zones of the Pearl River Delta, or .

A commodity is therefore a mysterious thing, simply because in it the social character of men’s labour appears to them as an objective character stamped upon the product of that labour; because the relation of the producers to the sum total of their own labour is presented to them as a social relation, existing not between themselves, but between the products of their labour. This is the reason why the products of labour become commodities, social things whose qualities are at the same time perceptible and imperceptible by the senses. (...) There it is a definite social relation between

³The people around the Fairphone really tried hard, but had to admit to themselves that they couldn’t build a phone using only conflict-free materials. They now try to use their leverage to improve the conditions of people working in cobalt mines, especially in the DRC.

⁴And there is exciting stuff happening there. The possibility of opening the black box of the probrietary modems connecting us to mobile internet infrastructures is really cool!

men, that assumes, in their eyes, the fantastic form of a relation between things.
Marx and Engels (1954), p. 77

Global labour in global digital capitalism



The package containing my Pinephone started from Shenzhen, China; was shipped via Hong Kong, which is right on the other side of the Chinese Border; and was then imported via Frankfurt, Germany, on behalf of a firm in Słubice, Poland. A confusing series of only half-translated shipment tracking websites enabled me to watch it wander across the globe, and when it arrived on my doorstep, it was handed over by one of the few package delivery companies, which actually employs most of the people working for it.⁵

On the side of the small brown package was a sticker with the producer printed onto it: “SHENZHEN ALONG COMMUNICATION TECH CO.,LTD, Room 1301, 13F, Zhenye International Business Center, No. 3101-90, Qianhai Road, Nanshan District, Shenzhen, Guangdong Province, China.” Once again I was surprised about how close to the production process this brings us - You would never find Foxconn’s address on the side of your new iPhone’s package. I doesn’t matter if this is a byproduct of the small scale operation around the Pinephone or (which I doubt) deliberate transparency. Either way, it gave me the chance to look up the producer, called Along. As with most companies in the tech sector, their website is full of empty buzzwords, flashy images of what people seem to imagine digitalization looks like (a lotta glowing blue lines, apparently) and vaporware called something like *Product Name 4*.

What caught my eye was a full social compliance audit report they published on their website, which was conducted in April 2020 and gives us more insight into the social structure of the company, how it produces and other small details, like the exact location of its production plant

⁵You probably read a lot about the struggles of package delivery drivers during the pandemic - Most are uninsured and underpaid subcontractors, as the big online retailers refuse to take responsibility for this integral part of their business. There was a law passed in late 2019 in Germany, forcing big delivery companies to pay the social insurance costs, their often quite dubious subcontractors didn’t - but this only brought mixed results.

in another part of Shenzhen (N22°36'16"; E113°50'57"), total turnover (35000000.00€) and their total number of employees (507). The overall rating of the audit was a C.

The report tells stories of many hours of overtime, exceeding the limit set by Chinese labour laws. It talks of fingerprint scanners at the factory gates, immense amounts of overtime and illegally uninsured employees, who live in company owned dormitories, earning minimum wage. Of the 507 employees, almost all of them are domestic migrants (488), almost half of them are women (243) and not one of them is part of a union.

This is the part of the story missing when Wired Magazine makes a hip documentary about shiny Shenzhen as “The Silicon Valley of Hardware,” in which they praise the area for its startup scene and the increasingly faster way prototypes are built there. This is also the part missing from the way the user freedom story is written: The devices enabling that freedom have no history and no future beyond them being superseded by the next generation of more or less the same dives. The migrant women putting them together are written out of that story in the same way the children pulling them apart on toxic “recycling” dumps are.

For her study “Becoming Dagongmei (Working Girl),” sociologist Pun Ngai spent several months working in one of the electronics factories of Shenzhen, living and talking to the women working there. She describes the life in the dormitories and at the production lines as structured by power relations of interwoven sexism, regional ethnic biases and new capitalist realities of a reformed China. These women are called *Dagongmei* which is a “newly coined term denoting a new kind of labour relationship fundamentally different from Mao’s period.”(Ngai 1999, 2) *Dagong* can be translated as “working for the boss” or “selling labour,” whereas *mei* (literally “little sister”) is used to sign to age and marital status. The term is used to mark hierarchical, gendered class relations, and to separate these rural young women in the factories of the urban centers from the *gongren*, the more prestigious term used for the “worker” in Chinese socialist rhetoric. It is important to note here, that Ngai does not draw a picture of the *Dagongmei* as passive subjects, but instead shows several ways they use their various relations among each other to form lines of solidarity and practices of resistance, for instance “through collective illness and slowdowns”(Ngai 1999, X). At the same time, immense pressure and little spare time to socialize alongside regional biases among the workers is used by the management to counter such forms of resistance.

A lot has changed in the twenty years since this paper was published, but most things haven’t. State surveillance and repression in China (as well as most other places in the world) has grown rapidly, but new waves of resistance and organizing have also sprung up. The Chinese state is especially strict about any dissent right next to the border to Hong Kong, since people there protested for independence for years now. As it lifted Millions of people out of poverty, it also created an increasingly consumerist way of life, which is built on the backs of the “peasant workers.” Their tries to organize and fight for better working conditions are met with increasingly brutal repression.

The workplace is not to be conceived as a microcosm of the society at large, but as part

of the process of producing and reproducing the larger society. (...) The production regime, in making use of existing social relations, reproduces itself as one part of the system yet at the same time reconfigures the system. The factory regime itself is not a pyramid of power hierarchies, but a kaleidoscope of power and hierarchies, created by weaving identities, of gender, kinship, ethnicity and rural-urban disparities.

Pun Ngai (1999), p. 18

Intersecting Production



I write these lines as much for me as for other scholars of *digital capitalism*, to serve as a reminder of the obvious. Even as people schooled in the specific philosophic intricacies of the commodity form and its ideological effects, it is so easy to check that mark, move on and then succumb to the effects oneself. I mean writing and theory built on the basis of such critique which then itself comes to conclusions, which makes the relation to other people, their position in the global productions chains invisible itself. And lots of current critique on digital capitalism does exactly that. Some scholars do that by focusing only on those effects of the recent changes which are visible and noticeable in the global centres, where these scholars are writing from. Others do that by being baffled by seemingly “new” forms of control, surveillance and repression other, more oppressed people right next to them had to suffer for decades already, or even longer.

Describing this thing often referred to as *digital capitalism* as a completely new thing poses the threat of forgetting all the continuities to existing structures of oppression. This is why I argue it is important to understand digital capitalism as a direct continuation and intensification of this thing called “imperialist, white-supremacist capitalist patriarchy” (hooks 2004). A critical, reflective position should keep the things, capitalism wants to make invisible, in sight - as not to fall in the trap of writing a theory which denies its own history, its own *manufacturedness* as well as its position. This is the default mode for a lot of scientific *!?*, patriarchal academia - seeing “everything from nowhere, at one with the world of things that just are, or very soon will be.

They ask what it is like to be glass, sliding in to become transparent, using this as justification for their failure to take a standpoint of their own. They do not ask what this glass does, how it makes a cut, who bleeds.” (Bassett, Kember, and O’Riordan 2020, 7)

An intersectional approach to digital capitalism needs to cope with sometimes contradictory points, especially when dealing with global production chains, as I am trying here. It needs to understand struggles of people in very different positions of the whole production process as connected, without completely equating them and thereby dissolving the inscribed power relations between them. There are both “conflicting class interests” and “complementary exploitations” in this relation, as Nick Dyer-Whiteford puts it (Dyer-Whiteford 2015, 93) - The “relative affluence” of the people in the global centres is based on the cheap devices based on the intense exploitation of the *dagongmei*, whereas these devices become “the means for the Facebook user’s surrender of free labour and subjective subordination to the commodity form” (Ibid.) (Dyer-Whiteford 2015, 93).

The smartphone itself is a good starting point to think about these racialized and gendered divisions of labour structuring digital capitalism. The concept of “mobile circuits of exploitation” (Brophy 2015) may help to highlight the various forms of labour being made invisible behind it:

Surveying the circuit of wireless accumulation as I just did, however, shows us that by far the most prominent feature of the labours supporting the mobile commodity is their extraordinary heterogeneity: diggers use pre-industrial techniques to extract ore in highly informal resource economies; proletarianized migrants perform hyper-Taylorized work in gargantuan factories where mobile devices are assembled; teams of entrepreneurial software engineers design apps that are entered into the intellectual property lottery; precariously-employed call-centre workers deploy scripted linguistic labour to manage mobile consumers; cellular subscribers do digital piecework in their spare moments and, the rest of the time, feed their collective intelligence and social networks into the mobile Internet economy; and e-waste workers scavenge through the debris of perpetual upgrade to eke out a subsistence livelihood on the “planet of slums,” to use Mike Davis’ description.

Enda Brophy (2015)

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