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Temporalities, time and the everyday: new production technologies as markers of change in an Estonian mine

This paper explores the relationship between men and mining technology in an Estonian oil-shale mine. It traces the linear time of socialism and postsocialism, arguing that for Estonian miners, the end of socialism might not have been as radical of a change as changing the mining technology in early 2000s. The introduction of the new technology changed the nature and perception of miners' work, as well as the opportunities of controlling the everyday tempo of work. Furthermore, the introduction of new technology had implications to the job security and health of miners.

Keywords: tempo of work, multiple temporalities, labour process, postsocialist temporalities, mining, new technology, health and safety, mine workers, Estonia.

Introduction

The older employees of the nationally-owned underground oil shale mine in North-East Estonia have experienced a lot of changes in their lives. After a lot of crumbling, the Soviet Union collapsed in 1991 and the independence of Estonian Republic was declared. The Russian-speaking mine workers suddenly experienced a double shock of losing their privileged status as workers and as Russian speakers. High unemployment, accompanied with social problems including the spread of HIV and drug use in the region touched every family and neighbourhood in some way, making life more unpredictable. Besides uncertainty in social and economic life, the newly-founded state put all those who were not descendants of the First Estonian Republic which existed between the two world wars, in an uncertain situation by not giving them citizenship. Provided with grey alien passports, watching industry after industry closing as the economy was being restructured, the miners were left in a very uncertain situation.

The mines, however, kept working the way they had before. The peak of production had been in the early 80's after nuclear power plants had eased the need for energy. Although the need for oil shale decreased after 1991, no mines were closed. Almost the same number of staff kept working in the mines, the changes mostly affected the auxiliary parts of the company, like kindergarten that were now transferred to the municipality. The company director had been working in the system all his life, and did little to change the management of the company. The changes were affected the form rather than the content — the mine director abolished what he considered the old Soviet holidays like Miners' Day and Women's Day. The same trade union leader kept leading the trade union, with the disappearance of the Communist party, the local politicians quickly formed new parties and were still running the town. The same miners, engineers and managers kept doing their work as they had before. A few of them went to illegal private business and were killed during the power struggles of the local «businessmen»- Mine shafts used for ventilating the underground tunnels proved to be excellent places for disposing the bodies. But the work day for the ordinary miners looked the same as it had before. Driving to the mine on the company bus, descent to the underground on an underground train, playing cards. Hard physical work on hand drills, shovelling oil shale to conveyor belts where it had fallen off the clumsy scraping conveyor, cutting holes to the seam with a massive cutting device invented in Ukraine in the 1960s. The same piece rate system that had been in place in the Soviet era.

Things started changing only in 1999, when the old director, 72 years old by then was replaced with a new energetic leader. The radical changes he implemented included closing several mines, selling the remaining parts of the company not related to the production, demanding that engineers wear shirts and ties to the meetings instead of dirty work clothes, reinstating the Miners' Day. In addition to that, he implemented new technology in the mine where I did my fieldwork, an underground mine called «Estonia.»

In this paper, I explore the multiple temporalities present in the life of these miners. Besides the monumental, historical and linear time marked by the changing systems of political economy, there is the time of the mine. In the mine time, there is the linear time that is periodised as the time before and after the introduction of the new technology, *novaya tekhnika*, as the miners call it. Both of these times have an impact on the everyday time of the mine, affecting the meaning of work, the labour process and the tempo of work, the big

changes reshaping and penetrating the everyday. The linear national time that tells the story of nation states, is very similar to that of anthropologists who talk about socialism and postsocialism. Not disregarding the huge changes in the region described above, I suggest that in the everyday life of the miners, the introduction of the new technology was just as significant shift as that of rejoining the capitalist world. The mine, with its seams of brown oil shale and white lime stone, can similarly be seen as different and coexisting layers of time. The socialist and the capitalist exist side-by side in work organisation, one more visible in some aspects than in others, co-existing and intertwining, and intertwining with the cyclical time of the production process, breaking down the idea of a linear time from socialism to postsocialism. To understand how the changes have affected the mining community, I look at their everyday work, the routine, the mundane that is supposed to comfort and protect them from the agency of time and history. As Nancy Ries puts it, «Surely the everyday is a refuge from history, even from time itself. And alongside power, history and time are those things that most violate the everyday» (Ries 2002) [1].

To better describe the idea of multiple temporalities the intersection of history and the everyday, Ssorin-Chaikov's (2006) [2] concept of heterochrony becomes useful. Ssorin-Chaikov describes time as different temporalities where «a linear historicist time is part of the picture but it borders and even partially overlaps with other temporalities». His example of heterochrony is the exhibition of Stalin's birthday gifts as a crossing point of several temporal disjunctures that are constituted as a relation to temporalities that extend beyond the scope and the terms of this site. Similarly to his exhibition, I use an object to describe the intersection and different paces of time and the everyday. The mining machinery, on one hand part of the wider capitalist project of increasing profit and making the mine more efficient, is on the other hand the miner's closest companion. The mining machinery is the reason for re-organising the labour process and professions, on the other hand the miner spends more time with it than with his wife. The machine feeds him, has its moods, dictates the tempo of the work and gradually steals his health. In this interaction between the miner and his machine, the rhythms of the everyday are created, the temporalities of the past and memories are played out. I look at work and the machines to give a wider meaning to the current changes going on in the North-Eastern periphery of Europe and what they say about work in capitalist late modernity in general. The changes in the means of production in the mine bring along other changes and clashes in temporalities.

Of Machines and Men

The new technology meant renewing most of the machinery in the mine and replacing rail transport and conveyers with more contemporary wheeled machines. The underground train that took miners to their workplace was replaced with yellow Mercedes minibuses, still good for playing cards. The hand drills and face-cutting machines were replaced with machines that look like giant yellow trucks with drills on them, that the miner operates from levers, buttons and a mini-computer attached to the machine. If a hand drill could drill two meters into the face area, the drilling-car could do up to seven. Clumsy scraping conveyors that were transporting oil shale from the face area to bigger belt conveyors, were replaced with more flexible wheeled loaders with buckets that could take up to four cubic meters of oil shale to the bigger conveyor belt in one go.

This was a massive change for miners who have a very particular intersubjective relationship with their machines. Mollona (2009) [3] has shown how machines are not seen as external tools of production in a steel factory in Sheffield. Rather, they are «symbolic extensions of the workers' bodies, metaphorical appendages of their sexuality, powerful technologies of enchantment and markers of social status» (p.35) [3; 35]. This is similar in the «Estonia» mine. Each miner has one main machine that they are using, and miners sometimes jokingly say that is dearer to them than their wives. The intersubjective relationship between the man and the machine is present, for instance, in the memoirs of the hero of socialist labour, miner Aksel Pärtel, who started implementing mechanised mining machinery in the 1970s. He describes a capricious machine sent from a Soviet factory that made equipment for coal mines. It took him and his brigade weeks of work to rebuild the machine so that it was suitable for oil shale mining. Nevertheless, the machine had the habit of breaking down just as important officials were visiting. Over time, Pärtel and his colleagues mastered the stubborn machine and even when new and better machines were introduced, the old one still remained the most comfortable and dearest to them (Pärtel 1972). Many of the older men who had to invent new ways to make the machinery function better love it for the creativity the machines allow in their work. For example, in a local newspaper interview, the head mechanic of the mine was explaining how to invent something new, and to improve the repair and maintenance of mechanisms is his real vocation. He added that if he was not so attached to the machines, he would be a doctor and repair people the same way as he now repairs machines.

But the relationship is not however only that of romantic love. The machine is the feeder of the mine and helps him to earn his living, working piece rate. Therefore, miners push the machines as much as they can, occasionally breaking cables or other parts in the rush to earn more money. The miners also think that underground servicemen are never repairing the machines fast enough and that it is terribly unfair when part of their salary is cut when they have repeatedly broken the machine. They are bitter about the wearing out of the machines, as is sometimes expressed quite visually. For example, a miner had written «*Bez tormozov*», without breaks, on his loading machine that had a problem with breaks wearing and not being as sensitive as they used to be in the beginning. Thus, the miners are always balancing on the border of working in the fastest and most efficient way or pushing the machine over the edge. Besides being the mechanised extensions of bodies that the workers apply embodied skills to, they seem to have a mind of their own, which the worker needs to tame to make the machine cooperate. The machine can be your best team mate or the unreliable comrade, breaking down in the middle of the greatest rush. The relationship with the machines is very much related to the speed and the tempo of the work which I will touch upon later on in this paper. Next, I will explore the changes of meaning that the new technology brought along in the everyday life of the miners.

Meanings of *novaya technika*

First of all, the story of introducing *novaya technika* is the story of progress. All production managers and engineers were telling me about the increased efficiency of work. Also miners themselves were mentioning efficiency, for example blasters were proudly telling me how they can now blast four rather than two meters of face area in one go. «We now have *novaya technika*, we have contemporary machines, the work is much more efficient now, cleaner, faster and warmer», was something that I heard from everyone, that after months of repetition sounded like a refrain to the whole song about miners' life and work. The way the work has changed was put very well by an old miner, born in 1922, who was telling me about visiting «Estonia» after the implementation of the new technology. «The work that I did and what my son does now is different from each other like earth and sky. He could wear a shirt and tie to the mine if he wanted to. But the way I was sweating, taking off even my undershirt, with a spade in my hand, it was like Gulag, only without the guards.» The Russian expression «different like earth and sky», was something that I heard often when miners were describing their work now and before 2000s, the current was definitely a progress. The head mechanic of one of the production departments was telling how now they are constantly learning about the new technology but in fact the Soviet Union collapsed because the old people in power were reluctant to introduce new technology and did not let the keen youth do it. When the Soviet Union produced their Ladas and Moskwiches without any changes, in the West, cars change every few years. In his opinion, this kind of development and progress was also important to run the mine successfully. This is an example of the crossing over of the political history and history of the technology, where the development of technology seems to have crucial importance for the development of political history.

Despite the story of progress, miners do not acknowledge openly that the new technology has changed the meaning of being a miner. Miners still talk about mining as being really hard work. This usually goes together with the other refrain to the miners' song, which goes like this: «Our work is so hard, our pay is so low, it was better in the past and it is better everywhere else.» So miners still define their profession in terms of hard work. The old miner was exaggerating a little bit when telling that one can now work in a shirt and tie. But nevertheless there is a huge difference whether to work on a heavy, vibrating and moody hand drill or to sit in a comfortable seat, pushing buttons, directing the mechanical drill to the right place in the face area. Drilling still causes as much dust as it did before and makes work on the drilling machine, being hidden in the golden-brown haze, wearing a respirator for 7 hours, rather unpleasant. Nevertheless, the aspect of physical labour that has been the main marker of miners' work, has now been removed. One of the operators of such drilling machine was explaining that to operate it, one first has to know how to drive a car. This was more important than having any kind of physical strength. If earlier the miner was paid for hard physical work, then now he is paid to carefully operate the new expensive machinery. When the miner goes home after the shift, he would not be exhausted from the physical work the way he was before. The new technology has completely changed the meaning of being a miner in terms of that is seen as «hard work». This is another example where multiple temporalities co-exist, as miners embrace their new technology but stick to the old image of miner as a someone who does hard physical work.

«The mines have invested hundreds of millions of Estonian kroons to buying new mining technology. Today we have fewer, but more powerful and reliable machines, productivity is higher than it was by several times. This means that there are fewer repair works. As the machines are more complicated and require

higher qualifications from servicemen, we have decided to use the help of the specialists from the machine production factory. Buying the service and repair provision from the purveyor is a widespread practice today.» was the message in the local newspaper in October 2009, together with the announcement that further 150 service workers will be made redundant. Overall, this means that servicemen are losing their role as the developers and carers for the equipment, the doctors of machines. As outsourcing the service is often seen as a cheaper option and the company is trying to reduce the number of auxiliary workers, the trend is that bigger repair works will in the future be done externally and the servicemen whose job was to come up with creative solutions and take care of machines, in a way look after them as one would look after a domestic animal, will be disappearing. Hence, the meaning of work after the new technology is not changing only for miners who actually operate the new machines but also support staff. Altogether, it means further stratification between different mine workers. Miners, the lords of labour are becoming the well-off specialists while the servicemen are losing their important role, being outsourced, deskilled and living in constant fear of restructuring and lay-offs. Here, the introduction of new technology and together with it, new labour organisation, will be changing also the relationships and hierarchies between different workers. Because of the big changes, the everyday will be physically less tiring for miners and more boring, fuller of fear of lay-offs for the servicemen. These are the big changes that will connect or tie in with the changes of time and history. Labour in Estonia, is following the global trend, becoming more precarious, less physical and more stratified. Directly linked to the introduction of new technology, the machines help to explain the bigger changes that are taking place.

What has happened to the tempo of work after the introduction of *novaya tehnika*?

There are changes at the everyday level of work that the new technology and new times have brought along. For this, another temporality needs to be used, the everyday rhythm of work. I use the concept of tempo, or rhythm, based on the work of Pierre Bourdieu. Looking at the rhythms of gift-giving, Bourdieu (1977) [4] focuses on the time between a gift and a counter-gift. Reciprocating too early or too late can lead to the breakdown of the social relationship. «Even if an action is heavily ritualised, as in the dialectic of offence and vengeance, there is still room for strategies which consist of playing with time, or rather tempo, of the action.» It is even more true in less strictly regulated situations where agents have many possibilities of manipulating the tempo of the action, «holding back or putting off, maintaining suspense or expectation, or on the other hand, hurrying, hustling, surprising and stealing the march...» (p. 6) [4; 6]. In other words, even in the most stringent social situations, the agent can play with tempo for his own benefit.

Bourdieu's concept of tempo is similar to Michael Herzfeld (2004: 106; 2009) [5; 106,] who sees it, looking at artisans' or chefs' work, as rhythms of bodily movement, the artisan's control of the rhythms of work to cultivate a display of unhurried competence. Herzfeld focuses on the aspects of playing with time as a strategy used in the production of objects. This is similar to controlling tempo in the process of production, workers' strategies of controlling the process to a certain extent and de-totalising the huge system of production. This creates an intersection of the linear historical time, the time of the new machines, the cyclical time of production with its speeding-up and slowing down and the workers and his machine's individual tempo, playing with time.

If you were to enter the mine on a random afternoon, and look at how men work, the tempo of the work would really seem daunting to you as an onlooker. The loading machines, TORO-s, drive along the tunnel connecting the face area and the conveyer belt in an incredible speed. Seeing the big machine driving towards you, its bucket full of oil shale, pieces falling off, falling under its wheels and then bouncing off in every direction, the machine kicking up dust, you would want to be careful and step away from their path. Especially when they are driving back from the conveyer belt, because they drive in reverse gear, not seeing what is behind them. *Bez tormozov*, without breaks, like someone had written on one of the machines. Why this mad racing? Is it capitalism that is making the miners work faster? Not really. Miners who were paid piece rate in the Soviet era and are paid piece rate now have always aimed to work the fastest they can, to earn as much as the can. The socialist competitions, heroes and records motivated men to work quickly.

Ssorin-Chaikov (2006) [2] looks at Bourdieu's idea of rhythm in the context of political gifts, including the Stakhanovite workers' gifts of labour, giving their time to do overtime as a gift to the leader, or to socialism.

Stakhanovism took the form not merely of the fulfilment of plans — on time, in theory — but of their 'over-fulfilment' in terms of the quantity of what was produced or, more importantly, of the time necessary

to fulfil the plan. The over-fulfilment of a plan of industrial output was its fulfilment 'ahead of time' (*dosrochno*) (P 362) [2; 362].

The rushes did not take place only occasionally to produce birthday gifts to leaders but due to constant shortages of raw materials and spare parts, actually happened at the end of every month as Burawoy (1988) [6] has shown in his Hungarian ethnography. Differently from the ideal of E.P. Thompson's (1967) industrial time, the tempo and amount of work would not stay stable and dictated by the clock, but would rather increase significantly at the end of the month. In the case of large production demands, the same happens in production now and irregular tempo over which the worker has little control is similar in capitalist and socialist societies (see also Burawoy and Lukács 1992: 71) [7; 71]. Being a part of the production cycle, the worker has the power to stop it but does not do so because of the piece rate system. On the other hand, the Stakhanovite movement shows the importance of time in the Soviet system of production. The rushes to occasionally speed up time for production, jumping ahead of time, or Bourdieu's strategy of giving time to someone as a gift were central in the production. But the Soviet system did not only encourage shaping or bending time, it also wanted to measure time, to slice it into scientifically proven morsels taken up by a particular task in the production process.

In the Soviet Estonian mining company, there was a whole department focussing on developing norms and chronometrics, the science of precisely measuring the workers' movements. Vera Shereptsova, who joined this department as a young mine engineer still recalls the scientific process of recording miners' time with pride, as she told,

We observed workers by standing next to them throughout a shift and constantly writing down what they were doing. We did that for a month, observing different workers and how long it took them to do a particular task. We then made a long line with times, removed the outliers and wrote down the descriptions of the different parts of the labour process and the whole process. Then the mine checked it again, whether we had taken into consideration all the additional and support work in the labour process and whether our calculations corresponded to reality.

Vera and her team came up with norms — an average time that a particular process should take and an average amount of work that a miner should do during his shift. This was not however entirely based on the data that was gathered looking at the miner at work. «We calculated the norm by adding breaks into the miners' day. The real miners who were observing did not understand that they needed to eat, because they thought they should work, work, work. We couldn't base the norm on their work, because they kept on working.» They considered that people do the work with different speed, the time it takes to follow the rules of health and safety, ventilating the face area after explosions, preparatory work. Studies of Soviet workplace usually mention Lenin's love for Taylorism (cf. Dunn 2004) [8]. And similarly to a capitalist production process, workers' time was measured, its use at the workplace prescribed. There is a desire to control not only the labour process, but the rhythm of work, down to the last detail of when one should work and when one should have a rest. The miners however, resist it, because «they did not understand that they needed to eat, because they thought they should work, work, work.»

When interviewing people like Vera, managers and underground foremen, I was usually told that miners have no way of controlling the production process, because all parts of it are very connected to each other and for the mine to work, all tasks have to be done on time. I was also told that due to the piece rate system, miners always want to work more and come and ask for extra work when they have finished one part. But in reality, as miners told me, in a tight environment regulated by the production process and pay system, there is still however room for playing with the tempo.

Miners have to calculate the number of pieces they do very carefully. If they do too much, the management sees that they are doing very well and reduce piece rates or warn them by decreasing the monthly bonus. Miners cannot work fast until they have done a certain number of pieces and then slack off because the underground foreman would then encourage them to work more or find them another task. Therefore, it is important to calculate how quickly to work. Thus it needs some experience and careful calculating to balance the good salary and keeping the piece rates as they are. Even if a miner would want to take it easy and do less, it will have to be done in a measured constant slow pace, not to be caught by the underground foreman. A common strategy is to work hard during the first half of the month to ensure a decent salary and then relax a bit but to keep a particular tempo so that no one could give you any additional work outside your own task on a particular machine. The act of balancing, controlling the micro tempo is what miners can still do. In the case of time workers, consider the following example.

In his book «Men, stone and machines» (1972), a hero of Socialist labour, Aksel Pärtel, describes his problems with workers who were not paid piece rate but fixed salary based on time. When experimenting with the new mechanised way of mining, a brigade of five time workers was sent to him to set up a conveyer belt.

They knew how to work in exactly one tempo and balance on the edge that differentiates idling from the kind of work which has a small but perceivable benefit for society. The first thing they did at the start of the shift was to have a thorough rest. It is not easy to sleep with eight degrees and underground dampness. One has to be with very strong health or be completely drunk. The second reason was not likely. It was not possible that all the members of the brigade were pissed every morning. One tipsy guy could somehow sneak into the mine under the cover of others, but not a whole bunch. Therefore, we can induce that they had a strong health and their body functions had adapted to the underground conditions overly well.

Due to fewer workers and stricter control, this kind of rhythm of work is not possible anymore. Currently, the servicemen's work days are usually busy and fast but due to fixed salary, they can afford breaks, meals, occasional joking and chatting. They know exactly how much a routine job would take them. If no unplanned emergency repairs are needed, they have enough time for both work and leisure. If something happens with a machine, the steady rhythm of servicemen's work is broken. They need to rush to repair the machine and stay for an extra shift if a repair is urgently needed. However, some servicemen were transferred to another department formally, to cut their salary. They still kept working in the same department side-by-side with their colleagues but for a smaller salary. To express their anger and dissatisfaction, these men were doing the bare minimum they could, as slowly as possible, slightly reminding Pärtel's time workers from the 1970s.

The introduction of the new machinery has not particularly changed the changing rhythms of the production process that still tend to be faster at the end of the month. It also still allows some room for playing with the tempo for miners and servicemen, often trying to slow down the pace towards the end of the month. Some of the similar behaviour patterns, trying to slow down work, are still present but for different reasons — if Pärtel's sleeping brigade was not particularly motivated to work in the situation of full employment, then the current servicemen are not motivated due to the restructuring that they have undergone. But one aspect that has changed due to the introduction of new machinery, is the overall, general speeding up of work.

First of all, this is due to the nature of the machines. Using contemporary machinery, for example loaders like TOROs, mean that it is possible to work at a higher speed. Back and forth, back and forth they go for the whole shift, stopping only if the conveyer belt stops or the miner needs a little pause for coffee or sandwiches. «of course we have breaks, for lunch, for cigarettes, although you are not supposed to smoke in the mine, all kinds of breaks. But imagine going back and forth the whole shift, of course you are tired by the end of the day, even though it is not physical work,» loaders would tell me. Old miners who have visited «Estonia» and looked at the new technology confirm that it is physically not so tough, but the tempo is morally very draining. And that they would not be able to work on that machinery anymore, because it needs attentiveness and fast reactions.

The big, historic time was as if speeding up during the 1990s, when the whole political, economic and social situation of Estonia changed. In 2000, there was a sort of stabilisation, where life started to fall into place, before the economic crisis in 2008. In the mine, however, the tempo only rose in the early 2000, marking the new era of the faster everyday. Talking about bag-weavers, in a Greek village, Michael Herzfeld (2009) [5] explains,

In trying to understand the new pressure under which these new producers must work, it is useful to recall Veena Das's recent (2007) insights into how people experience time as having agency — as being able to do things to them. We might wish to quibble that it is not time, but the market, that oppresses these village bag-weavers. Nevertheless, the market, by imposing a linear quantification of work time, creates the *impression* that time is pressing rather than merely passing. (P. 111) [5; 111].

It is the linear time of newly-introduced capitalism, the local time of introducing new machinery that is now speeding up the time of the everyday, changing and shaping the pace of work, giving the miners the impression, as if time was not simply passing anymore, but pressing and speeding up.

Health, balancing health and *tekhnika bezopasnosti*

The miners' work is always balancing on how much one can take out of the *novaya tekhnika* versus how much to follow *tekhnika bezopasnosti*. *Tekhinka bezopasnosti*, or health and safety rules, the technique

of safety in Russian and Estonian, is the set of rules that miners have to follow to work without putting their own or others' lives in danger. There are however rules that no one follows. For example, to drive the wheeled loader TORO back to the face area, according to *tekhnika bezopasnosti*, one would have to turn around the machine to drive it back. This would however slow down the loading process considerably and no one does that. The young miner who did, was forced to leave his job rather quickly, as the salary of loaders is divided between everyone in the shift and the experienced miners did not want to see a drop in their salary because of some slow guy who stuck to the rules. The blasters are supposed to mark the area of blasting with plastic cones to forbid anyone to enter the area. «When there is no management around, to be honest, I simply do not use the cones, because it takes time to lay them out and pick them up later again, but I am paid by amount of blasting that I do in my shift...» Memoirs of the record-breaking brigade leaders from the Soviet time indicate that health and safety rules were not always followed then either, there was even an agreement in the management that the health and safety inspector would not be visiting the brigade of the fastest tunnelling miners during the month when they were supposed to break the record.

Although miners were always trying to work as fast as possible, and the rules of *tekhnika bezopasnosti* were always ignored to a certain extent, *novaya tekhnika* and new ways of organising work have encouraged it even further. Blasters were transferred to piece rate system together with introducing the new technology and the blaster who admitted ignoring health and safety above, actually believed that it is dangerous and wrong for blasters to work piece-rate. Therefore, the general speeding up of the production process also affects the miners' attitude to health and safety and encourages them to take more risks. Time is not only faster, ignoring all the safety measures that Vera Shereptsova had to write into the miners' work process even during the old technology, it is also the time loaded with more risks, more potentials for the rhythm of the everyday to be broken by an accident.

There are also other health implications after the new technology. When the old technology had used electric power, electricity cables were feeding the machines that were operating, the new ones are powered by diesel. This means that the air is filled with diesel fumes that the old ventilation system of the mine cannot cope with and that the miners breathe in. It is easier to work but harder to breathe, the men told me. «Especially Monday mornings», a miner told me, «because they switch on the ventilation only on Monday morning, but our shift starts at midnight Sunday night. So there have already been the drillers and the blasters and when you come to work in the morning, you feel as if you are in a bag, cannot see or breathe anything».

Diesel fumes contain heavy metal fumes that are poisonous. The head of one of the production department was explaining to me that on the way up from the mine and on the way home, miners do not fall asleep because they are that tired, but because they cannot get enough oxygen in the mine when working and are sedated from this lack after seven hours of work. All the workplace accidents were in his opinion caused by the impact of breathing in diesel fumes and then not being able to be attentive and awake enough to safely operate machinery. Some of the miners go as far as saying that the work is now more damaging to health than it was on the old machines. «*Pyl, gaz, shum*», or dust, gas and noise, was the third refrain, that I heard throughout my fieldwork and had to agree with as the fummy, sour smelling gas would really make one dizzy if staying by the working machines for too long. This refrain joined up with the «We now have *novaya tekhnika*» and «miners are paid too little», forming the logic that although everyone is happy about the progress of not having to do physical work anymore, the conditions in the mine are still horrible, still make the work of the miner hard and miners should be paid more, because the work is hard, and the efficiency of production is higher and also workers should therefore get a higher salary.

Everyone in the mine knows about the diesel fumes, and the lack of ventilation. External health and safety inspectors usually visit the mine in the mornings, before the heavy machinery starts their afternoon shift and think that everything is fine. Even if they found problems, who would be able to force Estonia's biggest, nationally-owned mining company to make radical changes. Currently, the fumes mostly cause discomfort, the cough and sleepiness added to the everyday. The technology is too new to be able to present statistics about miners' lung diseases or present cases where an accident happened because of the fumes rather than, as the management claims, the miner being hung over, careless or greedy.

Conclusion

In the mine, multiple temporalities exist together. There is the linear time of socialism and postsocialism, evoking nostalgia in miners who, despite harder working conditions back then, remember the socialist times of full employment and social guarantees, as a time when everyone was kinder and friendlier to each other. Nevertheless, anthropologists of postsocialism have emphasised from the 1990s onwards, that there is

no clear rupture between socialism and postsocialism, as political scientists have often stated, and it is more fruitful to talk about gradual transformations, instead of unilinear transition, or rupture (Burawoy and Verdery 1998; Verdery 2002) [6, 9]. The case of Estonian miners shows that the rupture might not lay in the breaking point of socialism versus capitalism, but appear elsewhere for the representatives of a certain profession. I have argued that for the underground miners who were still working, introducing the new technology in the mine was just as large of a change. Not only did it change the level of control over the tempo that miners had, but changed the whole image of the miner. The broad-shouldered, muscled hero holding a hand-held drill, penetrating the virgin face of the mine has been replaced with a technical expert. Pushing the buttons does not require the same kind of physical strength, but rather knowledge, patience, tolerance of routine.

The new technology encourages pride in the men who are intimately tied to their machines. It changes the nature of their job and encourages nostalgia for the way miners used to be seen. It makes work easier physically, but also speeds it up and encourages more potential accidents and permanent damage to workers' health. All these changes point to multiple temporalities, that of modernity, where work is easier and technology is developing, to that of capitalism, where work is more efficient and fewer men are needed. There is the national time changing the meaning of being a miner and a Russian, the time of memories of heroes and breaking records. These all form different layers and break the routine of the everyday, the tempo of work and bodily movement. They point to the hidden terror of the everyday work, the love-and-hate relationship between men and their machines.

As these temporalities are not fixed, the story of socialism fades in the memories, and postsocialism becomes an empty category, just as the new technology is becoming the old technology. The average life span of those machines is supposed to be five years, and this is if it is working in dry and less dusty environments unlike the mine. Many machines in «Estonia» are seven years old and older, constantly breaking down and affecting the everyday and the tempo of work. The damp conditions of the mine are eating the machinery quickly and although people still talk about the breakthrough in the historic time of the mine and the introduction of the *novaya tekhnika*, in the everyday, more and more, miners and servicemen are facing the everyday struggle with corrosion and the old technology. This calls for new temporal layers and new ruptures to the everyday.

Besides the different layers of linear time of socialism-postsocialism, old technology-new technology, there is the cyclical time of production. Production moves from mine development to the preparation of face area, to drilling, to blasting, to loading, to separating the oil shale from the rock. Every 24 hours, the same cycle is repeated never stopping, unless a breakdown somewhere along the line causes the halt of the whole cycle and industrial downtime. Within the cyclical time, the same movements are repeated — drill-move on, drill move on, or the pendulum swings of the loading machinery going back and forth. The miners has very little control of the monumental linear time be it the national time of political economy or the company time of changing machinery. The cyclical time, the time perceived as if having an agency, pressing the miners to move faster, nevertheless allows little space to manoeuvre with the tempo, speeding up and slowing down as they need to, allowing the small illusion of agency, the illusion that man can beat time.

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Е.Кешкула

Эстон шахталарының өзгерістерін бағыттаушы ретіндегі өндірістің жаңа технологиялары: темпоральдық, уақыт және күнделіктілік

Мақалада адам мен эстон мұнай-сланцтік шахтасындағы тау-кен ісі технологиясы арасындағы жағдай зерттелген. Социализмнен постсоциализмге дейінгі уақыт аралығын қамтитын жұмыста эстон таукеншілері үшін социализмнің аяқталуы, XIX ғасырдың басында тау-кен ісі технологиясының өзгеруі сияқты күрт аяқталған өзгеріс болған жоқ. Жаңа технологияның енгізілуі шахтер жұмысының мәні мен түсінігін және күнделікті жұмыс қарқынын қадағалау мүмкіншіліктерін өзгертті. Сондай-ақ жаңа технологияның енгізілуі еңбекті қорғау мен шахтер денсаулығы мәселесін көтерді.

Е.Кешкула

Новые технологии производства в качестве показателей изменений на эстонской шахте: темпоральность, время и повседневность

В статье изучено влияние новых технологий горного дела на труд шахтеров в эстонской нефтесланцевой шахте за отрезок времени от социализма до постсоциалистического периода. Доказано, что для эстонских горняков окончание социализма могло быть не столь радикальной переменной, как изменение технологии горного дела в начале XIX в. Введение новой технологии изменило сущность и понимание шахтерской работы, так же как и возможности контроля ежедневного темпа работы. Более того, введение новой технологии затронуло охрану труда и здоровья шахтеров.