Down the Mine, George Orwell

Our civilization, pace Chesterton, is founded on coal, more completely than one realizes until one stops to think about it. The machines that keep us alive, and the machines that make machines, are all directly or indirectly dependent upon coal. In the metabolism of the Western world the coal-miner is second in importance only to the man who ploughs the soil. He is a sort of caryatid upon whose shoulders nearly everything that is not grimy is supported. For this reason the actual process by which coal is extracted is well worth watching, if you get the chance and are willing to take the trouble.

When you go down a coal-mine it is important to try and get to the coal face when the 'fillers' are at work. This is not easy, because when the mine is working visitors are a nuisance and are not encouraged, but if you go at any other time, it is possible to come away with a totally wrong impression. On a Sunday, for instance, a mine seems almost peaceful. The time to go there is when the machines are roaring and the air is black with coal dust, and when you can actually see what the miners have to do.

At those times the place is like hell, or at any rate like my own mental picture of hell. Most of the things one imagines in hell are if there — heat, noise, confusion, darkness, foul air, and, above all, unbearably cramped space. Everything except the fire, for there is no fire down there except the feeble beams of Davy lamps and electric torches which scarcely penetrate the clouds of coal dust.

When you have finally got there — and getting there is a in itself: I will explain that in a moment — you crawl through the last line of pit props and see opposite you a shiny black wall three or four feet high. This is the coal face. Overhead is the smooth ceiling made by the rock from which the coal has been cut; underneath is the rock again, so that the gallery you are in is only as high as the ledge of coal itself, probably not much more than a yard. The first impression of all, overmastering everything else for a while, is the frightful, deafening din from the conveyor belt which carries the coal away.

You cannot see very far, because the fog of coal dust throws back the beam of your lamp, but you can see on either side of you the line of half-naked kneeling men, one to every four or five yards, driving their shovels under the fallen coal and flinging it swiftly over their left shoulders. They are feeding it on to the conveyor belt, a moving rubber, belt a couple of feet wide which runs a yard or two behind them. Down this belt a glittering river of coal races constantly. In a big mine it is carrying away several tons of coal every minute. It bears it off to some place in the main roads where it is shot into tubs holding half a tun, and thence dragged to the cages and hoisted to the outer air.

It is impossible to watch the 'fillers' at work without feelling a pang of envy for their toughness. It is a dreadful job that they do, an almost superhuman job by the standard of an ordinary person. For they are not only shifting monstrous quantities of coal, they are also doing, it in a position that doubles or trebles the work. They have got to remain kneeling all the while — they could hardly rise from their knees without hitting the ceiling — and you can easily see by trying it what a tremendous effort this means. Shovelling is comparatively easy when you are standing up, because you can use your knee and thigh to drive the

shovel along; kneeling down, the whole of the strain is thrown upon your arm and belly muscles.

And the other conditions do not exactly make things easier. There is the heat — it varies, but in some mines it is suffocating — and the coal dust that stuffs up your throat and nostrils and collects along your eyelids, and the unending rattle of the conveyor belt, which in that confined space is rather like the rattle of a machine gun. But the fillers look and work as though they were made of iron. They really do look like iron hammered iron statues — under the smooth coat of coal dust which clings to them from head to foot. It is only when you see miners down the mine and naked that you realize what splendid men, they are.

Most of them are small (big men are at a disadvantage in that job) but nearly all of them have the most noble bodies; wide shoulders tapering to slender supple waists, and small pronounced buttocks and sinewy thighs, with not an ounce of waste flesh anywhere. In the hotter mines they wear only a pair of thin drawers, clogs and knee-pads; in the hottest mines of all, only the clogs and knee-pads. You can hardly tell by the look of them whether they are young or old. They may be any age up to sixty or even sixty-five, but when they are black and naked they all look alike. No one could do their work who had not a young man's body, and a figure fit for a guardsman at that, just a few pounds of extra flesh on the waist-line, and the constant bending would be impossible.

You can never forget that spectacle once you have seen it — the line of bowed, kneeling figures, sooty black all over, driving their, huge shovels under the coal with stupendous force and speed. They are on the job for seven and a half hours, theoretically without a break, for there is no time ‘off’. Actually they, snatch a quarter of an hour or so at some time during the shift to eat the food they have brought with them, usually a hunk of bread and dripping and a bottle of cold tea. The first time I was watching the ‘fillers’ at work I put my hand upon some dreadful slimy thing among the coal dust. It was a chewed quid of tobacco. Nearly all the miners chew tobacco, which is said to be good against thirst.

Probably you have to go down several coal-mines before you can get much grasp of the processes that are going on round you. This is chiefly because the mere effort of getting from place to place; makes it difficult to notice anything else, In some ways it is even disappointing, or at least is unlike what you have, expected. You get into the cage, which is a steel box about as wide as a telephone box and two or three times as long. It holds ten men, but they pack it like pilchards in a tin, and a tall man cannot stand upright in it. The steel door shuts upon you, and somebody working the winding gear above drops you into the void. You have the usual momentary qualm in your belly and a bursting sensation in the cars, but not much sensation of movement till you get near the bottom, when the cage slows down so abruptly that you could swear it is going upwards again.

In the middle of the run the cage probably touches sixty (miles an hour; in some of the deeper mines it touches even more. When you crawl out at the bottom you are perhaps four hundred yards underground. That is to say you have a tolerable-sized mountain on top of you; hundreds of yards of solid rock, bones of extinct beasts, subsoil, flints, roots of growing things, green grass and cows grazing on it — all this suspended over your head and held back only by wooden props as thick as the calf of your leg. But because of the speed at which the cage has brought you down, and the

complete blackness through which you have travelled, you hardly feel yourself deeper down than you would at the bottom of the Piccadilly tube.

What is surprising, on the other hand, is the immense horizontal distances that have to be travelled underground. Before I had been down a mine I had vaguely imagined the miner stepping out of the cage and getting to work on a ledge of coal a few yards away. I had not realized that before he even gets to work he may have had to creep along passages as long as from London Bridge to Oxford Circus. In the beginning, of course, a mine shaft is sunk somewhere near a seam of coal; But as that seam is worked out and fresh seams are followed up, the workings get further and further from the pit bottom. If it is a mile from the pit bottom to the coal face, that is probably an average distance; three miles is a fairly normal one; there are even said to be a few mines where it is as much as five miles. But these distances bear no relation to distances above ground. For in all that mile or three miles as it may be, there is hardly anywhere outside the main road, and not many places even there, where a man can stand upright.

You do not notice the effect of this till you have gone a few hundred yards. You start off, stooping slightly, down the dim-lit gallery, eight or ten feet wide and about five high, with the walls built up with slabs of shale, like the stone walls in Derbyshire. Every yard or two there are wooden props holding up the beams and girders; some of the girders have buckled into fantastic curves under which you have to duck. Usually it is bad going underfoot — thick dust or jagged chunks of shale, and in some mines where there is water it is as mucky as a farm-yard. Also there is the track for the coal tubs, like a miniature railway track with sleepers a foot or two apart, which is tiresome to walk on. Everything is grey with shale dust; there is a dusty fiery smell which seems to be the same in all mines. You see mysterious machines of which you never learn the purpose, and bundles of tools slung together on wires, and sometimes mice darting away from the beam of the lamps. They are surprisingly common, especially in mines where there are or have been horses.

It would be interesting to know how they got there in the first place; possibly by falling down the shaft — for they say a mouse can fall any distance uninjured, owing to its surface area being so large relative to its weight. You press yourself against the wall to make way for lines of tubs jolting slowly towards the shaft, drawn by an endless steel cable operated from the surface. You creep through sacking curtains and thick wooden doors which, when they are opened, let out fierce blasts of air. These doors are an important part of the ventilation system. The exhausted air is sucked out of one shaft by means of fans, and the fresh air enters the other of its own accord. But if left to itself the air will take the shortest way round, leaving the deeper workings unventilated; so all the short cuts have to be partitioned off.

At the start to walk stooping is rather a joke, but it is a joke that soon wears off. I am handicapped by being exceptionally tall, but when the roof falls to four feet or less it is a tough job for anybody except a dwarf or a child. You not only have to bend double, you have also got to keep your head up all the while so as to see the beams and girders and dodge them when they come. You have, thehefore, a constant crick in the neck, but this is nothing to the pain in your knees and thighs. After half a mile it becomes (I am not exaggerating) an unbearable agony. You begin to wonder whether you will ever get to the end — still more, how on earth you are going to get back. Your pace grows slower and slower. You come to a stretch of a couple of hundred yards where it is all exceptionally low and you have to work yourself along in a squatting

position. Then suddenly the roof opens out to a mysterious height — scene of and old fall of rock, probably — and for twenty whole yards you can stand upright. The relief is overwhelming.

But after this there is another low stretch of a hundred yards and then a succession of beams which you have to crawl under. You go down on all fours; even this is a relief after the squatting business. But when you come to the end of the beams and try to get up again, you find that your knees have temporarily struck work and refuse to lift you. You call a halt, ignominiously, and say that you would like to rest for a minute or two. Your guide (a miner) is sympathetic. He knows that your muscles are not the same as his. 'Only another four hundred yards,' he says encouragingly; you feel that he might as well say another four hundred miles. But finally you do somehow creep as far as the coal face. You have gone a mile and taken the best part of an hour; a miner would do it in not much more than twenty minutes. Having got there, you have to sprawl in the coal dust and get your strength back for several minutes before you can even watch the work in progress with any kind of intelligence.

Coming back is worse than going, not only because you are already tired out but because the journey back to the shaft is slightly uphill. You get through the low places at the speed of a tortoise, and you have no shame now about calling a halt when your knees give way. Even the lamp you are carrying becomes a nuisance and probably when you stumble you drop it; whereupon, if it is a Davy lamp, it goes out. Ducking the beams becomes more and more of an effort, and sometimes you forget to duck. You try walking head down as the miners do, and then you bang your backbone. Even the miners bang their backbones fairly often. This is the reason why in very hot mines, where it is necessary to go about half naked, most of the miners have what they call 'buttons down the back' — that is, a permanent scab on each vertebra. When the track is down hill the miners sometimes fit their clogs, which are hollow under-neath, on to the trolley rails and slide down. In mines where the 'travelling' is very bad all the miners carry sticks about two and a half feet long, hollowed out below the handle.

In normal places you keep your hand on top of the stick and in the low places you slide your hand down into the hollow. These sticks are a great help, and the wooden crash-helmets — a comparatively recent invention — are a godsend. They look like a French or Italian steel helmet, but they are made of some kind of pith and very light, and so strong, that you can take a violent blow on the head without feeling it. When finally you get back to the surface you have been perhaps three hours underground and travelled two miles, and you, are more exhausted than you would be by a twenty-five-mile walk above ground. For a week afterwards your thighs are so stiff that coming downstairs is quite a difficult feat; you have to work your way down in a peculiar sidelong manner, without bending the knees. Your miner friends notice the stiffness of your walk and chaff you about it. ('How'd ta like to work down pit, eh?' etc.) Yet even a miner who has been long away front work — from illness, for instance — when he comes back to the pit, suffers badly for the first few days.

It may seem that I am exaggerating, though no one who has been down an old-fashioned pit (most of the pits in England are old-fashioned) and actually gone as far as the coal face, is likely to say so. But what I want to emphasize is this. Here is this frightful business of crawling to and fro, which to any normal person is a hard day's work in itself; and it is not part of the miner's work at all, it is merely an extra, like the City man's daily ride in the Tube. The miner does that journey to and fro, and sandwiched in between there are seven and a half hours of savage

work. I have never travelled much more than a mile to the coal face; but often it is three miles, in which case I and most people other than coal-miners would never get there at all. This is the kind of point that one is always liable to miss. When you think of the coal-mine you think of depth, heat, darkness, blackened figures hacking at walls of coal; you don't think, necessarily, of those miles of creeping to and fro.

There is the question of time, also. A miner's working shift of seven and a half hours does not sound very long, but one has got to add on to it at least an hour a day for 'travelling', more often two hours and sometimes three. Of course, the 'travelling' is not technically work and the miner is not paid for it; but it is as like work as makes no difference. It is easy to say that miners don't mind all this. Certainly, it is not the same for them as it would be for you or me. They have done it since childhood, they have the right muscles hardened, and they can move to and fro underground with a startling and rather horrible agility. A miner puts his head down and runs, with a long swinging stride, through places where I can only stagger. At the workings you see them on all fours, skipping round the pit props almost like dogs. But it is quite a mistake to think that they enjoy it. I have talked about this to scores of miners and they all admit that the 'travelling' is hard work; in any case when you hear them discussing a pit among themselves the 'travelling' is always one of the things they discuss. It is said that a shift always returns from work faster than it goes; nevertheless the miners all say that it is the coming away after a hard day's work, that is especially irksome. It is part of their work and they are equal to it, but certainly it is an effort. It is comparable, perhaps, to climbing a smallish mountain before and after your day's work.

When you have been down in two or three pits you begin to get some grasp of the processes that are going on underground. (I ought to say, by the way, that I know nothing whatever about the technical side of mining: I am merely describing what I have seen.) Coal lies in thin seams between enormous layers of rock, so that essentially the process of getting it out is like scooping the central layer from a Neapolitan ice. In the old days the miners used to cut straight into the coal with pick and crowbar — a very slow job because coal, when lying in its virgin state, is almost as hard as rock. Nowadays the preliminary work is done by an electrically-driven coal-cutter, which in principle is an immensely tough and powerful band-saw, running horizontally instead of vertically, with teeth a couple of inches long and half an inch or an inch thick. It can move backwards or forwards on its own power, and the men operating it can rotate it this way or that.

Incidentally it makes one of the most awful noises I have ever heard, and sends forth clouds of coal dust which make it impossible to see more than two to three feet and almost impossible to breathe. The machine travels along the coal face cutting into the base of the coal and undermining it to the depth of five feet or five feet and a half; after this it is comparatively easy to extract the coal to the depth to which it has been undermined. Where it is 'difficult getting', however, it has also to be loosened with explosives. A man with an electric drill, like a rather small version of the drills used in street-mending, bores holes at intervals in the coal, inserts blasting powder, plugs it with clay, goes round the corner if there is one handy (he is supposed to retire to twenty-five yards distance) and touches off the charge with an electric current. This is not intended to bring the coal out, only to loosen it. Occasionally, of course, the charge is too powerful, and then it not only brings the coal out but brings the roof down as well.

After the blasting has been done the ‘fillers’ can tumble the coal out, break it up and shovel it on to the conveyor belt. It comes out first in monstrous boulders which may weigh anything up to twenty tons. The conveyor belt shoots it on to tubs, and the tubs are shoved into the main road and hitched on to an endlessly revolving steel cable which drags them to the cage. Then they are hoisted, and at the surface the coal is sorted by being run over screens, and if necessary is washed as well. As far as possible the ‘dirt’ — the shale, that is — is used for making the roads below. All what cannot be used is sent to the surface and dumped; hence the monstrous ‘dirt-heaps’, like hideous grey mountains, which are the characteristic scenery of the coal areas. When the coal has been extracted to the depth to which the machine has cut, the coal face has advanced by five feet. Fresh props are put in to hold up the newly exposed roof, and during the next shift the conveyor belt is taken to pieces, moved five feet forward and re-assembled. As far as possible the three operations of cutting, blasting and extraction are done in three separate shifts, the cutting in the afternoon, the blasting at night (there is a law, not always kept, that forbids its being done when other men are working near by), and the ‘filling’ in the morning shift, which lasts from six in the morning until half past one.

Even when you watch the process of coal-extraction you probably only watch it for a short time, and it is not until you begin making a few calculations that you realize what a stupendous task the ‘fillers’ are performing. Normally each o man has to clear a space four or five yards wide. The cutter has undermined the coal to the depth of five feet, so that if the seam of coal is three or four feet high, each man has to cut out, break up and load on to the belt something between seven and twelve cubic yards of coal. This is to say, taking a cubic yard as weighing twenty-seven hundred-weight, that each man is shifting coal at a speed approaching two tons an hour. I have just enough experience of pick and shovel work to be able to grasp what this means. When I am digging trenches in my garden, if I shift two tons of earth during the afternoon, I feel that I have earned my tea.

But earth is tractable stuff compared with coal, and I don't have to work kneeling down, a thousand feet underground, in suffocating heat and swallowing coal dust with every breath I take; nor do I have to walk a mile bent double before I begin. The miner's job would be as much beyond my power as it would be to perform on a flying trapeze or to win the Grand National. I am not a manual labourer and please God I never shall be one, but there are some kinds of manual work that I could do if I had to. At a pitch I could be a tolerable road-sweeper or an inefficient gardener or even a tenth-rate farm hand. But by no conceivable amount of effort or training could I become a coal-miner, the work would kill me in a few weeks.

Watching coal-miners at work, you realize momentarily what different universes people inhabit. Down there where coal is dug is a sort of world apart which one can quite easily go through life without ever hearing about. Probably majority of people would even prefer not to hear about it. Yet it is the absolutely necessary counterpart of our world above. Practically everything we do, from eating an ice to crossing the Atlantic, and from baking a loaf to writing a novel, involves the use of coal, directly or indirectly. For all the arts of peace coal is needed; if war breaks out it is needed all the more. In time of revolution the miner must go on working or the revolution must stop, for revolution as much as reaction needs coal.

Whatever may be happening on the surface, the hacking and shovelling have got to continue without a pause, or at any rate without pausing for more than a few weeks at the most. In order that Hitler may march the goose-step, that the Pope may denounce Bolshevism, that the cricket crowds may assemble at Lords, that the poets may scratch one another's backs, coal has got to be forthcoming. But on the whole we are not aware of it; we all know that we 'must have coal', but we seldom or never remember what coal-getting involves. Here am I sitting writing in front of my comfortable coal fire. It is April but I still need a fire. Once a fortnight the coal cart drives up to the door and men in leather jerkins carry the coal indoors in stout sacks smelling of tar and shoot it clanking into the coal-hole under the stairs.

It is only very rarely, when I make a definite mental-effort, that I connect this coal with that far-off labour in the mines. It is just 'coal' — something that I have got to have; black stuff that arrives mysteriously from nowhere in particular, like manna except that you have to pay for it. You could quite easily drive a car right across the north of England and never once remember that hundreds of feet below the road you are on the miners are hacking at the coal. Yet in a sense it is the miners who are driving your car forward. Their lamp-lit world down there is as necessary to the daylight world above as the root is to the flower.

It is not long since conditions in the mines were worse than they are now. There are still living a few very old women who in their youth have worked underground, with the harness round their waists, and a chain that passed between their legs, crawling on all fours and dragging tubs of coal. They used to go on doing this even when they were pregnant. And even now, if coal could not be produced without pregnant women dragging it to and fro, I fancy we should let them do it rather than deprive ourselves of coal. But-most of the time, of course, we should prefer to forget that they were doing it. It is so with all types of manual work; it keeps us alive, and we are oblivious of its existence.

More than anyone else, perhaps, the miner can stand as the type of the manual worker, not only because his work is so exaggeratedly awful, but also because it is so vitally necessary and yet so remote from our experience, so invisible, as it were, that we are capable of forgetting it as we forget the blood in our veins. In a way it is even humiliating to watch coal-miners working. It raises in you a momentary doubt about your own status as an 'intellectual' and a superior person generally. For it is brought home to you, at least while you are watching, that it is only because miners sweat their guts out that superior persons can remain superior. You and I and the editor of the Times Lit. Supp., and the poets and the Archbishop of Canterbury and Comrade X, author of Marxism for Infants — all of us really owe the comparative decency of our lives to poor drudges underground, blackened to the eyes, with their throats full of coal dust, driving their shovels forward with arms and belly muscles of steel.

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THE END