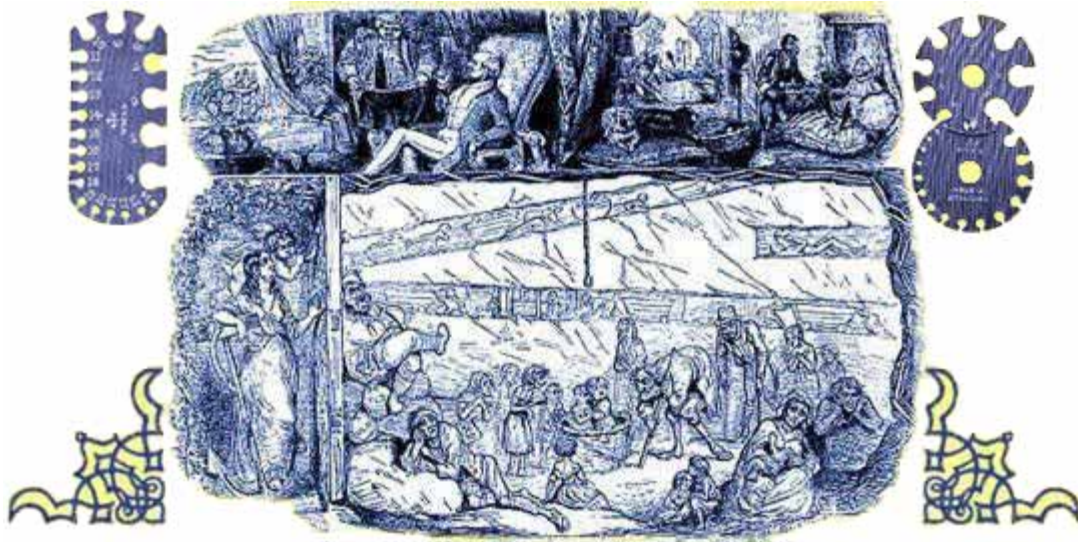


VICTORIAN BRITAIN

An Industrial Nation?

How safe was working in Victorian Britain?



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Advert for coal

The visitors who came to the Great Exhibition on the shilling days were often working people from the Midlands and the North. They would have worked in factories, coalmines and on the railway. 4 shillings would have been at least a day's pay for many of them. What was it like to work in Victorian Britain?



Front of Crystal Palace

Did working people share in the enormous wealth and prosperity of the Great Exhibition?

In the middle of the 18th century, most coalmines in Britain were near the surface and mining was a small scale industry where families worked together in bell-pits or adits. But in the second half of the century surface coal began to run out and mines became deeper.



Source 1:
Miners killed,
1851

Deeper mines were much more dangerous. There was not only a much greater risk of rock falls and flooding, but miners could also run into pockets of gas underground that could lead to explosions or suffocation.

Miners had virtually nothing to protect themselves against the increased dangers. Some took canaries underground to warn them against gas, if the canary stopped singing that was a sign that gas was present. To try to prevent the roof caving in, miners left columns of coal standing. This was known as the 'pit and stall' method. But coal can collapse very easily, so this was not a safe method of working.



Source 2:
Mine accidents, 1851

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Source 3:
Report on
mine
deaths, 1851

Ventilation became a serious problem as miners went deeper and deeper underground. The earliest solution was digging a down-shaft and an up-shaft. At the bottom of the up-shaft a fire was set ablaze, which sent hot air up the shaft. This in turn sucked fresh air into the down-shaft. To make sure that the fresh air reached all parts of the mine, trapdoors were put in all the galleries of mines, which were opened and closed as the coal trucks passed through. This ensured that there was a constant supply of air throughout the mine. The trapdoors were opened by small boys (trappers), whom sat in total darkness listening for the sound of the corves (coal trucks/sleds).



Source 4:
Child miners



Source 5:
Mine report
conclusions,
1851

The most serious danger of all was caused by the need for light. At first miners carried candles underground, but this proved to be very dangerous, as pockets of gas could ignite without warning. In all, it was dark, dangerous and deadly work. Throughout the 19th century more than a thousand miners were killed every year in Britain.



Source 6:
News on mine
accidents

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Find out More



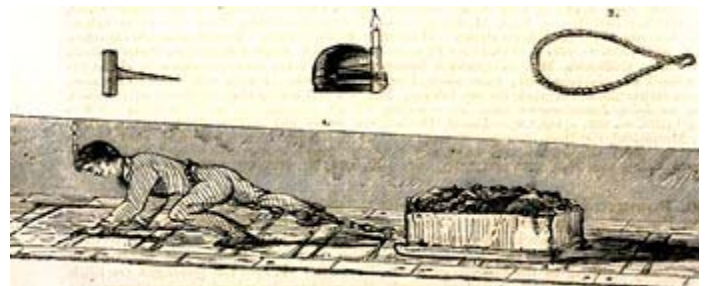
An attack on a workhouse in Stockport



Lord Shaftesbury
(formerly known as Lord Ashley)



Trammers pulled sledges of coal



Lord Shaftesbury spent most of his life trying to improve the lives of the poorest and most oppressed people in Britain, but his most famous work was in the preparation of the 'First Report of the Children's Employment Commissioners: Mines and Collieries' in 1842.

In the report, Shaftesbury printed many pictures of working conditions in mines and also included accounts of interviews with workers.

Look at these pictures, and read the accounts from the report in source 4 of the Industrial Nation.



The name of Lord Ashley is neither unknown nor unhonoured ; it stands conspicuous among those of the public men of the day, for reasons which, though they may already be known to the reader, we feel much pleasure in being the means of repeating. Lord Ashley is not a prominent party man ; he is not a constant, not even a frequent, debater ; and, though a decided Conservative in politics, he is much more inclined to give his party the benefit of his vote than his voice. Yet few of the busiest politicians of the day have attained a wider fame than he has done, and none, a fame which, in our opinion, is better worth achieving. The path he has marked out for himself in public life, is one altogether independent of party considerations or party conflicts ; he has appealed to broader principles, to more general sympathies ; he has advocated the cause of common and universal humanity, which, for the credit of our nature, let us hope is the same, and appeals to the same emotions in the breasts of all, of whatsoever party or creed they may be. Lord Ashley is well known as the author and persevering advocate of those legislative measures which are intended to interpose between master and workmen, between capital and labour, so that the power of the former shall not become too oppressive to be borne by the latter. Those to whom labour is life, may be compelled by stern necessity, to labour so unremittingly, that life itself may be poisoned, and man, by overtasking both mind and body, become a degraded being, destitute of all that can render life other than an intolerable burden. To rescue whole masses of men from this ever-probable evil, the " Factory Bill " and " Mines and Collieries Bill " of Lord Ashley are framed. The principle of both is this—that capital, all-powerful as it is, should have some limit placed to its power of purchasing ; and, great as are the necessities of labour, it should be restricted in its eagerness to sell what capital would buy up, even to the last stage of human exhaustion. In the terrible competition for life, increasing in intensity with our daily increasing population, there may be greater difficulty in interfering by legislative power with these two elements of society, but it is right that some interference should be attempted.

Newspaper description of Lord Ashley



Source 1

Task

1a There are five causes of deaths in mines in this report. They are given at the top of the five columns. What are they?

1b Look at the 'sundries' column. What causes of death are included here? Look at the details given on the left of the report. Which was the most common cause of death in 1851?

1c The report states that 15 miners were killed in falls of coal and stone. Is he correct? Count up the number of recorded deaths.

1d How many miners were killed altogether in this period?

Source 1

This is an extract from a report about the numbers of miners killed in mines in the north of England from 30th June 1850 to 31st December 1851. This page covers the period from July to December 1851.

<http://www.learningcurve.gov.uk/victorianbritain/industrial/source1.htm>

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Nov. 8	Woodside	fall of coal			1	1
Oct. 21	Killoe	fall in shaft	1			1
31	Hellingworth Colliery	explosion	1			1
Nov. 1	Do	Do	9			9
4	Pease's Colliery	killed by waggon			1	1
9	Whitehaven	fall down shaft	1			1
10	Usworth	fall of stone			1	1
19	Monkwearmouth	explosion	1			1
27	Hetton Colliery	kick of horse			1	1
*	Castle Eden	at staple			1	1
Dec. 5	Townley main	fall of stone			1	1
6	Whitehaven	fall of partition			1	1
16	West Helton	Boy Rollies			1	1
22	Monkwearmouth	fall of stone			1	1
31	Mickley Colliery	Do			1	1
.	Goosford	Do			1	1
Totals --			5	19	15	19

(PRO ref: HO 87/53)



Source 2

Task

- 2a** How many explosions had taken place during this period?
- 2b** Does the inspector appear to be pleased with this number of explosions?
- 2c** Who does the inspector believe was to blame for the explosion at Washington? Was it the miners or the management?
How did he reach his decision?
- 2d** Draw a diagram to show how the ventilation of the mines would have worked? Was this a safe method of ventilating mines?

Source 2

This is part of a report made by the mines inspector for the north of England in 1851. This inspector also compiled the list of accidents in source1.
(PRO ref: 87/53)



English portion of my district

It will be seen by reference to the list of deaths that only two explosions of any moment have occurred, viz^d at Washington in the County of Durham, and at Killingworth Co. of Northumberland.

In both Cases I have recommended and pointed out the adoption of ordinary measures, such as increased furnace-power, and enlarged air courses, whereby a great accession could be made to the ventilation; for in both Cases, the accumulation of Gas in the parts of the Mine which exploded, might be attributed to the want of an ample current of air; notwithstanding which at Washington, the people were permitted to continue working with candles until the explosion took place; altho some individual bollicers (acting upon their own sense of danger) left the pit and saved themselves. therefore it is impossible to deny that great mismanagement attended this Case, -



At Willingworth the want of a sufficient quantity of ventilation, had produced some unimportant fires which induced the managers to remove the bundles, and cause the workings to be carried on entirely with Safety Lamps; but some informality having taken place regarding the introduction of naked lights, contrary to orders, produced ^{the} ~~an~~ explosion. —

Now in both these cases it was quite within the compass of ordinary practice to double the amount of ventilation, whilst amendments might also be made with regard to the arrangement and subdivision of the air columns; each of these Collieries had ^a separate downcast and upcast Shaft, and each of the upcast Shafts was furnished with two furnaces; whilst a remarkable coincidence existed between them, with respect to the amount of the Ventilating Current which was nearly 30,000 Cub feet p minute.



Source 3

Task

- 3a** In source 1, 39 deaths were recorded from causes other than explosions. Does the inspector appear to be concerned about these deaths?
- 3b** According to the inspector, what is the main cause of accidents in shafts?
- 3c** The inspector states that 'falls from stone and coal are also very few'. Do you agree with this statement? Would his view be accepted today?
- 3d** Why was the inspector pleased with the way the owners of coalmines supported the roofs where the miners worked?



Source 3

The Mines Inspector's comments on the deaths recorded in source 1.
(PRO ref: HO 87/53)

The other accidents exhibited by the schedule, scarcely call for any remark, inasmuch as the vast number of persons (especially Boys) employed at so many different occupations, will naturally, with all care taken produce a series of accidental deaths. — — —

The accidents in the shafts are remarkably few, considering the rapid speed, with which the cages are moved, and the great depth of many of the shafts; and it does but prove the excellence with which the apparatus is fitted up and maintained, and the great care taken of the people, at the same time I have frequently had occasion to cause regulations to be enacted, limiting the number of persons to be entrusted upon one rope, for so regardless are the Colliers of danger, that Caution is not to be expected from them. — — —

The deaths from falls of stone and coal are also very few considering the depth at which the Mines are worked, and the constant attention required since the system has been so generally adopted of taking away all the coal; whilst the Roof is necessarily supported in a temporary manner by props; and in justice I must observe that great praise is due to the North Country practice, of the Owners becoming willingly responsible that proper persons are employed to provide, and set the timber instead of putting that responsibility upon the Colliers as done in some other quarters of the Country. — —



Source 4

Task

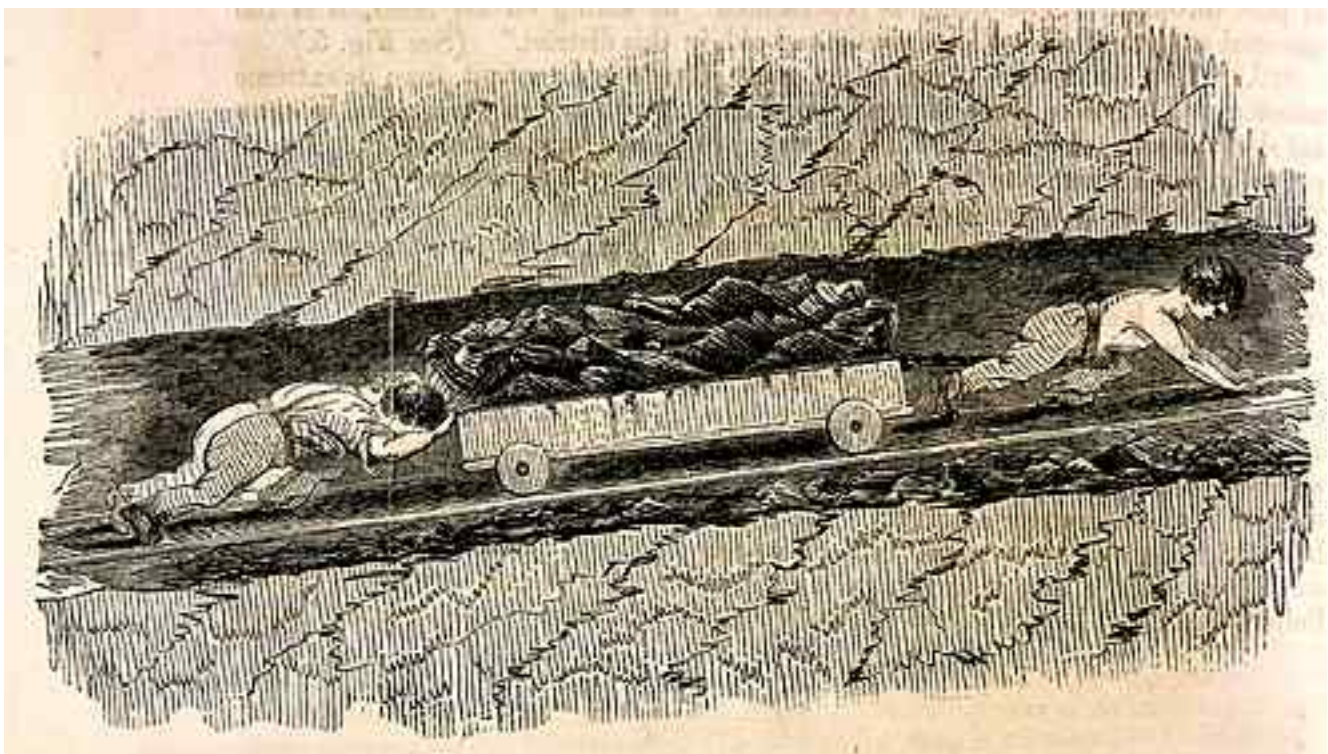
- 4a** What are the people wearing so that they can drag the tubs of coal? Describe how this could be uncomfortable or cause injury.
- 4b** Many children died in the mines whilst doing this work. In what ways would this method of moving coal have been dangerous? How could fatal accidents have been caused using this method?
- 4c** Many of these children worked from 6 in the morning to 8 in the evening with up to one and a half hours break. Work out how many hours of work this was. Compare it to your school day, or the hours you might do in a job.

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Source 4

These are prints of young persons included in Lord Ashley's report on children in mining from 1842. Although children under ten and all women and girls were banned from working underground as a result of the report, boys over ten continued to be used underground. The conditions shown in the drawings would still have existed during the time of the Great Exhibition. They show how young persons were used to move the coal to the surface.





(PRO ref: ZHC 2/79)

These are witness excerpts from the report. They are interviews with young people working in the mines. Read them and think about how different children's lives were in the 19th century.

No. 309. George Bentley.

Is eight years old. Has worked a year; drives between; has 1s. per day. He lives at South Normanton, and has a mile and a half to walk to the pit. He breakfasts before he leaves home. Goes down at half-past six to eight, one hour dinner; three-quarter days half-past six to seven; half days half-past six to half-past three or four, no dinner-hour allowed. He never works by night or Sunday. Has bread and fat for breakfast, bread, potatoes, and sometimes bacon for dinner, and bread and milk at night. He goes to the Ranters' Sunday-school at Normanton, learns a b, ab.

This boy appears half-starved: he, as well as three others, are B B. I visited their homes: it and the boys were the most wretched I witnessed.



HALIFAX UNION HOUSE.

No. 64. *William Hollingsworth*, aged 13. June 9 :

I have no father or mother ; my father was a shoemaker and has been dead five years, and my mother eleven ; I lived with my sister at Crossfield six months after and rather better, and then went to the old workhouse ; I was then apprenticed by the overseers of the parish of Halifax to Joseph Morton, the brickmaker, in the township of Southowram, where I remained two years, when he died, and I came here for a little while. Jonathan Oldfield, a collier, living at Bradshaw-lane, made application to the Board of Guardians for an apprentice ; I was willing to work for him or anybody else, and went with him by consent of the Board on trial for a month ; if I had remained with him I should have been bound until I was 21 ; I stayed with him five days ; he gave me porridge for breakfast at half-past five, and then I went with his other *two* apprentices, with whom I slept, to the pit ; each of us took a cake and a half for our dinners ; we had no time to stop to eat it, but took it as we hurried ; the first night I worked in the pit, which was last Thursday [the 3rd inst.], we remained until ten o'clock at night, and then all three came away together ; the second night [Friday] we stopped until nine, third night until half-past eight, and on the Monday until a quarter to eight ; we had nothing during the whole of those days but the cake and half each, and nothing to drink ; there was no water that we could get in the pit's bottom, and they would not allow us to go up to drink ; I was very thirsty at times ; my master never beat me, but he cursed enough at me because I was not sharp enough with the corves. I hurried without shoes one day, but was obliged to put them on again because the ground hurt my feet ; the other apprentices told me that they worked until 10 and 11 o'clock at night regular. It was Mr. Joseph Stocks's Royd Pit that I worked in ; I ran away from him Tuesday [yesterday] morning because he worked me so late ; I was so tired when I got home to his house that I did not think I could stand it ; after I left him I made application to come into the workhouse again ; I would rather work if I had a good master ; I have been to day-school and Sunday-school, and can read and write very well ; I heard my master say last Sunday to another man who looks after his cow, that the four getters and three hurriers that he employs earns every day 14s. ; one of his apprentices is a getter, the other is a hurrier ; besides them he has three other getters.

(Signed)

WILLIAM HOLLINGSWORTH.

I have heard the foregoing evidence of William Hollingsworth read over, and from my knowledge of the lad believe it to be strictly true.

(Signed)

W. DYER,
Master of Union House.



No. 75. *Esther Craven*, aged 14 :

I have been hurrier for Jos. Ibbotson all the time of five years; I am not apprenticed to him; Mr. Foster always pays me my wages, if he did not I should not get it from Ibbotson, sometimes because he lates for a week, and would want the money for his sel'; I like working in pit very well; I would rather be here in pit than do nought else; I like it better than nursing or any other kind of work; I can hem and sew, and mend my stockings—if I did not, there would be nobody else to do it for me, mother has been dead two years; I have one brother a hurrier, and a sister a hurrier, and a little one at home; father is a weaver, he weaves a piece in nine days; I come here to work at seven, sometimes afore, never much after; I get my breakfast before I come, and bring my dinner with me, a piece of cake; when I go home I get milk and meal, sometimes potatoes; I do not know what time I go home; sometimes at three, four, five, and six; I hurry in trousers bare-legged, and a pair of old stays; the men never meddle with us, Joseph Ibbotson often *brays* [beats] us; he was beating my sister when you come down—never a lad gets beaten by anybody else but him; the other men scolds him for it; I many a time hurt my feet by hurrying; I get all the skin off my leg sometimes by the stones in the gate, and with the rail-ends when they are loose; a pick struck me once and broke my finger; I cannot read or write; I never go much to Sunday-school, because I have no clothes fit to go in; I had a very bad mother—she used to go flitting very much [left home], and would not stop with my father, that obliged me to come into pit to work with my sister for his support; I came to pit of my own accord; mother came after me to pit's mouth when I was going down, with a whip, but I was as keen as mustard, and got out of her way; I have rued many a time afore now for coming, but I do not now, because I have got used to it; I never think nought about being brayed a bit by the getters.

No. 8. *John Bennett*, aged 14. Examined February 25 :

I first began to work down here about five years ago, drawing slack and coals. We have no horses down here. I cannot read or write. I go to Sunday-school at Pitshills (the Primitives); I never went to day-school. I start from home to come to work at half-past five in the morning, and bring my breakfast with me; I leave off work at six o'clock; half an hour is allowed for breakfast, and one hour for dinner; I always get my time. My wages are 10s. a-week; I am in regular work, very near. My father is a banksman; mother stops at home. I have seven brothers and sisters; two of us work; the others are either out to service, married, or at home. My father's wages are about a pound a week. Before I came to Delph to work I run moulds at Eli Hawley's, at Burslem, for nearly 12 months; at Enrick Wood's two years running moulds and turning jiggers. If I had the same wages in the pot-works I would rather work there running moulds, because I should be out of danger. I have seen men as was loike to be killed by coal and stone falling upon them. I have no fear of coming up and going down. I have never seen any fire-damps. I have enough tea and bread and butter, and tatees and bacon to eat; and I have better clothes at home. The people down here never lay on me.



Source 5

Task

5a The inspector was also responsible for coalmines in areas of Scotland. Were the coalmines better in England or Scotland? How does he believe that the Scottish coalmines could be improved?

5b Read the second paragraph, what reasons does the inspector give for the air in coalmines being so poor?

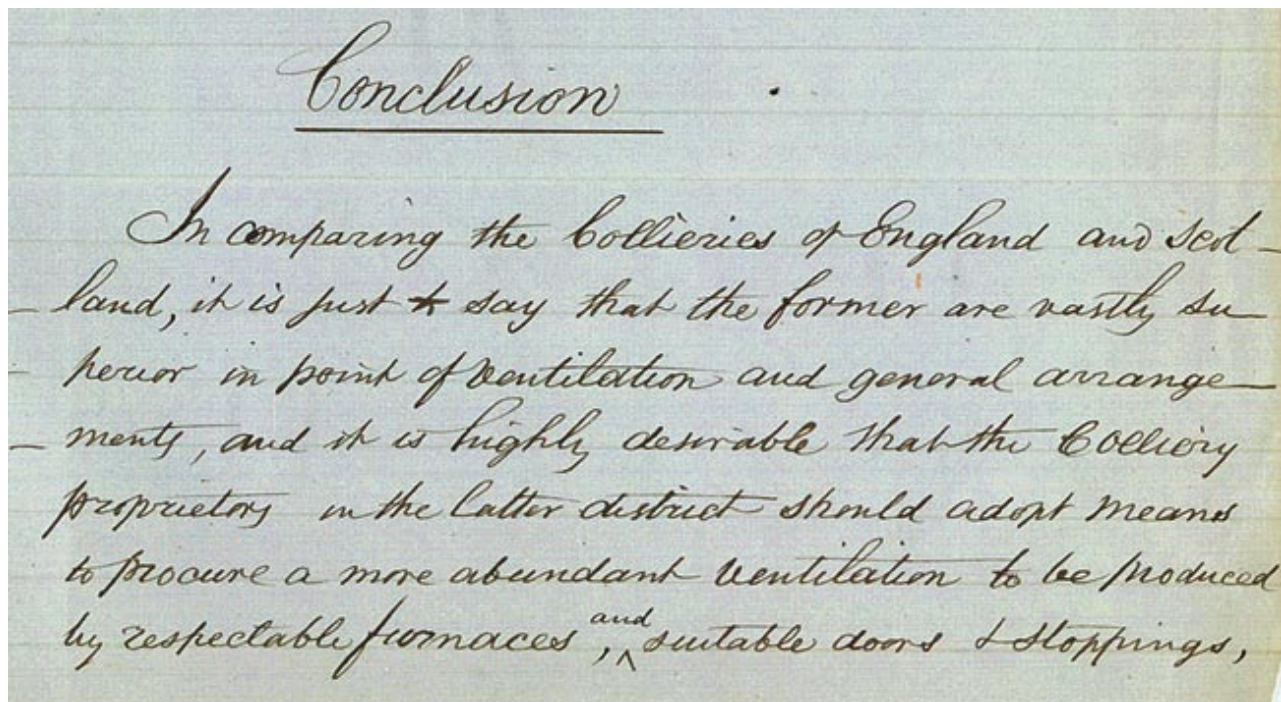
5c Read paragraphs four and five, what does the inspector believe would be the quickest way of improving mine safety?

5d Why does he think this is not happening?



Source 5

This is the conclusion of the inspector's report you have looked at in sources 1-3. Here he sums up his findings and makes recommendations.



(PRO ref: HO 87/53)



but the absence of inflammable air induces the neglect of this caution, so essential to health, ^{though it} ~~but~~ often happens that an unlooked for discharge of gas however diminutive, occasions the loss of life; also disease is engendered by the want of atmospheric air which healthily but unobservedly saps the human constitution. — — — — —

I have tried the quantity of air in many of the Scotch Collieries, accounted respectable in point of ventilation, and found the total quantity only, 3000 or 4000 Cub. feet p minute, and in consequence this current is liable to be affected and even reversed by the slightest accident — for where the ventilation is so weak the breath of the workmen, the powder smoke arising from the blasting, ^{and} the smoking of tobacco, produce an atmosphere which cannot fail to be subversive of health, — — — — —



The prevalence of single doors at the shaft bottom is also a constant interruption to the air current, as every time the tub is brought through, the air rushes up the shaft to the neglect, and partial stagnation of the workings. — — — — —


Upon the whole however I may remark, that there is a growing desire abroad, of improving the condition of the mines, but it would be more speedily advanced and accidents more effectually avoided, if the workmen were more alive to their own safety, and would more frequently attract the attention of the Inspector to circumstances, wherein they consider the management deficient. — — — — —

I am not unaware of the allegation, that were they to do so, they would be visited by reprehension and



discharge from the work, and altho some individuals might take such a discreditable course; I take upon myself to say, that in very few cases would the Owner of a Colliery act so contributively towards workmen, who in a fair and candid manner, sought the interference of the Inspector in a case wherein the Colliery Owner himself was so highly interested. — — — — —

But even suppose that to be the case I conceive it is the bounden duty of the Inspector to attend to an application from individual colliers, so far as to ascertain the nature and grounds of the application and to treat such application as Confidential. —

Matthias Dunn
Mine Inspector




Source 6

Task

6a. How many miners were killed from July 1898 to June 1899?

6b. Was this an increase or a decrease on the previous twelve months?

Look back at sources 1 and 2

6c. Why do you think so many miners are still being killed at the end of the century?

6d. Do you think that mining had become a safer occupation since 1851?



Source 6

Extract from a newspaper report from 3rd August 1899. It is commenting on the Compensation Act. It also includes details of the number of miners killed and injured in accidents from July 1898 to June 1899 and in the previous twelve months. The newspaper also gives the same information for men working in quarries, factories, and the railway service. Additional (miscellaneous) workers in industries including workshops are also listed.

(PRO ref: H) 87/53)

THE COMPENSATION ACT.
 —————
A YEAR'S WORKING.
 —————
BIG CHAPTER OF ACCIDENTS.
 —————
SERIOUS INCREASE.
 —————
FATAL BY 14 PER CENT. : NON-FATAL BY 38 PER CENT.
 —————

When the Compensation Act was first mooted "The Daily News," it will be remembered, deprecated the proposed new departure in legislation, on the ground that universal compensation meant general insurance of risks, and general insurance of risks meant increasing accidents, by removing the special incentives to carefulness. This conclusion we based, not on the essential reasonableness of the theory, but upon the experience under the German and Austrian schemes of Universal Compensation for Accidents. Last January, when the Compensation Act had been in operation for six months, we took the trouble to extract the Board of Trade Accident returns, and compare them with the official figures for the corresponding six months of the previous year. The result was a vindication of our warning. It showed that non-fatal accidents had increased by 43 per cent., and fatal accidents by 12½ per cent. during the six months. We expressly recognised, however, the shortness of the period for comparative purposes. We now have the opportunity of testing the Act by a full year's working.

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Its effect in causing the premature discharge of the more elderly among the workmen we have repeatedly dealt with. All that need now be said upon this point is that this effect will make itself still more visibly felt with the slackening of trade, and the consequent contraction of the demand for labour. At present things are so busy in many industries that even the least efficient pairs of hands are certain of securing full work. Thus the very old and very young, as well as those in their prime showing "silver streaks," are getting full employment. We have also dealt, almost daily, with the extraordinary anomalies and ridiculous legal absurdities presented in the interpretation of the Act by the different Judges. Both these aspects of the measure may, therefore, be left for the present.

We will now merely glance at the number of accidents taking place in the industries coming within the scope of its operation. The figures are extracted from "The Labour Gazette" for each of the twelve months since July of last year, when the Act became operative. The following give the monthly returns for the several occupations under which the accidents are separately reported:

RAILWAY SERVICE.					
KILLED.			INJURED.		
Year of Compensation Previous			Year of Compensation Previous		
Act.	Year.		Act.	Year.	
July.....	49	50	967	.....	1,230
August	48	42	1,133	.....	1,081
September ..	54	39	1,174	.....	1,052
October	43	50	1,100	.....	1,188
November ..	41	36	1,305	.....	1,081
December ..	55	68	1,231	.....	1,222
January	45	36	1,297	.....	1,030
February ..	41	42	1,285	.....	1,096
March.....	37	38	1,222	.....	1,195
April	42	44	1,063	900
May.....	35	25	1,094	873
June	34	35	1,021	889
522		505	13,892		12,837

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MINES.					
KILLED.			INJURED.		
Year of Compensation Act.	Previous Year.		Year of Compensation Act.	Previous Year.	
July.....	67	68	325	396	
August....	82	96	367	373	
September..	83	70	399	360	
October....	78	47	400	425	
November..	46	64	429	463	
December..	77	82	424	369	
January....	76	72	357	385	
February..	88	77	384	315	
March.....	73	63	372	366	
April.....	42	44	343	317	
May.....	90	59	324	322	
June.....	72	64	398	327	
906	806		4,582	4,418	
QUARRIES.					
KILLED.			INJURED.		
Year of Compensation Act.	Previous Year.		Year of Compensation Act.	Previous Year.	
July.....	6	11	132	67	
August....	14	8	147	57	
September..	5	9	145	63	
October....	20	9	153	74	
November..	21	9	142	86	
December..	8	7	107	102	
January....	15	5	119	107	
February..	12	11	113	89	
March.....	14	8	103	114	
April.....	7	8	73	80	
May.....	7	10	97	90	
June.....	6	6	398	327	
135	101		1,729	1,256	
FACTORIES.					
KILLED.			INJURED.		
Year of Compensation Act.	Previous Year.		Year of Compensation Act.	Previous Year.	
July.....	39	40	4218	2828	
August....	46	35	4248	2665	
September..	51	32	4912	3094	
October....	56	39	5092	3036	
November..	59	51	5251	3149	
December..	71	54	5151	3353	
January....	62	39	4430	2855	
February..	65	42	4961	3303	
March.....	43	44	5541	3794	
April.....	64	45	4504	3312	
May.....	49	38	4985	3722	
June.....	50	45	5325	3444	
660	504		58,628	38,555	

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MISCELLANEOUS.

(Including Workshops under Factory Act, 1895, and
under Notices of Accident Act, 1894).

	KILLED.		INJURED.	
	Year of Compensation Act.	Previous Year.	Year of Compensation Act.	Previous Year.
July	13	22	724	457
August	25	17	805	424
September ..	13	17	995	523
October	15	13	934	555
November ..	29	15	1009	605
December ..	19	23	1030	556
January	14	19	881	553
February	25	11	924	559
March	16	18	876	588
April	22	12	791	597
May	18	19	967	606
June	29	17	956	653
	238	203	10,892	6,676

TOTAL INJURED.

Taking the total of non-fatal accidents for
the foregoing set of occupations, we find that
the following are the comparative figures :

	Year of Compensation Act.	Previous Year.
Railway	13,992	12,837
Mines	4,582	4,418
Quarries	1,729	1,256
Factories	58,628	38,555
Miscellaneous ..	10,892	6,676
	89,823	63,742

Or an increase of 38 per cent.