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**PROCEEDINGS**  
OF THE  
**FOURTEENTH ANNUAL MEETING**  
OF  
**Ohio Institute of Mining Engineers.**

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COLUMBUS, OHIO, January 16, 1895.

**AFTERNOON SESSION.**

**PRESIDENT ORTON:** Gentlemen of the Institute, the hour is now at hand when we must take up the duties of the occasion. I have the pleasure of opening for the year 1895, the Fourteenth Annual Meeting of the Ohio Institute of Mining Engineers, and it is a source of great gratification to me that we can begin at this hour of the day with so good an attendance. The first thing on the program is the annual address of the president, which I will now deliver.

**ANNUAL ADDRESS OF THE PRESIDENT,**

Some years ago, a small body of gentlemen met in the State Mine Inspector's office in response to a call issued by Hon. Andrew Roy, at that time the official head of the mining industry of the State. These gentlemen met for a purpose then as now, unusual and praiseworthy.

They believed that the old narrow spirit which has dominated to a greater or less extent nearly every skilled and technical industry that the world has ever known, and which has always prompted the possessor of valuable experience and unusual knowledge to keep it securely locked in his own bosom was a mistaken policy as well as an unchristian spirit. They believed that the glory and elevation of their profession was greater than personal gain and that the highest glory of the individual was to have left his fellows the wiser for his life on earth.



PROF. EDWARD ORTON, JR.



Actuated by sentiments of this high order, they formed the Ohio Institute of Mining Engineers, and as a witness of the breadth of their views they gave us the constitution under which we have so harmoniously, so pleasantly and withal so usefully existed for fourteen years.

It is with rare pleasure that I look around me to-day and see among the faces of those present, a few of those pioneers to whom I have alluded and to whose credit much of the good work done by this Institute must be placed. Some of them are gone to their long home, but time has laid his hand lightly on most of them and we may still look forward to the pleasure of many happy reunions on the annual return of this occasion.

It is also a source of congratulation to myself and my brother officers that we can look upon so large and so representative a gathering of the membership of the Institute. The year 1894 has been full of vicissitudes for all classes of citizens in this country, but especially has the yoke fallen on the mining industry; and that so many have been able to be with us to-day, I cannot but regard as a hopeful sign for the vitality and long continued usefulness of this association.

For over eighteen months the country has been passing through the winter of financial depression. Business has been small in volume and uncertain and tentative in its movements. Labor has been restive and threatening. Money has been scarce and payments slow—above all, the country has felt the suspense which comes from uncertain leadership and the dread of rulers who cannot rule themselves. And now, at last, the returning signs of prosperity are abroad in the land like the harbingers of spring and I hope we may now look forward to the longest and most profitable season of activity which we have yet seen.

I wish to give you to-day some of the thoughts which have presented themselves to me as I have reviewed the past history of this Institute and my own past experiences among you as a mining engineer, and I must beg beforehand for your indulgence, from the fact that my recent work has been only in parallel lines to the subject I wish to discuss.

The mineral resources of Ohio, as you all well know, are of the solid, substantial and unattractive class. There is hardly a State in the Union which has not somewhere in its confines some mineral wealth of a kind more attractive than any we possess. And, unfortunately, the competition of our neighbors has slowly driven to the wall a number of Ohio industries which in former years were a source of honest labor and profitable investment for large numbers of our citizens.

Chief among these latter is the iron industry of the State, especially that founded on the use of native ores and fuels. Twenty years since our valleys were full of activity and nearly every hill in Lawrence county has been girdled in the eager search for the mellow limestone ores. This industry has almost completely perished, as well as that of the Hocking valley and Tuscarawas valley, and the iron now made in Ohio is from Lake Superior ores and Connellsville or West Virginia coke.

Similarly, from a once thriving salt industry we have scarcely a single live establishment left.

Worse than these industrial failures, which are due to causes beyond our control, is the awful mismanagement of our wonderful wealth in oil and natural gas. Riotous waste and reckless extravagance have been the order of the day and the daily papers tell us now that thousands of people in northern Ohio went to bed to keep warm during the recent cold snap. What might have been a plentiful supply for a quarter of a century has gone like the dew before the sun, and whole counties are vainly trying to eke out a few years grace from the dregs of their wasted heritage.

Sad as all these things must be to every patriotic citizen, the situation is by no means void of comfort in other respects. We have the elements here which enable us to build up slowly, solidly and securely the foundations of industrial greatness which no future discovery can depreciate or overturn. We still have left our coals, our clays and our building stones. In these respects Nature has been kind and only persistent mismanagement of these resources can work us serious harm. The earlier sources of mineral wealth are now things of the past—the future holds no surprises for us in the way of undiscovered realms. We know what we have and we know that it is good; and properly, wisely and widely to extend its usefulness should be our aim.

Boldly facing our situation, we must now ask ourselves where we stand. What has been done in the State towards the attainment of the objects just described, and, are we, as the only technical body which can in any way claim to represent the conservation of the mineral wealth, doing our full duty along these lines? Perhaps these questions can be best answered from some points by a brief review of the mining industry as it was fifteen or sixteen years ago and as it is to-day.

My first position after leaving school was as a chain man in a mining surveyor's corps. A large part of the work which we were employed to do was to survey and plat the vast areas from which the coal had been extracted, and to devise means to reach the frequent blocks of solid coal, left by the ignorance or shift-

lessness of the earlier workers. From constant familiarity with the details of such work and by daily study of the maps of the many mines under our inspection, I gradually came into a comparatively accurate conception of how the work of the previous fifteen years had been done.

My experience, however, was not confined to one field,, as by use of opportunities on geological survey work and census work, nearly every important district in the State has at some time come under my observation.

To begin with, mines up to that time had been wretchedly laid out, from the day of their opening. The old system was largely single entry work, the main entry was not infrequently a butt entry, the rooms were wide, the ribs narrow, the entry stumps thin and irregular, there were no lines of sights used and rooms constantly diverged from the parallel, resulting in no ribs on one side and heavy blocks on the other.

Besides the wretched working of the rooms, they were frequently driven to enormous lengths, and as the room hauls became excessive they ran cut-off tracks through breakthroughs in echelon, and the work behind them soon fell into disuse and decay and the ribs were totally lost.

I make the statement advisedly and after careful study of the maps of not less than twenty large mines, many of which I helped to survey, that the coal recovered from the areas mined previous to 1880 did not average more than 60 per cent. of the mineral in the hill.

In addition to this slipshod mining and waste of our resources, the dangers to life and limb were much greater than now. Ribs were not drawn until they were old and crumbled, and the roof air-checked and rotten, and hence the peril was constant. Under all single entry work, the air is sure to be bad and the health of the miners undermined by its effects. In addition to these conditions underground, the miner was generally compelled by an unwritten law to deal from a company store, whose profits alone made their managers rich.

These statements may seem strained to many of you, and I do not deny that some good mines, well laid out and well arranged, were in existence at that time. I only speak as I found the majority.

Not long ago, I was favored with an opportunity to see the working plans of some of the best mines of the present time and the following radical differences made themselves apparent.

1st. In the general arrangement of the mine, permanence and long life was the ruling idea. Instead of straining every en-

deavor to open up rapidly and make quick coal, the idea was to lay off a system by which large returns and long life would be insured and which would justify the use of permanent buildings, elaborate tipples, fine power plants and economical equipment for the mechanical mining of coal.

The main entries are on the face, and are driven in pairs or even three abreast, with pillars often 100 feet in thickness on either side. No squeeze or mining accident can ever imperil their safety. The butt entries are driven in pairs also, with heavy pillars, between and flanking on either side. The coal is laid off in squares, and is attacked by rooms started simultaneously from two directions. All these rooms are started at once and all meet at the middle of the block at once, and one-half of the total coal has been removed. The ribs are now attacked and pulled back all together, while posts and props are new and sound, tracks in good condition and the roof strong and unaffected by exposure to air. It frequently happens that the roof stands till nearly the whole block is removed and when it breaks, it is apt to be a break and not a squeeze. Even the largest part of the timber is recovered and used again.

Under this system, there is no reasonable doubt that the statements of the operators can be verified, that over 90 per cent. of the coal thus far attacked has been removed, and instances are common enough where in single blocks the proportionate loss is practically nothing.

2d. The newer schemes of mining all make use of machinery as the main motive power. The day of the pick mines is on the wane, and it will soon be found only in veins of small size or uncertain tenure, where expensive plants could not be securely located.

The demands of the operator are now for a new class of men,—instead of the free and independent miner of the olden time, the steady-going, careful mechanic, and the ordinary day laborer are in demand. Coal mining in the past has been an industry whose hardships and dangers have bred a class of men distinct—personal skill, strength, bravery in danger, high wages and high living have heretofore been unavoidable requirements among miners. And, like the puddlers and other skilled workers, the miners have by their stubborn contests for short hours and high wages, cut away the ground from beneath their own feet, and made the mining machine of to-day a possibility. There is much to be admired and something to be respected in the old, lawless, but often heroic pick miner. He loves his calling and glories in



his skill in its exercise. But after all, those who know most of its realities cannot but rejoice that its day is gone.

To see a man lying on his side, often in the mud and water of a badly drained room, breathing the sooty gases from his lamp, and an atmosphere impregnated with coal dust and often with powder smoke; to see his humble funeral as he is borne away, the victim of a fall of coal; or, worse still, to see him, rheumatic and crippled, an old man at forty, unable to work and unable to be idle,—all these things, I say, lead any dispassionate observer to rejoice that better ways are now open to earn their daily bread.

Since the advent of electricity in its docile forms, the changes occurring in the use of man power are startling in their rapidity. It now cuts and drills the coal, explodes the blasts, pulls the cars, lifts the cages, and runs the tippie. Ventilation and lighting are now within its reach. And, wonderful as is what we have seen occur, we are on the edge of still more important gains. The storage battery, now on the eve of perfection, will make the accomplishment of these wonders a matter of ordinary routine and place in the hands of the operators electric engines, free to gather coal with the same independence and freedom of motion that attends the use of a horse. It will place in the hands of the miner, a portable incandescent lamp such as are still luxuries in the houses of the rich.

Any review of modern advances would be incomplete without reference to the facility for movement and handling of coal outside of the mines, at the railroad centers and steamboat terminals. The engineering improvements in this department have made the modern mine a possibility. Had we not found a way to load steamboats with 3,000 tons in ten hours, there would have been much less chance for mines to be arranged to turn out 150 or 200 cars per day. Such feats of engineering now excite no comment, while twenty years ago similar work took a week's time. The McMyler locomotive crane and the Brown hoist have each done yeoman service, but the latest wonder is a moveable derrick or hoist, which unloads a forty ton railroad car by tipping it gradually up and emptying it from one end, just as the miner's tippie dumps the little bank car.

I have by no means exhausted the list of recent advances in the mining and handling of coal, but I have said enough to show beyond contradiction that viewed as a field of technical engineering science its progress has been such as to challenge the admiration of all other industries. And as the work of this Institute has been especially devoted in the past towards the discussion of these technical engineering problems and the mutual education

and progress of its members as mining engineers, we have just cause to congratulate ourselves on the success of our work.

But, however pleasing a retrospect into these matters may be to us, it seems to me to be certain that the problems which surround our future footsteps will not be so wholly technical as those which have occupied our attention heretofore. As engineers, we have won our spurs—we have shown that we can levy toll on the fruits of any scientific inquiry and that we can produce on the application of these fruits to our work, results which themselves are inventions of the first order. But, in all this world of progress and activity, the moral and ethical questions have made little or no progress and received little or no thought.

And these questions, which under this name may cause many of you to feel impatient, must be recognized sooner or later as fundamental to the life of our industry or the welfare and order of society.

One of these forces with whom we must soon reckon, is the labor question. As is well known to you all, the introduction of mechanical aids in mining, the increasing use of electricity and other forces in cutting, drilling, hauling and hoisting coal and in ventilating and lighting mines, have been rapidly altering the character of mining as an industry, and in this transitional state, the workmen are bound to suffer. Machinery in every field of labor has been a boon to mankind in the long run, but its introduction has never avoided the temporary infliction of terrible hardships to those whose labor it has replaced.

One needs but to look over the headlines of the daily papers to see what the condition of the miners of Ohio is to-day. Where there is such wide-spread misery in a population eager and willing to work, there is something gravely wrong in our economic and social conditions.

That this present distress is wholly the fault of our present system, no one who knows the facts can long maintain. The shiftlessness and extravagance of the men themselves is a feature which cannot be overlooked. Miners have, in the past, made good wages in short hours and the wretched system of company stores and scrip money has rotted what little caution and prudence they once may have had, and it is a characteristic quality of them all to live on the best when they have a cent of credit and as a consequence starve when their credit is gone.

Nevertheless, there are grave faults on the side of the operators on the rectification of which the public should insist. The first and foremost of these is the inexcusable, indefensible competition and cutting of prices—district against district, mine against

mine, man against man. Co-operation should be the watchword, not throat-cutting. The sale of coal in this country should be transacted by a pool, either entered into by free will or by government control, which should have power to estimate the annual consumption, apportion the output to the respective districts, limit the fields of delivery and manage the provision and use of coal as any other commodity is managed. Then for the first time could an operator work his mine regularly, systematically and economically; just as a merchant manages his store or a manufacturer runs his factory. Under the present system, each mine has on its rolls, a force of men sufficient to produce each day the maximum output of the mine, so that "hurry" orders can be taken fearlessly by the operators or salesmen, with confidence in their being filled at once. But no operator in Ohio feels any special obligation to provide work for these poor attaches except as his own requirements for coal rise or fall. When a miner hires to a company, he simply engages a legal spot in which to ply his art, and the operator enters into no agreement to provide him an opportunity to ply it except as it suits his own convenience.

Now, no other industry will endure any such a condition of affairs, nor ought they to do so. No factory keeps on hand a force of men twice as large as it can regularly employ, for the sake of occasional spurts of business. Likewise every manufacturer and merchant feels the responsibility of providing for his employes, steady, regular daily labor. If he did not, he could not keep good men. No class of labor, except the lowest, will stay where work is a fluctuating item and where the master feels no bonds to care for his men. Whenever an operator knows that he will have orders for so much coal in a year's time, then he can employ the minimum force to dig it and can give to each a living.

Though this phase of the labor question is only one of many, still it seems the only one where the rights of the weaker class are likely to be seriously infringed and to the consideration of this subject, I respectfully commend your attention.

Another problem, which most urgently needs the thoughts and endeavors of the Institute, is the conservation of our coal supply. We have all of us seen the rise and fall of natural gas. We have seen the rise and fall of the charcoal industry. We will none of us see the fall of the coal industry, but there is urgent need of our wisdom and prudence, or our posterity will. The past history of our coal mines has shown only too fully how little the greed of the individual may be trusted to wisely use our mineral wealth.

That millions of tons of the finest coal in the State have been

hopelessly lost to all posterity by the reckless and criminal greed of the operators whose haste for present gain has induced them to practice every form of wasteful mining known to man, no one can deny. Nothing too bad can be said of a system under which such results are not only possible but to be expected. No one man, who wished to do better, could alone make the movement; he must go as the tide goes or go on the rocks.

Much improvement has been made as far as the technical methods of laying off mines, and working them, is concerned; and full credit has been given for these improvements, not one word of which is to be taken back. But as a witness of past follies, there are millions of tons of pillar coal and entry stumps in Ohio now standing, of which a flattering estimate would not say that 25 per cent. of it will ever see the light of day.

Worse in its future effects than the wasteful methods of mining still in use in many parts of the State, is the everywhere general neglect of the smaller overlapping veins of coal, which are being destroyed by the mining of the main seam. There are not a half dozen instances in the State of bona fide attempts to save the upper veins from destruction by mining them before or with the lower coal.

In England, every vein from 18 inches up is made to yield its quota, and so it should be here. But thousands of acres of workable coal in Ohio have been already ruined by the breaking of the strata as the lower and heavier vein has been removed.

It is perfectly obvious that no individual example of high minded rectitude and moral courage can accomplish anything in settling questions like these. The authority of the State alone can cope with such problems. It is the wealth of a nation that is being squandered, and who but the nation can prevent its continuance. What right have we, worms of a day, to so misuse our opportunities, that future generations shall suffer for our momentary affluence. We very promptly deal out punishment to a vandal who opens an oil tank or burns a granary in sheer malice. How is it different when a man mines the best vein of coal in his reach and by this act knowingly ruins all other less valuable deposits for all posterity?

One other matter in closing, I wish to present to your consideration. It also is a fit field for the compelling power of the people and only by them can improvement be inaugurated. I refer to the grading of the product of the mines. In what other industry can one cite such gigantic and such utterly indefensible waste as in the rejection of all inferior coals and the sale of but one grade—the best. Look at the magnificent mines of the Sunday Creek

valley, with ten to thirteen feet of coal. How much of this vein is sold in the market,—about six or eight feet. What becomes of the balance? It is left in the gob, or is never taken down from the roof. What is the reason? It is a little bony and if mixed with the best coal would discredit it in the market.

The waste of bad mining is hard to endure. The ruin of all minor veins in the exploitation of the greater one is a tax on our philosophy, but to deliberately reject millions of tons of coal, after it is mined, merely because it is not as choice as the best, is an offense which cries out to heaven for redress. In the market good wood commands a higher price than poor—good food costs more than poor—fine clothes are worn by those who can pay for them, but poor clothes are to be bought just the same. Is it not an unheard of folly to say that one grade of coal only shall be used, and that it must be the best? In every other product, even of the crude minerals of the earth, like iron ores and building stones, quality means value.

Why not market poor coal as well as good coal, at a price corresponding to its grade? Would not cheap fuels be a boon to the poor and would not the rich be as keen to buy the best of coal as they are the best of everything else? The sale of more than one grade need not mean any less profits to the operator. The average price would still cover all costs as well as one price now does, and the comfort of the world would be materially enhanced.

It is to problems of this nature that the attention of the Institute may well be directed. The near future is likely to see these subjects brought into public notice. Technical progress is already assured, and it will always command a large share of our study and discussion. But scientific interest and mechanical emulation must not be made to take the place of sound political economy and careful use of our resources.

In conclusion, let me say that I submit these remarks to your consideration with the more confidence, in that they come from one not wholly identified with the mining industry. In the language of the immortal Burns—

“O, wad some power the giftie gie us  
To see ourselves as others see us.”

I have frankly told you how the present condition of the mining industry impresses me, and I shall be only too pleased to have the future prove some of my statements no longer true. (Applause.)

PRESIDENT ORTON: The regular course of the program for this meeting would, I presume, take up the report of the secretary and treasurer next; but inasmuch as I have made some statements which I doubt not various members of the mining profession will resent, I would like to offer them a fair opportunity to take up the gage. I know there are numbers here who do not agree with me.

MR. KANE: I presume I am a full-fledged member of this body now, Mr. Secretary, and I desire to express my non-endorsement of the industrial discourse that our able president has indulged in, while at the same time expressing my deep admiration for the scientific phase of his address. I think the scientific portion is excellent and deserving of great praise, but when he refers to the miners as a shiftless and extravagant class, I take it that opinion is based on hearsay,—from the fact, as the president himself said, that he was simply an outside observer. I believe I have a more intimate acquaintance with the miners of Ohio and the other states of this great country, and am also acquainted with them in England, and with exceptions I desire to say that it is not true that they are a shiftless and extravagant class of people. In confirmation of that statement, I want to call attention of this body to the fact that according to our lawful statistical reports,—from the reports of our bureaus of statistics and from other sources,—in the year 1892, a year of so-called plentifulness, the miners of Ohio received not over eighty cents per day for the year. Then we had 1893, another plentiful year, another eighty cents a day year. Then we had 1894, a year of depression, and are now entering on 1895, and the miners have not called for assistance until within a week, after what may be called a half a decade of conditions which I doubt if any other class of people would have endured without calling for assistance. In 1892, they did not average over eighty cents a day. How could they be extravagant?

With regard to the question of the advisability and welcome-ness—if I may use that term—of the abolishment of the old miner and the inauguration of the new, that, neither, is as true as the

professor would lead us to believe in all its phases. I have worked with picks and with machines, and machine work is far more distasteful, far more unwelcome, far more unpleasant than pick work is. This getting down in the water in pick mining, and under all the unfavorable circumstances, is no worse than with a machine, when all that dust is being scattered about and filling every crevice and cavity in a man's system. The jarring and extra heavy labor at machine work is far more unpleasant. It is not true that machine mining has so far been substituted for pick mining as we have been led to believe by the paper. You take the State of Ohio, and the vast majority of the miners are pick miners. Take any State in the Union, and the vast majority of the miners are pick miners.

With respect to the social characteristics of miners—I make this statement advisedly—there isn't any class of men in the United States of America who require less legal restraint than miners. If you refer to the statistics of our penal institutes you will find a less proportion of miners reside in those institutions than of any other class of industrial laborers,—of course, leaving out the professions, and those people haven't any necessity to commit crime.

I have not answered these questions as fully as I should like to, but I felt that as a coal miner, and one who is proud of being a coal miner, I could not permit the words of our president to pass unchallenged.

PRESIDENT ORTON: We have all listened with great pleasure to Mr. Kane's remarks. Are there any other gentlemen who would like to speak on the subject?

MR. WEST: Well, I think the president has said some things that are not altogether true, though he believes they are true, and he has said a great many things that are true. Mr. Kane, in replying, is a little off himself. Either he or I do not understand the president. I am a miner, yet I took no offense whatever to what the president said. But that is not the matter I wish to hear discussed. I should like to reply to what he has said in regard to the mines of Ohio; but inasmuch as I am down for a paper, I will reply then, and probably be replied to, on long wall

mining. I don't agree with Mr. Kane in regard to pick and machine mining. As far as getting down in the water is concerned, I have worked in drift mines where I had to put a board up ten inches from the bottom to keep out of the water, and lie there and work with my pick, and if I had fallen off I would have been drowned. I think machine mining is much easier and labor better paid.

MR. JONES: I believe that in the remarks, or the assertions and declarations made by the chairman, that he is in error in his conceptions, and therefore I very readily agree with my friend, Mr. Kane. I believe, gentlemen of the Institute, that our president should have modified his speech, that he should have drawn on his illimitable vocabulary and clothed his ideas in different language. I deny the right of any man to rise in his place and characterize my craftsmen as shiftless and extravagant, I deny the right of any man to make a statement of that kind in my presence and permit it to go unchallenged. Mr. Kane has very properly and very righteously invited our attention to the statistics of the miners' earnings, and it would require a very great stretch of imagination, Mr. President, to ascertain and determine from those facts and figures, where there is room for extravagance for men who have no more than those figures indicate to sustain themselves. I assume that the chairman used that declaration advisedly. I don't believe his purpose or intention was to give offense to anyone. But it seems to me that if what my friend Kane says is true, then the assertions contained in the address of the chairman must of necessity be in error. They are diametrically opposed and hence cannot be reconciled and both be true. I have worked in machine mines, and while I agree that a man may have to lay down in the water to work, that is the business of the mine inspector to see that his place is dry. But I think there is no urgent necessity to pursue that matter any further, Mr. Kane?

MR. KANE: I should think not. (Laughter and applause.)

PRESIDENT ORTON: Is there any other gentleman who desires to comment on the address of the chair or the remarks that have been made subsequent to that?



PROFESSOR RAY: I wish to say a few words in defense of the chair. I don't remember the exact language that the chair used in connection with this point that seems to have created such disturbance, but I believe it was in regard to the condition of the miners, whether they are shiftless as a class or not. Now, it has been my lot to have been associated with the miners in the Hocking valley for seven years and my impression, from living with them as I have done, is that as a class they are a little shiftless. By "shiftless" I mean they are not saving, they live beyond their income,—that is, the great majority. Where I have been, in each mining town there are from one to ten saloons that live from the spendings of the miners and the saloon keepers are getting rich. Now, they get this from what the miners spend, and that is one point in support of the assertion I have made. In the little mining town at which I was last, the operators have endeavored to look after this. They built comfortable houses for them to live in and furnish them, within reasonable limits, all the comforts they could pay for. Among other things they endeavored to keep saloons out of the town. Unfortunately their territory was not broad enough but that the saloon keepers got near enough along the borders to accomplish their purpose. They kept coming until there were five scattered around the outskirts of the company's property and every one doing a thriving business. This all goes to show that they are not a thrifty class in this one respect. During the strike last summer, all of the men of this particular mine had had steady work up to that time, and all but a few had lived up all they had made and had nothing laid by. The company carried them through, with the exception of the miners of a certain nationality, Hungarians. In the town of Corning, standing in the office of the Sunday Creek Coal Company, a person who is a fair thrower can throw stones into at least eight saloons, all kept up by the money the miners spend in them.

MR. KANE: Will you permit me to ask you a question?

PROFESSOR RAY: Certainly.

MR. KANE: You speak about Corning. Can you give the population of Corning?

PROFESSOR RAY: Not exactly; I think about a thousand.

MR. KANE: How many mines are there there?

PROFESSOR RAY: Two. There are some women there, too.

SECRETARY HASELTINE: I didn't know that I would say anything on this subject, but it seems the discussion has drifted onto statements of the chair which are of no particular value to the State of Ohio or the mineral industries. The chair's address contains a great deal of valuable information and many valuable suggestions, and the feature that struck me most was that pertaining to the reckless extravagance portrayed in the mining of our coals. I think it is an open secret that fully one-third of the coal in the very best veins of the State are wasted by the unskillful or reckless manner in which it is attempted to be extracted. This is in the veins that are being mined exclusively, and does not include the superincumbent veins, those broken and distorted by the mining and caving in of the lower vein. I attempted to write an article on that subject a number of years ago, with the hope that the legislature, if it had the power,—and I didn't know whether it had or not,—would take the matter up and attempt in some way to regulate the extraction of the coal from our mines in such a manner that they will yield to the people of the State the very highest amount possible. It seems to me a case of vandalism to go in, as they do at the present time, and take the choice cuts, and only the choice cuts, to market, and not only leave, but destroy that which is left so that future generations cannot mine it. As the president said, it will not occur in our time, but it will not be many generations until the people of Ohio will find themselves in the same condition with regard to the coal supply as they are now with oil and gas. I think to that feature of the case we should all give a great deal more attention than we have been doing, or are now doing.

PRESIDENT ORTON: Are there any further remarks? The remarks already called forth are ample payment to me for the trouble I took to write the paper. It was with this view I wrote it, and I am very glad to welcome any further.

MR. HARRY: I just simply wish to touch on the one point of extravagance mentioned in the paper. I call it extravagance when a person takes certain things which are not a benefit to body, mind or soul. I call that extravagance, no matter what it is. The town in which I am living has a population of about seven thousand. In that town there are thirty-eight saloons and the population is chiefly composed of miners, because there is only one iron furnace and one foundry in it, and you may imagine how many men that would employ. All the rest are miners, and those thirty-eight saloons have got to be kept up out of what the miners spend. They have all kept up through the hard times the miners have seen in the last two years except two. They have lived and paid their taxes, and if the money which was spent in those saloons had been so used it would have paved that town from one end to the other. I think that is extravagance. I don't want to be understood as saying that every miner in the town is extravagant, for there are some miners who don't touch it, and then we have some who spend all they have there over their living. I am a miner and think a great deal of the miners,—that is, a portion of them,—and I bear the president out in his statement that miners to some extent are extravagant.

PROFESSOR RAY: I think there is one point which ought not to go unchallenged, and that is the president's condemnation of the company store. I believe it is a necessity. I will not say that some companies have not abused the privilege, but I think they have been improved. I believe that the company store is a necessity and a great convenience to miners in certain instances which could be cited without difficulty, and I would like to have some other members here discuss that. I believe they are a necessity and that the president ought not to stand on that point unchallenged.

MR. KANE: I believe I was not thoroughly understood. I do not think I was misunderstood, but only half understood. The most objectionable part of your address to me, Mr. President, while I did not take offense at it—I am not so narrow minded as to take offense at any man's expression of opinion—but it was the

idea that seemed to be attempted to be conveyed that the institution of the machine mines carried with it a betterment of the personel of the miners. In other words, you cold-blooded, cruel, scientists go to work and invent machines to displace labor and thereby you inaugurate a better era of citizenship,—that is, if you do not beggar all the citizens first. I say that machines do not necessarily, by my observation or experience, better the character of the people who work in mines. In the first place, I say that miners are neither better nor worse than other laboring people and any attempt to prove or to show that they compare unfavorably with any other class of laborers in this world is an attempt based on misinformation or prejudice, either one. I admit that there are many of them who, in lieu of those refined surroundings which our president here enjoys every day in the year, will go to a warm saloon,—in lieu of those happy homes which Mr. Ray attempted to say exist. What are the homes? What are the houses built for from twenty-five dollars upwards, and which are drawing from four to eight dollars a month rent from the miners?—hovels, pigsties! and you find fault because these men seek the comforts which the most frugal housewife could not provide in those miserable hovels. All I intended to do was to challenge the statement of the president and quit; but I can challenge the statement of Professor Ray in regard to Corning. Corning only has one mine, and I don't think it has over a hundred and fifty miners. It is the termini of three railroads and I believe is one of the oil centers of the oil region in that district. It is a kind of mart where all the people gather from the surrounding country and spend money in saloons, so why attribute the keeping up of these saloons to the spendings of the miners who are not getting enough to keep body and soul together. Mr. Ray gracefully attempts to support our chairman in his onslaught—because it was an onslaught and an unmitigated onslaught on the miners, simply because there are miners who are bad men; yet the president's onslaught on that which produces bad men, the company store, he wishes not to go unchallenged. There is nobody in this country who has given a half hour's study, honest study, to the "pluck-me" system but will confess that it is one of the greatest curses

that the industrial people of the country have to contend with, and it has been abolished fifty years ago in other civilized countries. The governor of Pennsylvania made an official investigation which showed that the company stores in Pennsylvania charged—and now, when I say charged, I say they compelled their employes to trade there, not theoretically but practically, by not giving anybody work but those who would trade with them—charged from twenty-five to forty per cent. more for goods than other individual stores do, on top of the twenty per cent. derived by those individual stores.

On motion of Mr. Doe the discussion of the president's address was concluded at this point and the regular order of the program resumed.

Secretary Haseltine then read the report of secretary and treasurer as follows: