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GEOLOGICAL SURVEYS.

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REMARKS

OF

Mr. DAVIS,

OF WEST VIRGINIA,

IN THE

SENATE,

FEBRUARY 27, 1881.



WASHINGTON.  
1881.

GEORGE W. BROWN

NEW YORK

MR. DAVIS

NEW YORK

NEW YORK

NEW YORK

NEW YORK

S P E E C H  
OF  
HON. HENRY G. DAVIS.

GEOLOGICAL SURVEY.

Mr. INGALLS. I rise to another question of order. The measure called for by the Senator from West Virginia is not a House bill, and it cannot be considered under the terms of the order as adopted by the Senate, and on that I ask the ruling of the Chair. That order last adopted must be construed strictly. Being in derogation of the common law of the Senate, it must be construed strictly, and the language there employed is "House bills," and this is not a House bill.

The VICE-PRESIDENT. The Chair thinks that that is a little critical, but will submit the question to the Senate.

Mr. DAVIS, of West Virginia. One word before it is submitted. This is a House joint resolution which requires the same process exactly, three readings, as a bill. It is put upon the Calendar as a bill; it is treated as a bill; it comes from the Committee on Appropriations regularly reported, and is the oldest bill upon the Calendar, and probably the only one that has stood here a year or more.

Mr. LOGAN. What is it?

Mr. DAVIS, of West Virginia. It relates to the geological survey in the States. The manner of the passage of this joint resolution is exactly the same as that of a bill; it is treated as a bill, and if the Senator prefers it can be made a bill, but the effect is just the same. The Chief Clerk believed it to be the same as a bill, because it is placed on the Calendar as a bill.

The VICE-PRESIDENT. The Chair agrees with the Senator from West Virginia, but he will submit the question to the Senate. Is a House joint resolution a bill within the meaning of the resolution just adopted?

Mr. DAVIS, of West Virginia. I am glad the Chair agrees with me.

The VICE-PRESIDENT. The Chair will put the question, [putting the question.] The ayes have it by the sound.

Mr. INGALLS. One moment.

Mr. LOGAN. I desire to call the attention of the Senator from West Virginia to the fact that if this is in reference to geological surveys in the States I do not think it would have any effect whatever. So far as making a survey of unoccupied land is concerned, it can be done just as well now as if you passed four hundred resolutions. You

cannot provide by joint resolution that the geological survey shall enter upon private lands unless by consent of the owner.

Mr. DAVIS, of West Virginia. Certainly not.

Mr. LOGAN. The occupied lands in the State are subject to geological survey now by direction of the Secretary of the Interior.

Mr. DAVIS, of West Virginia. Oh, no.

Mr. LOGAN. Why not?

The VICE-PRESIDENT. Does the Senator from Kansas desire a further count upon the question submitted?

Mr. INGALLS. No, Mr. President. I propose, if I have a right to do so under the rule just adopted, as I am convinced that this measure will lead to a debate that may be very protracted, to object to the consideration of the joint resolution at this time.

Mr. DAVIS, of West Virginia. No objection can be made under the resolution we have passed, as I understand. The resolution does not allow one objection, as I understand, to have effect.

Mr. INGALLS. I ask for the ruling of the Chair on that subject. I understand we are proceeding under the Anthony rule as modified by the subsequent order of the Senate.

The VICE-PRESIDENT. The Chair has indicated his opinion, or, rather, given it decidedly, that the Anthony rule is wholly superseded, and the Chair thinks that a solitary objection will not postpone a House bill under the resolution under which the Senate is now acting.

Mr. BECK. Is it understood that this joint resolution is now before the Senate?

The VICE-PRESIDENT. It is. It will be read.

Mr. BECK. Is it in a shape where it is to go to the final reading, or is it subject to objection?

The VICE-PRESIDENT. One objection does not obviate its present consideration; it is subject to any motion for its disposition temporarily or finally.

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The VICE-PRESIDENT. The Chair thinks that it would apply to the evening session also made under this resolution.

Mr. FERRY. It applies to the evening session?

The VICE-PRESIDENT. It applies to the evening session.

Mr. DAVIS, of West Virginia. I understand the Chair now thinks that one objection carries any bill over that may be called up?

The VICE-PRESIDENT. The Chair is of that opinion, under the Anthony rule. Otherwise the resolution is meaningless in its reference to the rules governing morning business.

Mr. DAVIS, of West Virginia. Would it be in order under the resolution of this morning to move to lay aside the pending order and take up the joint resolution?

The VICE-PRESIDENT. Always.

Mr. DAVIS, of West Virginia. I will make a statement and then I will give away.

This joint resolution passed the House more than a year ago, was referred to the Senate Appropriations Committee, and reported back favorably with an amendment. The act of March 5, 1879, created a "Director of Geological Surveys." Professor Clarence King was appointed by the President and confirmed by the Senate and now has charge of the Bureau of Geological Surveys. The act as construed by the Secretary of the Interior confines the surveys to public land. The resolution under consideration proposes to give authority to make geological surveys within the States. The President in his recent message, the Secretary of the Interior, and the Director of Surveys

in their annual reports to Congress for 1880, all recommend a general and complete geological survey of the whole country, including States. The President-elect, when this resolution was under consideration in the House, gave it his influence and vote. All will agree that our vast mineral and other resources ought to be known to ourselves and the world. We have a country perhaps richer in minerals than the rest of the world, yet it is not fully or officially known and cannot be unless we make a complete geological survey and report of the entire country. If we wish our country developed, made rich and prosperous by enterprise and capital, from home and abroad, we should give reliable information upon its unknown and vast resources. Some few States have made geological surveys which are more or less imperfect. The adjoining States perhaps have made no survey. A national survey will fill the gap and give great value to both or all. No State, even if able and disposed to do so, can make as valuable and perfect a survey as the United States can. If a general survey is made by the National Government all would come under one head or chief of the highest order. The Government now supports and pays the Director of Surveys and those connected with him, and this will continue whether the resolution becomes a law or not.

What we need is a good, perfect, full, and complete survey and report of the country as a whole, not in thirty-eight parts. If it is done by States, when you come to a State line the survey and comparison must stop, and perhaps adjoining States cannot or will not commence where the other ended. The coal or ore in one State or section may be worthless unless mixed or worked with another from a different section or State, which makes both or all valuable. If the surveys are confined to the "national domain," they will be small and of little practical use or value, for all work mines are owned by individuals or corporations, and are excluded from "national domain."

Why tax the States to sustain a geological bureau, and say the mineral resources of the States shall not be surveyed and known? The mineral worth of this country can never be known as a whole until a national geological survey is made and reported. It is said and believed that West Virginia has more coal and Virginia more iron-ore than Great Britain. Yet England produces more than a hundred times as much coal and iron as the two Virginias, and more than twice as much as our entire country. The mineral resources of no section of our country are fully known. According to the best authority I can find, we may make the following comparisons:

*Comparison of coal area and production.*

	Area.	Production in 1877.
	<i>Sq. miles.</i>	<i>Tons.</i>
Great Britain.....	11,900	134,179,968
United States.....	192,000	50,000,000
Pennsylvania.....	12,774	36,119,911
Kentucky.....	12,871	850,000
Ohio.....	10,000	5,250,000
West Virginia.....	16,000	1,000,000
Maryland.....	550	1,500,000

Great Britain in 1877 produced 7,300,000 tons of steel and iron; the United States, 2,636,000 tons. The United States in the last ten years

paid Great Britain for iron and steel about \$340,000,000, an average of, say, \$34,000,000 per annum. In 1872-'73 we imported iron and steel to about \$115,000,000. In September, 1873, our financial distress came and staid until 1879 or 1880. In 1878 and 1879 our imports of iron and steel were less than \$10,000,000 per annum. The year ending June 30, 1880, our import of iron and steel was \$53,714,008, which is five times as much as in 1878 or 1879.

We imported and exported more during the fiscal year 1880 than any year in our history—

Exports.....	\$835, 638, 658
Imports.....	667, 954, 746
Total .....	<u>1, 503, 593, 404</u>
Excess of exports.....	167, 683, 912

The above figures are worthy of careful thought, and indicate that we should be careful, or the first year our crops are bad and Europes' good the balance of trade will be against us and the panic of September, 1873, may repeat itself.

I am reliably informed that every progressive government of the Old World has made or is at work making full and complete geological surveys, and that much of the great wealth and prosperity of England, Germany, and France comes from that source.

It was supposed a few years ago that Germany had little coal worth mining. A geological survey developed a large quantity of coal. Now about fifty million tons per annum is produced in Germany. Russia has more than doubled her production of coal in the last few years. Ours is supposed to be the richest country in the world in mineral resources, especially in iron and coal, yet this is not officially and fully known or improved.

During last year we imported from Great Britain alone about fifty million dollars' worth of iron and steel; also about two million dollars' worth of coal. Think of it. With our vast resources of iron-ore and coal, that a country three thousand miles from us should send us in a single year between fifty and sixty million dollars of iron, steel, and coal.

Great Britain produces more than five hundred million dollars and exports more than one hundred million dollars' worth of steel, iron, and coal per annum. Give our States and country a good and complete national geological survey and we may do as Britain does. Some have objected to this resolution on State-rights principles. The committee's amendment removes that objection, and requires consent of States before survey is made. Some may say the expenses of the surveys will be considerable. In my judgment the return will be a thousand for one, and the expense will not be great. We have had in progress for years a Coast Survey and a Fish Commission and an Agricultural Department which is subject to the same objection, both as to cost and State rights, as this resolution.

This resolution appropriates no money. Congress must from year to year appropriate money or none will be spent. The act of 1879, creating a "Director of geological survey," says:

The director and members of the geological survey shall have no personal or private interest in the lands or mineral wealth of the region under survey, and shall execute no survey or examination for private parties or corporations.

Why survey the public domain at the expense and neglect of the States, when next year or day the "public domain" may belong to a

private party or corporation, and in a State I take it all will agree we ought to have a general geological survey, to the end that our great mineral resources and wealth shall be known and developed. The question is, ought the survey be made as a whole by the National Government or by thirty-eight States and eight Territories, in forty or fifty parts, at different times, and under different heads or chiefs?

Many of the States cannot afford to make complete geological surveys and to furnish the necessary machinery or apparatus for properly testing the different coals, ores, &c. If a national survey of the entire country be made, one set of men, machinery, and apparatus will answer for all.

A United States survey of the whole country will give a high national character and value to it, and will be accepted at home and abroad as valuable and reliable. Mineral resources and their development, like agriculture, manufactures, and commerce, add to the substantial wealth of a nation and the people. Neglect either, and the people or country cannot long prosper.

I submit a—

*Table of the world's production of coal, iron, and steel.*

[From the annual report of the Secretary of the American Iron and Steel Association, for 1879, with additions from The Coal Trade, by F. E. Saward, 1880, &c.]

Countries.	Coal area in square miles.	1. Mineral coal.		2. Cast or pig iron.		3. Steel.
		Years.	Tons of 2,240 lbs.	Years.	Tons of 2,240 lbs.	Tons of 2,240 lbs.
Great Britain . . . . .	11, 900	1877	134, 179, 968	1877	6, 300, 000	1, 000, 000
United States* . . . . .	192, 000	1879	59, 808, 398	1879	2, 066, 594	570, 000
Germany . . . . .	1, 770	1877	48, 337, 950	1877	1, 566, 600	370, 300
France . . . . .	2, 086	1876	16, 773, 779	1877	1, 322, 869	250, 000
Belgium . . . . .	510	1876	14, 009, 281	1877	418, 366	75, 000
Austria-Hungary . . . . .	1, 800	1875	12, 852, 048	1876	472, 285	75, 000
China . . . . .		1877	3, 000, 000			
Russia . . . . .	30, 000	1875	1, 152, 850	1875	420, 484	15, 000
Australasia . . . . .		1875	1, 250, 000		10, 000	
Canada . . . . .		1877	1, 000, 000	1876	7, 500	
Sweden . . . . .				1876	346, 955	25, 000
Luxemburg . . . . .				1877	250, 000	
Spain . . . . .	3, 500	1877	500, 000	1872	73, 000	
India . . . . .	2, 000	1875	500, 000			
Turkey . . . . .			150, 000		40, 000	
Italy . . . . .		1874	182, 500		25, 000	
Switzerland . . . . .				1872	7, 500	
Mexico . . . . .				1876	7, 500	
Japan . . . . .	5, 000	1874	390, 000	1877	10, 000	
Norway . . . . .				1870	3, 975	
All other countries . . . . .			1, 000, 000		10, 000	20, 000
Total . . . . .			285, 368, 376		13, 358, 628	2, 400, 000

\* Other estimates make the coal-fields of the United States, reckoning the Permian and tertiary coals, to embrace an area of over six hundred thousand square miles. But all estimates of their extent are as yet conjectural, and a very large portion of their actual area contains no workable coal.

It will be seen that Great Britain produces about three times as much coal, iron, and steel as we do. Yet we have many times more mineral resources than Britain, and more than the rest of the world.

The American Mail and Export Journal of November, 1879, gives

the following table of the area of square miles of coal in the different countries named :

Countries.	Square miles.	Per cent.
United States.....	192,000	73.85
Nova Scotia.....	18,000	6.90
Great Britain.....	11,900	4.60
Spain.....	3,000	1.20
France.....	1,800	.70
Prussia.....	1,800	.70
Austria.....	1,700	.70
Belgium.....	900	.35
Chili, Australia, India, China, &c.....	28,000	11.00

This table shows that we have 73.85 per cent. of all the coal known, and we produce about 50,000,000 tons per annum ; Great Britain has but 4.60 per cent. of coal, and produces 134,000,000 tons per annum.

I regret to say Great Britain and other nations not only greatly excel us in producing mining resources, but are fast taking our ocean commerce from us. In 1825 our vessels carried of our imports and exports 92.3 per cent. ; in 1855, 75.6 per cent. ; in 1875, 26.2 per cent. ; in 1880, 17.6 per cent. At this rate of decrease the American flag will soon seldom be seen upon the ocean.

Mr. President, I hope to see and intend to aid our whole country, and especially the South, to take an advanced position in agriculture, commerce, and manufacturing ; also in developing their mineral resources.

*The country or man who stands still while the world moves on will be left behind, or, as the railroad men say, standing upon the side track, while the go-ahead or express train, with live, active men and freight upon it, moves on and takes the prize.*

*It is believed a good, careful, and complete geological survey of Virginia and West Virginia will show more mineral resources than all Europe. I feel sure this great country of ours, especially Virginia and West Virginia, has a great future ; information, enterprise, and capital are essential to development and prosperity. A country or State, like a corporation, a firm, or an individual, to prosper must be progressive. I would respect and protect with equal care State and national Government. I cannot believe with some democrats in extreme State rights, nor can I follow many republicans in centering nearly all power in the national Government. I am for letting the dead issues rest and for cultivating the living ones. I favor a fair, just, and living tariff, that will protect equally the people and manufacturing interests. I am for an effort to regain our ocean carrying trade ; we formerly had 75, now 17 per cent. I am for a proper degree of economy in all expenditures of public money, and for progress and prosperity of our entire country and people. I would encourage and foster education, agriculture, manufactures, and commerce, and do whatever else will make our whole people and country intelligent, prosperous, rich, happy, and great. We should recognize this is 1881, and not 1860.*

I hope the time is not very distant when the Senate will allow me to get up the joint resolution and have it disposed of. My friend from Kentucky is opposed to it, and earnestly opposed to it, as he has a right to be ; but I think that he and other Senators ought not to object to its being considered.