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PROCEEDINGS

OF THE

Oyster CONVENTION

· CALLED TO CONSIDER AND DISCUSS

THE OYSTER QUESTION,

HELD AT THE

RICHMOND CHAMBER OF COMMERCE,

RICHMOND, VA., JAN. 12, 1894,

WITH

PAPERS ISSUED IN CALLING THE CONVENTION.

RICHMOND:

J. W. FERGUSON & SON, PRINTERS.

1894.

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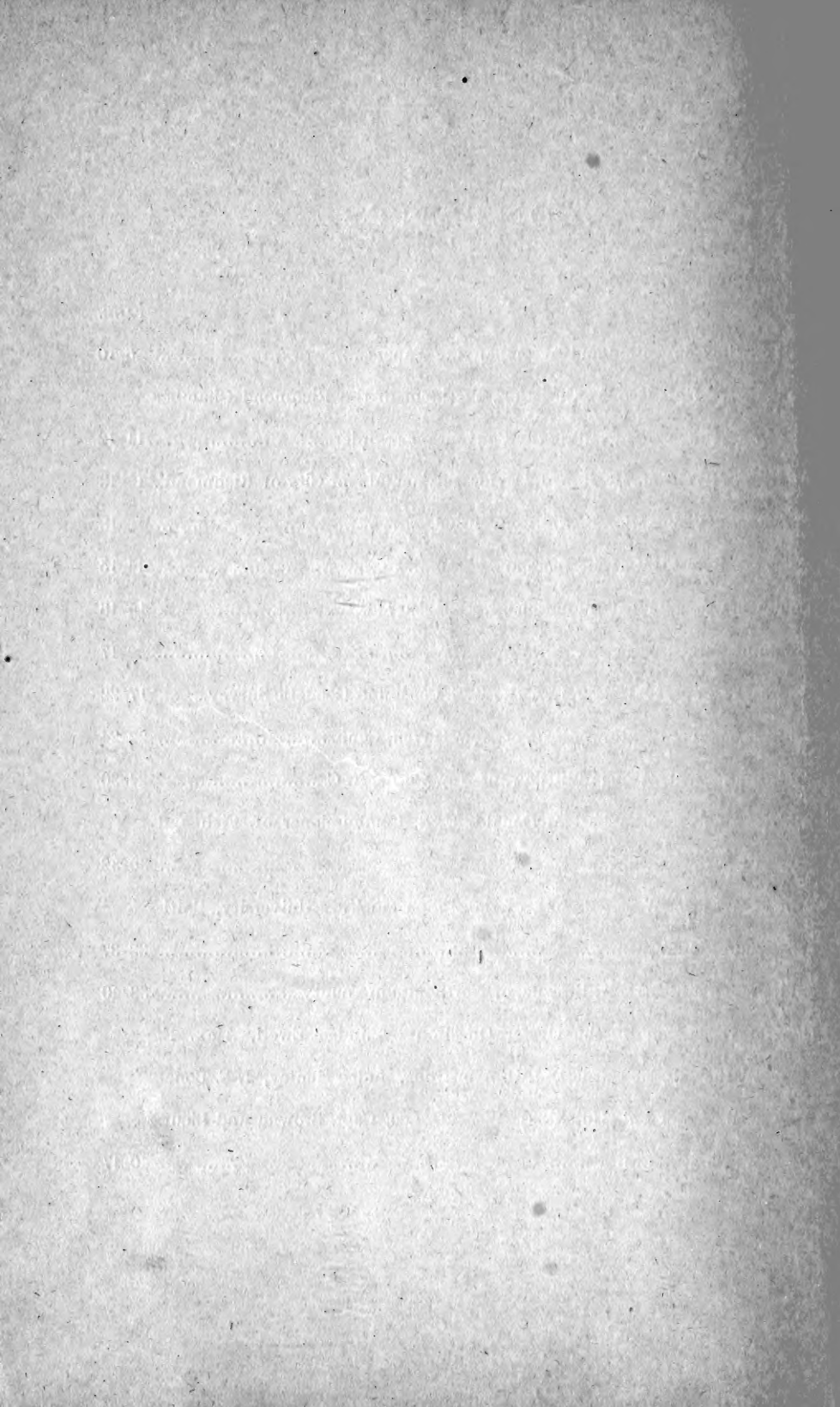
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CALL FOR THE CONVENTION.

In addition to a number of distinguished authorities upon the oyster question who were invited to address the Convention, over nine hundred invitations to participate in its proceedings were mailed to prominent citizens as well as to parties immediately interested in the question. The call was as follows:

THE RICHMOND CHAMBER OF COMMERCE,

December 18th, 1893.

DEAR SIR,—You are invited to attend the convention to be held in Richmond January 12th, 1894, called to consider and discuss the oyster question, to the end that such information may be elicited as to create an intelligent understanding and widespread interest in this subject, in which every citizen and tax-payer of the State as such is most deeply concerned.

While it is not intended that this convention shall recommend any decided course of action, but that each body or section represented shall be free to take such action as it deems best after the convention, it is fully expected that the discussion of the subject will bring forth the most important facts relating to the oyster question, stenographic reports of which will be printed in pamphlet form and constitute a valuable compendium of information on the subject.

Your attention is asked to the accompanying papers, and your attendance on the occasion referred to is most earnestly requested, not only from a patriotic consideration on your part of the interest which your section has in this immensely valuable resource of Virginia, but from the belief that, as a tax-payer, you will, in the end, be amply compensated for any time consumed or expense incurred by your attendance at this convention.

Should circumstances beyond your control render it impossible for you to be present, you are requested to immediately confer with the most prominent and influential resident of your county whose consent you can secure to attend in your stead, and that you will promptly inform the Secretary of the Chamber, that an invitation may be extended to such person as you may designate.

The convention will be held January 12th, 1894, in the assembly room of the Chamber of Commerce, corner of Ninth and Main streets.

There will be invited as delegates to said convention prominent citizens from all sections of the State—

Representatives of the planters, dredgers and tongmen, and also the oyster inspectors from Tidewater Virginia.

Representatives of the various commercial organizations throughout the State.

Recognized authorities upon the question of oyster planting and those who

have given the subject especial attention, including judges of those counties of the State bordering upon the oyster-beds of Virginia.

And such committees as the oyster law may be referred to by the present General Assembly.

Sincerely hoping that you will be able to attend, we have the honor to be

Yours, very respectfully, &c.,

R. CARTER SCOTT,
F. H. McGUIRE,
J. TAYLOR ELLYSON,
LEVIN JOYNES,
JOHN B. CARY,
A. S. BUFORD,
Committee on Legislation.

GEORGE L. CHRISTIAN,
President.

R. A. DUNLOP, *Secretary.*

Together with the foregoing call, the subjoined documents were issued, the time for holding the convention suggested in the report of the Chamber's committee having been changed to January 12th, 1894, by authority of the Chamber:

REPORT OF THE COMMITTEE ON LEGISLATION

OF THE

RICHMOND CHAMBER OF COMMERCE,

RELATING TO THE OYSTER QUESTION, ADOPTED AT THE ANNUAL MEETING
OF THE CHAMBER, JUNE 8TH, 1893.

OYSTER QUESTION.

Mr. R. Carter Scott, Chairman of the Committee on Legislation, submitted the following report upon the oyster question, which was unanimously adopted:

The undersigned, your Committee on Legislation, to whom several communications relating to the oyster question in Virginia were recently referred, beg leave to report—

That they are deeply impressed with the importance of the development of this valuable property of the State, containing 800,000 acres, and with the fact that the question has not had an amount of attention devoted to it by the whole people of the Commonwealth at all commensurate with the magnitude of their common interest. When considered as a resource, by means of which the present burden of taxation may be reduced throughout the entire State, and from which large and more adequate appropriations may be made practicable to the many necessary public works and institutions, every citizen, irrespective of his location, has alike the deepest interest in its utmost development.

Your committee is reliably informed that the system in effect prior to the act to

protect the oyster industry of the Commonwealth, approved at the last meeting of the Legislature, was a source of continuous expense to the State and destructive of the oyster itself, when it should have been a source of vast revenue to both the State and those engaged in the industry. That this has been the case solely on account of the undeveloped condition of the property, growing out of the improvident methods of some of our citizens, the destructive depredations of non-residents, and the failure of the system to promote and protect the intelligent and profitable investment of labor and capital in the business. That while the act of February 29th, 1892, is a move in the right direction, and has already had its good effects, they believe, from the testimony of experts and from the experience of other oyster-producing sections of this and other countries, that the peculiar nature and exposed condition of this property demands a most vigorous, well-defined and uniform system; and that only by such a system can the ratio of expense to receipts be reduced to a minimum, and this great interest be fully developed and protected.

These conditions induce the opinion on the part of your committee that there is urgent need of an active and immediate educational campaign, which shall result in such general light being thrown upon the question, that universal interest may be aroused, prejudice and ignorance removed, and prompt, efficient and wise legislation secured.

They therefore recommend that the commercial organizations throughout the State, which should, from their character and objects, most sensibly feel the importance of developing every source of wealth in the Commonwealth, be requested to give this question in all its bearings their early and serious consideration; and to the end that all the exigencies and equities of the situation may be fairly and freely discussed, that they be asked to send delegates to a meeting for conference in Richmond during the approaching summer, at some time to be agreed upon; and that representatives of the tongmen, dredgers and planters, as well as experts who have given the subject special investigation and study, be invited to address this meeting.

A copy from the record—Teste:

R. A. DUNLOP, *Secretary.*

EXTRACTS FROM THE MESSAGE

OF

His Excellency Philip W. McKinney,

TRANSMITTED TO THE GENERAL ASSEMBLY OF VIRGINIA,
DECEMBER 6, 1893.

OUR OYSTER INTERESTS.

The people of the State are taking a deeper interest in this great industry than formerly, and the local prejudice against legislation on the subject is wearing out. I trust it will not be long before we will be able to so amend the present law, in the line of progress, that it will meet with the approval of all.

It is fast becoming a conceded question that the oyster industry must be protected and the State's interests looked after, or there will be such a destruction of the natural beds that they will soon become worthless; whereas, if our people are protected by wise laws rigidly enforced, this product will in a brief period exceed in value the estimate of the most sanguine, and Tidewater will attain such a prosperity as she has never before known.

It is useless to expect, however, that this interest will receive at the hands of the Legislature efficient protection, unless those who are engaged in it are willing to bear a reasonable proportion of the expenses necessary to secure it; and the old idea that the property of the people of the whole State, alone, is to be taxed to give protection to those who are engaged in this business, will be deemed unreasonable.

RENT—NO TAXES.

We create a prejudice on the subject of renting out this property to raise money for its protection and other equitable purposes, by calling it a tax. This is a misnomer. These are the facts: we have a large area of oyster land, which belongs to the State; it is ours in fee simple; its great extent and value is conceded; we propose to rent this land to the citizens of Virginia at the low price of one dollar per acre. We compel no man to take it, and if the citizen rents this land at a stipulated price, he does it of his own free will, and can, in no proper sense, be called a tax-payer. It is not taxes he is paying to the State; it is rent money; he does it voluntarily, and he has no right to complain and allege that this increases the tax he owes to the State. On the other hand, it would be a misuse of its powers for the State to tax every kind of property belonging to the citizens according to its value in order to raise the necessary amount to meet the demands upon the Treasury, and fail to utilize such vast amounts of valuable property as she owns in her oyster lands, and allow it to go to waste, or to be seized by those who use and abuse it, and who not only do not make an equitable division of the profits, but all the other property of the citizen is taxed thousands of dollars to protect them in their unlawful holdings.

It cannot be justified. That the Legislature should use all available property and resources which the State owns, before it has a right to take, by taxation, any of the resources of the private citizens for public uses, is a proposition which will not be disputed. The indifference manifested heretofore, by the people of the whole State, is a surprise to every thinking man. It is the result of a want of knowledge on this subject. No one better un-

derstood this question than Governor Wise. He was born and reared among the people of that section; he was devoted to their interests, and was esteemed and beloved by them, and no one has been more enthusiastic in declaring its great value. He was the first to suggest that a large revenue could be derived from it, and urged it.

LEGISLATION NECESSARY.

The time has come when it is necessary for us to have efficient legislation on the subject. The necessities of the State require it, and the oyster interests demand it. Week after week, the year round, complaint comes to the Capitol "that we are being visited by strange vessels, who are plundering our oyster-grounds and robbing our rivers, and begging that protection should be given to them." How can you get the protection?

The devastation which the strangers are committing in the Virginia waters, and the grounds they are trespassing on are the oyster-lands of Virginia. I think vigorous measures should at once be adopted; the cry of the people should be answered. Virginia ought to assert her rights. This cannot be done without expense. To raise money to enable us to do this, these lands should be rented, and when this is done, it will at once become the imperative duty of the State to grant the protection which is so greatly needed by her citizens, and as much of the money as is necessary for this purpose should be taken and devoted to the defence of the property which Virginia has temporarily conceded to its occupants. Lay aside prejudice and look fairly at the question. Is it right that property all over the State should be taxed to protect the oyster interest, while the oyster grounds belonging to the State—not to individuals—are seized and used at will by the people, many of whom not only make no returns to the State for their use, but demand that we protect them in the unauthorized, and hence unlawful, possession at our own cost? This is unreasonable. I repeat with emphasis, every oyster interest should be efficiently protected, and marauders who disregard the law and the rights of the people should be captured and punished, and the use of all of our valuable possessions on the water, and in the water, should be as efficiently guarded as the property on the land, or the land itself.

Many laws have been enacted looking in a measure to this, but they have been inefficient, and the pillaging is still going on.

The good people are still dissatisfied with the inefficiency of the law, and are demanding protection. Let me give you some of the facts, so that you may see how inadequate the law has been. We will look to the results in figures. This is the way the account stands on our books, showing the amount received from the tax and the amount disbursed for protection—

	Receipts.	Disbursements.
1880.....	\$ 293 29	\$ 1 26
1881.....	542 53	17 54
1882.....	1,249 62	299 52
1883.....	1,249 62	299 52
1884.....	919 93	18,907 97
1885.....	26,476 93	27,025 66
1886.....	22,949 89	22,574 25
1887.....	13,329 21	16,712 35
1888.....	13,755 89	18,922 82
1889.....	12,454 56	19,561 74
1891.....	14,114 83	24,683 92
1892.....	15,236 04	16,994 22
1893.....	32,695 89	17,017 58

These official tables show the acknowledged right of Virginia in this property, the need of protection, and the inefficiency of the law, and the consequent demand for amendment, and what the people should expect of the present Legislature. I have not the space to enlarge on these facts as I should like.

SINCE THE LAST LEGISLATURE.

The last Legislature passed a law on the subject which was imperfect in many respects, but was an improvement on the old law. I hope it will receive a thorough examination, and that such amendments will be made as are demanded by the present necessities.

REVENUE FROM THIS SOURCE.

The survey of the oyster-grounds of the Chesapeake and its tributaries has been recently completed. This important work has been done with but little cost to the State. It should have been done years ago. It shows the greatness of our undeveloped resources, and must strengthen our credit and increase the value of our bonds.

We have 150,000 acres of natural bed or rocks, which are of inestimable value; they should be held for the benefit of the people of Virginia, and no dredge or scrape should be allowed on them. We have 650,000 acres, including Chesapeake Bay proper, suitable for planting, which can be rented by the citizens of the State at \$1 per acre.

This estimate does not embrace the oyster grounds on the ocean side of the counties of Accomac and Northampton, which are large in acreage and very valuable.

The marsh lands have not been considered; these in due time will be made as valuable as the grounds now used for planting; experts say they will be more certain to produce uniform crops under improved cultivation. I think it would be safe to estimate the number of acres suitable for oyster cultivation at about one million.

Rent these at a dollar per acre, and what a royal revenue it will bring to the State! It may be said that you cannot find renters? Then repeal the law which restricts renting to the citizen, after a reasonable time is given them to secure the grounds, and invite foreign capital to come in, and it will not be long before we will be able to dispose of every acre.

Many of the new comers will bring their families and erect homes along the shores; the large and uncultivated farms will be divided and sold; new ideas and methods will be introduced among our people, and soon prosperity will take the place of the business stagnation which has so long existed.

The trucker on the shore, and the oysterman on the water—the products of the land vying with the products of the water—what a source of undeveloped wealth! what inducements they offer to the world!

But this is not all. You have ten thousand tongers and dredgers and others engaged in the fish and oyster industry, who, when properly taxed, will add largely to the revenues of the State, if efficient means are used in the assessment and collection. Nothing but the worst management can prevent large revenues from these sources, larger than we now have from railroads, or from licenses, or from personal property, or from any other source except real estate. Is not this sufficient to direct the constant and earnest efforts of the General Assembly of Virginia to this important subject.

Proceedings of the Convention.

The Convention was called to order at 12:30 P. M. by Judge George L. Christian, President of the Richmond Chamber of Commerce, as follows:

Gentlemen of the Convention:

This is in no sense a meeting under the direction or control of the Chamber of Commerce of Richmond; and whilst this is so, yet, inasmuch as this Convention is held somewhat under its auspices and in its home, it has been deemed appropriate that I, as the official head of the Chamber of Commerce of Richmond, should perform the very pleasant though simple duty of calling the meeting to order. In doing this, I shall not usurp the duty which has been assigned his Honor the Mayor of Richmond, who will extend to you a formal welcome, but I am certain he will not think I am infringing on his provinces if I give expression to the sentiment which I am sure is felt by every Virginian present when I say that you are all always welcome to the capital city of the Old Dominion.

This Convention, as far as I know, is something new in the history of this Commonwealth. You have been called together to consider a most important question—one that I believe has been seriously neglected in the past; one that, it is said, involves an interest of twenty millions of dollars to the people of this Commonwealth within the last ten years. An interest which amounts to such a large sum of money as that to a State in the impoverished condition of Virginia means a great deal to her people, and demands at the hands of this body the most serious and attentive consideration that it can give, and I am confident you will give it that consideration.

I believe in always giving honor to whom honor is due. Without intending to reflect in the slightest degree upon any administration which has passed I feel assured that this interest in the oyster industry has been principally brought about by the wise, patriotic and conservative administration of His Excellency Governor McKinney. I believe that I reflect the sense of the people of this old Commonwealth when I say that his administration has been as clean as a penny and as sound as a dollar, and that it will grow in importance in the history of this State with each recurring year. I know of no more important interest that he has stirred up in this State than that which brings you here together this morning. That industry, as I say, involves a vast resource to the people of this Commonwealth, and whether the State owns this great domain of 800,000 acres of oyster lands in trust for her people or in fee simple—some claim one way and some the other—is a matter of no consequence whatever. If the State holds it in fee simple, then the people of the State ought to

enjoy the benefits of such a valuable domain; if it holds it in trust for the people, it should so administer that trust that the whole people of this State can reap the benefits from the trust subject. So it is a matter of no consequence, I say, how the Commonwealth holds this great domain.

I stated that we were a poor people, but, gentlemen, we have in this old Commonwealth the richest inheritance of any people I know of, and it behoves us as the citizens of this State to so enjoy that heritage as to develop it for the interest of all our people. I believe this Convention will do much towards giving the proper direction to the enjoyment of this important interest of the State. I see before me men who are capable of dealing with this great subject. I regret to acknowledge, gentlemen, that the only thing I know about the oyster is that it is the best thing on earth to eat, but I know it through and through in that respect.

It now becomes my very pleasant duty to present to you my worthy friend, the Mayor of this city, who will extend to you a cordial welcome; but before taking my seat I wish to say again that on behalf of the Chamber of Commerce of this city you are most cordially welcome to its home that it has recently provided for the administration of its affairs.

Before Mayor Ellyson addresses you, I should state that the regular order of business will be the organization of this body and an adjournment until 4 o'clock this evening, when there will be addresses made by several distinguished gentlemen from a distance, and when the members of the Legislature will also be present with you.

Mayor Ellyson then addressed the Convention as follows:

Mr. Chairman and Gentlemen:

I never have a more pleasant duty assigned me than when I am accorded the privilege of assuring our visitors that we are glad to see them. I trust that no Virginian needs such an assurance, for I hope that all of the citizens of this Commonwealth feel at home in their capital city. To the distinguished gentlemen who, from beyond the borders of the State, have come to contribute of their experience and wisdom to our deliberations, I bid a special welcome and extend a cordial greeting.

We have come to talk as business men in a business way about a business matter. We have come to consider that which I believe, if wisely considered, will result in advantage to the interests of the individual and promote at the same time the welfare of the Commonwealth. I should not dare to venture out upon the sea of discussion on the oyster question. I served four years in the State Senate and have heard the question discussed, and I shall enjoy the luxury and privilege of being a quiet listener on this occasion. I have been accustomed to hearing the matter presented by those immediately interested, and whilst there are conflicting views and there seem to be difficulties in the way of adjusting the interests of the tongers, the dredgers, and others engaged in the business, yet after hearing these discussions I did feel that there ought to be a solution of the problem, and that there could be a wise solution of it if those who were most familiar with the matter could be brought together and discuss it from a business standpoint, entirely uncomplicated by any other consideration; and I feel that way to-day. I believe if this conference will, as I know it will, take this question up as a business question, and discuss it as such, that some solution will be reached which will

greatly promote the interests of the individual who has his money or labor invested in this industry, and will at the same time greatly promote the importance of that industry, considered in its economic relations to the Commonwealth. I trust that we shall be able to reach some conclusion, before we leave this Chamber, that will enable our legislators to enact such laws as will accomplish the results indicated. If that shall be the result of this conference, then I can say that when we shall have left this hall no other body of men who have ever assembled for business purposes in this Commonwealth will have accomplished greater good to the State than will those composing this Convention.

Gentlemen, with renewed assurances of the pleasure it gives us to see you here to-day, and trusting that when our deliberations shall be over you will carry away with you to your homes as pleasant recollections of Richmond as I am sure you will leave behind you, I again bid you welcome.

Chair: The next business in order is the permanent organization of the body. How shall that be effected?

Maj. Hotchkiss: I move that the Chair appoint a committee of five on permanent organization.

The motion being carried, the Chair appointed the following as the committee: Maj. J. D. Hotchkiss, Maj. Mann Page, Governor P. W. McKinney, R. Carter Scott, and Wm. Ellinger.

After a short retirement, the committee made the following report:

For Permanent Chairman—Hon. J. Taylor Ellyson, of Richmond.

First Vice-President—Governor P. W. McKinney, of Farmville.

Second Vice-President—J. Roy Baylor, of Albemarle and Caroline.

Third Vice-President—A. F. Withrow, of Bath county.

Fourth Vice-President—Orris A. Browne, of Northampton county.

Fifth Vice-President—R. S. Thomas, of Isle of Wight county.

Sixth Vice-President—Judge G. T. Garnett, of Mathews county.

Secretaries—R. A. Dunlop, Secretary of the Chamber of Commerce, Richmond, Va., and the representatives of the press.

In presenting the report of the committee, Maj. Hotchkiss called attention to the fact that each of the grand divisions of the Commonwealth had been considered, but, in view of the importance of the question to be discussed to that section, three of the Vice-Presidents had been selected from Tidewater.

The report of the committee having been adopted, on taking the chair, Mayor Ellyson made the following remarks:

GENTLEMEN,—I am very much obliged to you for the compliment of electing me to preside over your deliberations. I shall certainly endeavor to discharge the duties of the position of your presiding officer with the strictest impartiality. I invite your earnest co-operation, and I shall endeavor by a courteous discharge of the duties of the office to merit the confidence which you have placed in me. I am now ready to entertain any motion.

Maj. Page moved that the Secretary be requested to prepare a complete list of the delegates by the hour of adjournment of the morning session. So ordered.

On motion of Mr. Scott, all the visitors from beyond the State were requested to participate in the deliberations of this Convention and to hand in their names to the Secretary.

On motion of Mr. B. F. Johnson, the Convention then adjourned until four o'clock.

In accordance with the motion of Major Page, the following delegates were registered at the Secretary's desk:

- Asher, John, Gloucester Co., Va.
 Armstrong, J. D., President Norfolk and Portsmouth Packers' Association, Norfolk Co.
 Alman, Walter, York river, Va.
 Armistead, G. F., Mathews Co., Va.
 Brown, J. Thompson, Brierfield, Bedford Co., Va.
 Baylor, Dr. J. R., Caroline Co., Va.
 Browne, Capt. Orris A., Charles City Co., Va.
 Buford, Col. A. S., Richmond, Henrico Co., Va.
 Bonewell, J. F., Morrison, Warwick Co., Va.
 Brown, Geo., West Point, King William Co., Va.
 Bolling, R. M., Princess Anne Co., Va.
 Christian, Hon. Geo. L., Richmond, Henrico Co., Va.
 Cary, Col. John B., Richmond, Henrico Co., Va.
 Cutshaw, Col. Wm. E., Richmond, Henrico Co., Va.
 Costin, S. J., Northampton Co., Va.
 Conklin, T., Norfolk, Norfolk Co., Va.
 Christian, Thomas, Richmond, Henrico Co., Va.
 Daniel, C. C., Pleasant Hill, N. C.
 Ellyson, Hon. J. Taylor, Richmond, Henrico Co., Va.
 Ellinger, Wm., Accomac Co., Va.
 Farinholt, Col. L. B., Essex Co., Va.
 Finney, Chas. P., Accomac Co., Va.
 Gortin, J. H., Western Branch, Va.
 Garnett, Judge G. T., Mathews Co., Va.
 Hotchkiss, Jed., Staunton, Augusta Co., Va.
 Henley, Judge R. L., Williamsburg, James City Co., Va.
 Hopkins, Gerald, Gloucester Co., Va.
 Harrison, W. A., Nansemond Co., Va.
 Hart, B. S., Middlesex Co., Va.
 Harlow, M. B., Alexandria Board of Trade, Alexandria Co., Va.
 Johnson, B. F., Richmond, Henrico Co., Va.
 Lockett, E. F., Crewe, Nottoway Co., Va.
 Lee, W. McD., Lancaster Co., Va.
 Long, E. W., Lancaster Co., Va.

McAnge, W. N., Suffolk, Nansemond Co., Va.
 McDonald, Hon. Marshall, Washington, D. C.
 McKinney, Gov. P. W., Farmville, Prince Edward Co., Va.
 Massie, Eugene C., Richmond, Henrico Co., Va.
 Mercer, G. W., River View, Va.
 Nye, John, York River, Va.
 Odell, J. D., New Kent Co., Va.
 Page, Maj. Mann, Brandon, Prince George Co., Va.
 Platt, L. B., Warwick Co., Va.
 Palmer, R. J., West Point, King William Co., Va.
 Pickett, John B., Norfolk Business Men's Association, Norfolk, Va.
 Rowe, Henry C., New Haven, Conn.
 Ross, John H. C., Lexington, Rockbridge Co., Va.
 Roberts, John H., Northampton Co., Va.
 Richardson, A. P., New Kent Co., Va.
 Scott, R. Carter, Richmond, Henrico Co., Va.
 Staples, Col. Abram, Stuart, Patrick Co., Va.
 Smith, Dr. G. W., Middlesex Co., Va.
 Seldon, R. C., Goochland Co., Va.
 Taliaferro, James L., Gloucester Co., Va.
 Treat, Morgan, West Point, King William Co., Va.
 Terrill, J. J., Burton Creek, Campbell Co., Va.
 Thomas, R. S., Isle of Wight Co., Va.
 Ward, Geo. W., Winchester, Frederick Co., Va.
 Wellford, Judge B. Rand., Richmond, Henrico Co., Va.
 Winslow, Lieut. Francis, New Berne, N. C.
 Wilkinson, E., West Point, King William Co., Va.
 Willis, A. G., Culpeper Co., Va.
 Willis, W. G., Fredericksburg, Spotsylvania Co., Va.
 White, D. Frank, Accomac Co., Va.
 Williams, Dr. T. E., Asheake, Hanover Co., Va.
 Welch, Judge, Caroline Co., Va.
 Withrow, Hon. A. F., Bath Co., Va.

In addition to the foregoing, the following gentlemen, in response to invitations to the Oyster Convention, signified their purpose to attend, some of whom were doubtless present, though they did not register :

Apperson, John S., Marion, Smyth Co., Va.
 Ames, John W., Nansemond Co., Va.
 Barbour, G. W., Somerset, Orange Co., Va.
 Baker, W. W., Hallsboro, Chesterfield Co., Va.
 Boston, Dudley R., Union Mills, Fluvanna Co., Va.
 Board of Trade, Portsmouth, Norfolk Co., Va.
 Caldwell, J. B., Old Town, Grayson Co., Va.
 Cox, M. B., Saddle, Grayson Co., Va.
 Christian, Frank W., Richmond, Henrico Co., Va.
 Connor, R., Newport News, Warwick Co., Va.

Capps, W. T., Lambert's Point, Va.
 Culpeper, G., Portsmouth Board of Trade, Norfolk Co., Va.
 Ewing, W. H., Meherrin, Lunenburg Co., Va.
 Fauntleroy, Thomas, Lynch's Station, Campbell Co., Va.
 Finney, E. B., Onancock, Accomac Co., Va.
 Faris, R. J., Scottsville, Albemarle Co., Va.
 Ford, B., Cartersville, Cumberland Co., Va.
 Hart, B. Frank, Harmony Village, Middlesex Co., Va.
 Harrison, Randolph, Cartersville, Cumberland Co., Va.
 Harrison, James P., Danville, Pittsylvania Co., Va.
 Hinton, Eppa, Jr., Warrenton, Fauquier Co., Va.
 Henckel, Louis T., Charlottesville, Albemarle Co., Va.
 Holladay, H. T., Rapidan, Orange Co., Va.
 Hartley, R. B., Stony Creek, Sussex Co., Va.
 Jeffreys, E. A., Chincoteague Island, Accomac Co., Va.
 Lambert, L. W., Norfolk Co., Va.
 Long, J. Miller, Winchester, Frederick Co., Va.
 Lee, D. M., Stafford Co., Va.
 Murray, K. C., Norfolk, Norfolk Co., Va.
 Nash, Chas. R., Portsmouth Board of Trade, Norfolk Co., Va.
 Oyster Planters' Union, Millenbeck, Lancaster Co., Va.
 Palmer, James A., Kilmarnock, Lancaster Co., Va.
 Pretlow, J. D., Franklin, Southampton Co., Va.
 Page, John, Beaver Dam, Hanover Co., Va.
 Smith, Thos. W., Suffolk, Nansemond Co., Va.
 Vaiden, J. B., New Kent C. H., New Kent Co., Va.
 Vernon, Dr., Portsmouth Board of Trade, Norfolk Co., Va.
 Watkins, J. B., Hallsboro, Chesterfield Co., Va.
 Waddill, E. T., Richmond, Henrico Co., Va.
 Wirt, Daniel P., Oak Grove, Westmoreland Co., Va.
 Wood, R. S.
 Wilkins, Dr. John T. Bridgetown, Northampton Co., Va.
 Warner, Alex. E., Portsmouth Board of Trade, Norfolk Co., Va.
 White, Jos. F., Portsmouth Board of Trade, Norfolk Co., Va.
 Wainwright, Geo. C., Portsmouth Board of Trade, Norfolk Co., Va.

AFTERNOON SESSION.

The Convention was called to order promptly at four o'clock, and, on motion of Colonel Purcell, a recess of fifteen minutes was taken pending the arrival of the members of the Legislature, who had accepted an invitation to attend.

Upon again reassembling, Mr. R. Carter Scott submitted the following report:

On behalf of the Committee on Legislation, I have to report that the following gentlemen have been invited to attend and address

this Convention, and that the Legislature of Virginia has accepted an invitation to hear them at this hour, 4 P. M. It is therefore suggested that they address the Convention in the following order :

Captain J. B. Baylor, of the U. S. Coast Survey, who has recently, in accordance with an act approved by the General Assembly of Virginia February 29th, 1892, been engaged in the survey of the oyster grounds ;

Henry C. Rowe, of New Haven, Conn., a practical and successful oyster planter of Long Island Sound ;

Lieutenant Francis Winslow, President and General Manager of the Pamlico Oyster Company, New-Berne, N. C. ;

Colonel Marshall McDonald, U. S. Commissioner of Fish and Fisheries ;

Professor W. K. Brooks, of the Johns Hopkins University, Baltimore, Md. ;

Hon. P. W. McKinney, ex Governor of Virginia.

After these addresses, it is suggested that there be a general discussion of the question, in which the delegates from the oyster section be especially invited to take part.

On motion, the suggestions of the committee were adopted, and Captain Baylor was invited to address the Convention.

ADDRESS OF CAPT. J. B. BAYLOR.

Mr. Chairman and Gentlemen :

We meet together at the invitation of the Chamber of Commerce, a body which has ever been active in devising means for the material advancement of every section of the State.

It seems eminently proper that we should assemble at the invitation of such a body to consider the best means for the proper management of a part of this State, greater in extent than is the total area of some of the States of the Union—a territory from which has been realized during the last ten years the great sum of twenty millions of dollars (\$20,000,000) from the sale of one single product—the oyster, practically of spontaneous growth.

That this great territory, even in an undeveloped condition, is a magnificent possession cannot be disputed.

Before we can deal intelligently with the questions involved in the management and government of this great domain, we must at the outset determine whose property it is.

It has never been seriously claimed that it belongs to the General Government. It is, then, the property of the State of Virginia, and it is the property of the citizens of the whole State, and not of those of her citizens who happen to live adjacent to this territory. As the property of the State of Virginia, the citizen

who lives in Augusta is as much part owner of this territory as the citizen who lives in Accomack. As such, he has as much voice in the management of it as the man who happens to live adjacent to it.

It is, then, the right and the duty of the people of Virginia to so manage their property that the greatest good to the greatest number shall be the result. Since, on account of the distribution of the population of Virginia, only a small fraction of it is so situated as to derive direct practical advantage from proximity to the oyster-grounds, it is clearly the right of the majority of the people to so control this territory that they shall in the long run obtain the greatest pecuniary advantage possible from it.

That Virginia has a heavy burden to bear in so educating her children that they shall be able to cope successfully with the children of sister communities, which have vast sums of accumulated wealth for their industrial education, is a sad fact. The speaker, in his twenty years' experience as a civil engineer, has had exceptional opportunities of comparing the industrial educational advantages of the different sections of this Union. Although he is proud to be enrolled amongst those who hold engineering and scientific degrees from what he conceives to be the foremost educational institution of the South, he must frankly confess that the South to-day is far behind the North, the East, and the West in facilities for industrial education. This is due to the poverty of her people and not to a lack of earnest workers.

That country which is forced to use only primitive methods is left hopelessly behind in the race. To cope successfully with those who have been so fortunate as to receive industrial training in the great mechanical schools of the North, East, and West, our young men must receive similar training. The eye and the hand must be educated in order to use to the best advantage the mechanical appliances which now so universally lessen the cost of production.

When the speaker was recently urging upon one of the largest land-owners of the State the importance of introducing certain labor-saving machines, such as are in common use upon the greatest farms of the Northwest, he was answered that after a careful trial of such implements the farmer had been compelled to abandon them because it was impossible to find in his vicinity men who could repair them and keep them in order. Frequently it is difficult to find in a rural community in Virginia a man who can even put together the different pieces of such machinery. What hope is there of establishing in such communities manufactories where skilled labor is required? The capitalist who would attempt it would bankrupt himself before he could train his labor.

We must all admit that Virginia needs industrial schools. In the impoverished condition of her people, it is clearly her duty to utilize to the best advantage such resources as she possesses.

The good fortune of the State of Texas, in having a vast public domain which belongs exclusively to the State, is often commented on. She is wisely devoting the proceeds of the sale of this public land almost exclusively to the education of her children. The splendid effect of such a policy is already becoming apparent. The last national census proved that no part of the South had made so great an advance in population as Texas.

The equipment of the industrial schools would be necessarily an expensive business. The necessary mechanical outfit, the skilled instructors, all represent outlay. Where shall Virginia obtain the funds necessary to place her where she rightly belongs—amongst the foremost States of the Union in material prosperity?

No one who is familiar with the present condition of the agricultural class in Virginia believes that it can bear any greater tax than that with which it is already burdened in the cause of public education. The necessary funds must be obtained by utilizing to the very best advantage the territory of which every citizen of the State is part owner. Whether she has used and is using this territory to the best advantage is the question I propose to discuss briefly this evening.

There is hardly any natural product which cannot be greatly improved and increased in quality and quantity by the expenditure of energy and capital. The oyster is no exception to this rule. No product of earth or water can be more largely increased by human intelligence and labor.

Ninety-five per cent. of the oysters of Europe are obtained from artificial beds—beds often produced by first macadamizing soft mud flats, so scarce are suitable bottoms.

In Holland, at Berg-op-Zoom, the total product of oysters did not exceed, in 1875, \$9,000. In the same year oyster culture was introduced. In 1882, through this means, the annual product of the same bottoms reached the sum of \$900,000. Similar results have been reached in England, Belgium, and in the beds adjacent to Schleswig-Holstein.

In Connecticut only \$31,305 was, in 1889, realized from natural beds, while the yield of cultivated oysters brought \$1,040,372—more than thirty-three times as much; a yield per acre from cultivated grounds of \$34.60 against \$1.62 per acre from natural beds. With such examples as this, which might be multiplied, it cannot be denied that, under favorable conditions, oysters can be profitably cultivated.

Of the \$2,218,376 realized from the sale of oysters from Virginia waters in 1880, a comparatively insignificant sum was obtained from cultivated beds.

According to the most conservative estimates from surveys made by Lieutenant Winslow and others, the people of Virginia own 800,000 acres of territory suitable, under scientific systems, for the profitable cultivation of the oyster. How poor has been their management of this great oyster farm in comparison with the management of some other States and countries! If Virginia realized as much proportionately from the sale of cultivated oysters as does the State of Connecticut, the stupendous sum of fifty millions of dollars would be brought into the State annually from the sale of oysters.

The burning question with us should be how we are to bring about a better state of things. The greatest incentive, as we all know, to the improvement of property is individual ownership. The tenant system would seem to be as unfavorable to the development of the oyster farm as to that of agricultural land. The oyster area of Virginia can be divided into two great sections. There are bottoms upon which oysters still grow naturally in sufficient numbers and upon sufficiently large areas for her citizens to gather oysters profitably without systematic cultivation. Using the most liberal construction of the definition of the natural oyster bed, the total area of such beds in Virginia will not embrace a larger area than 160,000 acres, and this estimate is based on actual legal surveys authorized by our last legislature.

These natural oyster beds have been delineated by three (3) oyster commissioners in each oyster county having natural beds. These commissioners have been selected by the judge of the county on account of their character and their local knowledge of the grounds to be surveyed. An examination of a list of these

commissioners will prove that a majority of them have gathered oysters since boyhood from the rocks they have been called on to delineate.

Outside of the 160,000 acres of natural oyster beds delineated by these gentlemen, the people of Virginia own 640,000 acres of bottoms suitable for the profitable cultivation of the oyster, by the application of improved methods, which in their present condition are practically barren and useless, and have been so for years past.

Let the survey which has been authorized of the natural oyster deposits be made final. These boundaries have been defined in deference to the sentiment of each individual oyster county, largely in deference to representatives of the tonging class.

On the whole, the speaker, from his personal observations, believes they have been made more extensive than the conditions of the bottoms justify. The people of Virginia have conceded so much to the feelings of those of her citizens who live adjacent to her oyster territory, and who have been in the habit of gathering oysters from the natural oyster deposits. They cannot reasonably expect more.

To utilize the 640,000 acres of barren territory, she must give the individual or company to whom she assigns any part of it a clear and undisputed title. She can never do this unless she makes final the survey now delineating the boundaries between what is public property and what may be private property.

The first great reform which I would suggest to the Convention is the necessity of urging upon the Legislature the importance of thus legalizing the survey of the natural oyster deposits. In doing this she will only be following the example of every other State and country which has encouraged the cultivation of the oyster.

The act authorizing the survey should be so far amended as to omit the words "provided if any natural rock, bed or shoal is left out of these surveys, they shall not be used for planting grounds, but shall be subject to the general oyster law of the State." This would give the inspectors a certain guide in renting grounds and would settle all titles. The official charts and filed records defining the boundaries of the natural oyster beds should not then be changed except by a special act of the Legislature in each individual case.

The second important point which the speaker would urge upon this body is the importance of vesting in the individual oyster planter or planters a perpetual lease to the bottoms which they cultivate. In pursuing such a system, all existing leases must be respected as well as all recognized legally established riparian rights. The State is in honor bound to do this.

There are thousands of acres of bottoms which are so soft that they can never be utilized for oysters unless they are hardened by the deposit of vast quantities of oyster shells, sand and other suitable material; on a limited lease no oyster farmer could afford to do this. Here the advantage of individual ownership might be strikingly exemplified.

There are vast areas in Chesapeake Bay proper which cannot be utilized on account of the depth of water and the large area which it would be necessary to plant except by aggregated capital under some system of perpetual lease. The most profitable oyster culture in Long Island Sound has been that carried on in deep water by the use of steam appliances.

The speaker is strongly of the opinion from personal observations in Long Island Sound, that whether Virginia shall continue to hold the tributaries of Chesapeake Bay for the use of her own citizens or not, it would be good policy to

allow outside capital and energy to utilize the barren bottoms of Chesapeake Bay proper. She has neither the necessary appliances nor men skilled in this deep-water oyster culture. Her own people are doing nothing with these Chesapeake Bay bottoms. Why, then, should she not give outside capital an opportunity of working them? Under existing laws, a Virginian would be subject to a fine of \$500 who would have associated with him any outsider in any capacity. He cannot even sub-let his oyster ground to a brother Virginian. If we should determine to sell our barren oyster grounds, what system should be adopted in disposing of them? To obtain as much as possible for them, we should sell them to the highest bidder, with a minimum price so fixed that they shall not be sacrificed. The true criterion of value is what a thing will bring when it is duly advertised. The bottoms should then be assessed periodically by a competent board of assessors and taxes imposed as on any other property.

As to the area which any one firm or individual may be allowed to buy, there is a great difference of opinion even amongst those who, like the speaker, believe that the barren grounds of Virginia should be sold that they may be utilized to the best advantage.

There is no denying the fact that the people of that country are the most prosperous and contented where the territory is distributed amongst the largest number of holders. On bottoms covered with water less than a certain depth (say under fifteen feet) and less than one and a half miles from habitable shores, the extent of the bottom purchasable by any one individual buyer might be limited. In so doing, the State should respect all existing legally established rights. Outside of these boundaries there should be no limit. These bottoms can only be utilized in large areas by capitalists. It should clearly be the right and privilege of the holder of any oyster farm to cultivate his own property with whatsoever labor-saving appliances and at whatsoever season of the year his own interest and experience may suggest. The State does not have to require of the oyster farmer that he shall not destroy his own oyster bed in order to gather his annual crop of oysters. His own interest should be his safest guide. The right to use oyster dredges run by steam (such dredges as are in common use in Long Island Sound) except between the hours of sunset and sunrise should be authorized by a special legislative act. This act should require the owner of the steam dredge to give a \$5,000 bond that he will not use his dredge upon any natural oyster rock as delineated in this survey, or upon any planter's ground in any illegal way. The natural oyster rocks should be held as they have been surveyed (unless the boundaries of a natural rock should be altered by a special act of the Legislature) for the exclusive use of the citizens of this State to be worked under rigid State control, with specific State taxes for the privilege of doing so, depending upon the character of the boat and apparatus used. The right to use any other than hand apparatus on any of the natural oyster beds of the State should only be granted after an examination of the bed by a commissioner, who should be authorized by law to grant the privilege. The tongman must look mainly to the natural oyster beds for his revenue.

It would seem to be good policy for the State to utilise all money obtained by taxing those who gather oysters from her natural oyster beds in the protection and restoration of these beds. The fact that the tong tax cannot be made a specific tax in advance imposes gross inequalities upon those gathering oysters from natural oyster beds. It should be made so inconvenient for the tongman to pay the inspector a percentage weekly on the value of the oysters taken during the

previous week that he will be glad to pay a specific tong tax in advance. A tong tax of \$5 per hand-tong would not meet with serious opposition if the money so obtained could be kept separate from the other State funds, and used to protect, preserve and restore the natural oyster beds.

To recapitulate, I would respectfully bring before this Convention the following points for consideration :

Virginia, to be able to cope successfully with some of her sister States, needs industrial schools. She can obtain the money necessary for the founding of such schools by the utilization of undeveloped oyster territory, the property of the people of the whole State.

To utilize this territory to the best advantage, she should make *final* the survey marking the boundaries dividing her natural oyster beds from the barren bottoms. Thus only can she give a clear title to barren ground.

The State should sell to the highest bidder at a minimum price of \$5 per acre her barren territory not already rented, requiring that at least one-third of the territory so purchased be planted in oysters or shells within the next five years, selling to her own citizens the barren bottoms of the tributaries of Chesapeake Bay, and opening Chesapeake Bay proper, outside of the natural oyster deposits, to foreign capital and enterprise.

The State should derive her revenue from taxing her oyster farms, leaving the proprietor free to work his own territory as his own interest and experience may dictate.

She should reserve her natural oyster beds, now surveyed and mapped, for her own citizens, who should pay certain specific taxes on the apparatus used, the money so raised to be applied solely to the restoration, protection and preservation of these beds.

The Chair then introduced the next speaker, Henry C. Rowe, of New Haven, Conn., who addressed the meeting as follows :

Mr. President and Gentlemen :

I feel embarrassed in addressing you after hearing read a paper of such ability as that to which you have just listened, and I feel also embarrassed in addressing you before the high authorities, scientific and official, who are to follow me. Possibly I should feel still more embarrassed if it were necessary for me to try and interest you after they have spoken, so of the two evils perhaps I am fortunate in encountering the least.

Aside from all that, I feel as if it were like the old and well-worn simile of "bringing coals to Newcastle" for me to say anything about oysters to an audience, composed of representative men in the great State of Virginia and of the law-makers of the State of Virginia, for from my youth I have been impressed with an admiration for your law-makers, as I have for your great statesmen and great soldiers.

But since I have been in Richmond this last day and a half, I have become indebted to you, and especially to my friend Mr. Valentine and his immediate friends, for so many courtesies and such a kindly welcome—this being my first visit to Richmond—that if I can say a word which will be of the least interest to you I am pleased to do so.

But you wish me to say something about oysters. Those I had yesterday I believe were called Lynnhavens. I have had no better in six months, I am sure ;

and as oysters are said to be the best brain food, I do not wonder at the great number of Virginia's famous and successful men, if they have eaten these oysters; and I do not suppose your law-makers of the present day will fail to avail themselves of the opportunity to follow in the footsteps of their distinguished predecessors in this particular. I have no doubt that they will be able to consider all the questions concerning oysters with the guidance and advice of the experts in that line which your own State contains, so I will not venture to express any opinion or advocate anything concerning the grounds in Virginia, about which I know little or nothing, but will tell you in a few words about the industry in our own State.

In 1874 oyster cultivation was unknown outside of the rivers, bays and harbors of Connecticut, and I might say the land-locked waters enclosed by some small islands in the vicinity; but about that time I ventured to take a reservation of some hundred acres out in the open sound, with reference to which my incredulous neighbors made many unfavorable comments. I paid one dollar per acre for the ground, and went on buying until I am at present interested in about 15,000 acres in all, some of which I am proud to say is worth now about \$100 per acre. When I made my first purchases, my neighbors were wont to call me a * * * * fool; since then, they have changed their views and use the epithet of * * * * monopolist.

The firm of which I have the honor to be the head went through a long series of difficulties and obstacles, which it would be but weariness for you to hear. We had to meet the opposition of a large class of our citizens, who were prejudiced against oyster planting, and we had to make many mistakes ourselves. There is a good deal to learn about the oyster industry. I don't know much about it myself, but I have given it a good deal of attention for some twenty years. In the course of our experience we have spent about \$200,000 in experiments, which did not amount to anything, in addition to some experiments which did.

We now hold a large territory, under the laws of the State of Connecticut, most of which lies under deep water, which we try to cultivate in our poor way. To do this we use three steamers, which are capable of taking up and discharging in a day 3,900 bushels. One of them has taken up 2,500 bushels in a day, and another 2,075, and by using these we were able to work when the ice is heavy and we could not use small boats, nor would sailing vessels be available. I presume, however, that in this latitude you would not have the ice to contend with that we do.

Then we have natural enemies of the oyster. The "Drill," which bores a hole in the shell and sucks out the contents; the "Star Fish," which clasps the oyster with its arms, so tight as to keep its shell from opening at all, and actually suffocates it; and the "Periwinkle," which introduces its stomach between the shells of the oyster—the stomach being a fine membrane thinner than a lady's veil—and commits as flat a burglary as ever was perpetrated. In addition to those, I am told that the great storms we have had in the past year have been very disastrous to the oyster interest—one of which, last spring, was estimated to have destroyed 3,000,000 bushels of oysters; but the man who made that estimate I don't think could have known much about it, although I am satisfied there were a great many destroyed.

It would perhaps be more modest, and possibly of more benefit to you, if I should tell you of some of the things which might be considered mistakes on the part of the management of the oyster industry in Connecticut. I notice in the very able report of your former Governor, in the report of your committee, and I might add also in the very able paper of Capt. Baylor, who preceded me, that

measures are suggested, or advocated, whereby your State may receive a large revenue from your magnificent resources for the oyster industry. This our State has failed to do. It has been represented that Connecticut had not at that time the need of the revenue, which as I judge by these papers Virginia does need. I see from the suggestions made that it is the purpose of the State to derive this revenue from the sale or lease of its grounds, which, so far as I am advised, I see no reason why it may not; though in our own State we sold the ground for \$1.00 per acre, giving a permanent title for this small sum, to ground which is now worth, much of it perhaps, \$100 per acre. As the largest buyer of this ground, by several thousand acres, I have no personal fault to find with that policy; but the State of Connecticut sold its grounds at an expense, up to the year 1888, of eighty-four thousand and odd dollars, when the total sum received for them only amounted to \$57,000, and out of that 18,000 acres proved worthless and were returned to the State, under a provision that ground which proved unavailable could be returned, and the buyer should be reimbursed the payment he had made for it; so that when the sales of our grounds were over, substantially all the valuable ground was sold, and the State received for it only about \$40,000, while the expense incurred in selling it and in the administration of the business connected with it amounted to about \$85,000; that is, to say, the State has disposed of the grounds and spent all the money it got for them and \$45,000 besides. Of course if it is your purpose to derive a considerable revenue from the sale of your grounds, I cannot advise you to follow the example of the State of Connecticut in disposing of them.

We do, however, pay a tax upon our grounds. They are now assessed at what is regarded as the market value, and we pay to the State directly one per cent. tax, which amounts to something like \$2,000 per year net revenue. There are also, as you know, indirect benefits accruing to the State from the industry, which of course you can estimate yourself.

So many gentlemen are to follow me—gentlemen who, I know, can interest you more than I—that I will not attempt to add anything further at present, but thank your for your courteous attention and for all the kindness which I have experienced since I have been in Richmond; and I will add that I hope I will see some of you in New Haven at some future day.

The Chair then introduced the next speaker, Lieutenant Francis Winslow, of North Carolina, who spoke as follows:

Mr. Chairman and Gentlemen:

I have to thank you for the honor and compliment you have paid me in inviting me to address you to-day. And it is all the greater satisfaction to me from the fact that it was in Virginia, now nearly twenty years ago, that I began my investigation of the oyster beds and study of the oyster industry. At that time very little was known by the general public either of the life of the oyster, of the oyster beds, or of the oyster industry. Yet that industry was then not only the largest fishing industry in the country, but the largest in the world. It employed more men and more capital, produced larger revenues and larger products than not only any other fishery, but than almost all the others put together. Yet, notwithstanding those facts, so little was known of the conditions under which this great and remunerative industry existed, that the very source of prosperity—nay,

of its very existence—was being heedlessly destroyed. And, strange as it may seem, the efforts of those most directly interested in and dependent upon the oyster industry were mainly directed to a selfish struggle to be first in race of destruction. Those who consumed the product gave little or no heed to the strife; the war between the tongers and dredgers, between the packers and the shippers, between one method or the other of despoiling the public property, was considered merely a local matter; legislatures from time to time interfered in favor of one class or another, but no measures worthy of note were adopted having as a fundamental principle the maintenance of the industry. It was only after the patient and disinterested investigations of the men of science, when the fact became evident that some measures must be taken, that the alarm was sounded. Since then many methods and plans have been devised and many policies adopted. There is not now an oyster-growing State on the Atlantic seaboard where the oyster question is not a live and, in too many instances, an embarrassing question for the consideration of business-men and statesmen. So great has been the change! A topic which a few years ago awakened only ridicule, has brought together this assemblage. A subject which, but ten years back, was considered too trivial to occupy the attention of any but a few indigent oyster-men and a few theoretical enthusiasts, has at last reached an importance it does and always has intrinsically merited. It has at last become apparent that, to paraphrase the language of Prof. Moebius, the German authority, the preservation of the oyster industry is "a question of statesmanship."

As one of the "theoretical enthusiasts," I take some small pride and much gratification in this change in the order of things. To me it seems the forerunner of better days to come and the presage of an industry existing upon a broader and firmer foundation; employing yet larger capital and a far greater numbers of people; returning greater profits; paying better wages; ensuring lower prices and better quality to consumers, and greatly enhancing the general welfare.

It is not my purpose to occupy your time with any elaborate discussion of the biological or statistical aspects of the subject. The former would be hardly appropriate and the latter are proverbially dry. Except to the special student, neither have much of interest. Those who would have intimate knowledge of the life of the oyster and oyster beds, I refer to the publications on the subject of the U. S. Fish Commission and U. S. Coast Survey; to the reports of the Connecticut and Maryland Oyster and Fish Commissions; to the writings of Rice, Lugger, Goode, Rathbone, Ryder, Deane, and, last and most important, Dr. W. K. Brooks, of the Johns Hopkins University. For statistics, to the U. S. Census of 1880, Ingersoll's Monograph, the publications of U. S. Coast Survey and Fish Commission, and the reports of the various Shell Fish Commissions along the coast. There is a great mass of very valuable information to be found in all these, and in its way not less valuable will be found a study of the foreign, especially the French, literature on the subject. But to attempt even the briefest synopsis of all that has been written about the oyster in the last twenty years, would consume far more time than I have any right to ask or you have power to give. I must, therefore, perforce speak *ex cathedra*.

From circulars sent me by the Chamber of Commerce, from publications in the newspapers, from the messages of His Excellency, Governor McKinney, and from many other sources, I learn that the people of Virginia are realizing the straits to which its formerly great oyster business is reduced and the danger of extinction which now threatens it. I also learn that they realize at last that a vast and now

unproductive territory within its borders can be utilized with advantage to individuals and to the community. For the purpose of pointing out, so far as I am able, the best method of averting the threatened evil and bringing about a return of prosperity, I am to address you.

There is a wide-spread belief that if the natural beds were "preserved"—that is, adequately protected—prosperity would ensue. That is a mistake. Prosperity is not due to the presence of oysters in the water, no matter in how large a number. It is their presence in the market which is of value. The fact that they are not now in the market in sufficient numbers, and cannot be gotten there, is the reason the industry languishes. A further diminution of the supply cannot improve the situation. The patient is dying of inanition. We cannot bring about his recovery by reducing the already too small amount of sustenance he is now receiving. Yet, has any one—can any one—devised any practical scheme of preserving or protecting the natural beds which does not require, as most essential to its success, a reduction of the fishery of those beds? Is it not both generally known and generally admitted that the deterioration of the beds is entirely due to the extensive and excessive fishery? Has any remedy ever been suggested other than the obvious one of restricting that fishery? But if the fishery is restricted, the supply will be even further diminished, and as it diminishes, the demand will increase, and either one of two, and possibly both, results will follow—either the industry will seek other localities and other sources of supply or the policy of restriction will be overthrown, regardless of ultimate consequences, and "the last condition of that man will be worse than the first." Indeed, there is already a movement in one of the indicated directions.

In 1880, Maryland and Virginia supplied 17,400,000 bushels to the market. In 1888, but 12,500,000 bushels. In 1880, Georgia, Florida and Louisiana supplied 443,000 bushels. In 1888, 1,079,000 bushels. In the former case the product fell off at least one-third. In the latter it more than doubled. In other words, the industry is seeking other localities and other sources of supply. In a few years, if you do not take care, its ancient home and its natural abiding place—the shores of the Chesapeake—will know it no more.

I start with the rather startling statement that the preservation and protection of the natural oyster beds is not the first consideration by any means. It is the preservation, protection and, if possible, extension of the *industry* we must keep first in mind. While it is true that in Virginia the industry is largely dependent upon the natural beds, it is by no means universally the case. Rhode Island has no "natural" beds as we understand them. Yet Rhode Island has a flourishing industry. The natural beds both of Connecticut and New York are comparatively insignificant, and yearly becoming more so, but in both of those States the industry flourishes as it has never done before. Indeed, notwithstanding that Virginia has some 150,000 acres of "natural" beds, and New York and Connecticut not more than one-tenth as many, I find that in 1888 the two latter States produced some 3,400,000 bushels, valued at \$2,900,000, while Virginia produced some 3,600,000 bushels, valued at \$1,300,000. It is evident, then, that the industry can flourish independent of the natural beds. But I will go farther and say that, if it cannot exist and flourish independent of the natural beds, it cannot flourish at all. To ignorance of these facts is due much of the trouble and confusion as to policies to be adopted. The general belief is, that the maintenance and preservation of the natural beds is the maintenance and preservation of the industry. The history of many localities shows quite the reverse to be the case; and, paradoxical as it may

appear, the deterioration of the natural beds, and in some cases their extinction, has been closely followed by a revival and extension of the industry and increase of prosperity among those engaged in it. The reason is not far to seek. So long as nature provided the source of supply in quantities more or less adequate, man was content to gather it. But when nature failed to supply, then man came to the rescue, and, as is well known, human agencies are less wasteful and less expensive than natural ones.

If, then, the preservation of the natural beds is not and the preservation of the industry is the main and essential object, how is the latter to be brought about, and what are the relations, and how close between the natural beds and the industry?

The industry can be maintained, preserved and extended in one way, and by one method only—the *supply must be kept up to the demand*. In keeping up that supply is the relation the natural beds have to the industry, and the closeness of that relation is directly proportional to the adequacy of the supply.

The question is, Can the natural beds of Virginia, even with the past unrestricted fishery, maintain the supply? I would say, emphatically, that they cannot. The evidence to that effect is conclusive. In 1880, Virginia produced 6,800,000 bushels. In 1888, 3,600,000 bushels, a falling off of nearly 50%. Since 1879 the price of oysters in the wholesale markets has, on an average, increased nearly 100%. The increase in the demand, which is evident, must occur and continue with increased traffic facilities, and population is thus met by a *diminution* of the supply. Yet the increased demand, bringing as it must increased prices, should and does spur up an increased fishery. But, notwithstanding the more strenuous efforts of the oystermen—and, in time, on account of them—the supply has fallen off about one-half. Plainly the natural beds are inadequate.

And this is not peculiar to Virginia. The industry in both Delaware and Maryland, as in Virginia, is largely dependent upon the supply of the natural beds. In Delaware the product has fallen off from 300,000 bushels in 1880 to about 42,000 bushels in 1888. In Maryland, in the same period, from about 11,000,000 bushels to about 9,000,000 bushels. Contrast those figures with the statistics of Rhode Island, Connecticut and New York for the same time. In Rhode Island the increase is from 163,000 to 189,000 bushels. In Connecticut, from about 300,000 to 1,500,000 bushels. In New York, from about 1,000,000 to 1,900,000 bushels. As I have before said, none of these latter States have any natural beds of consequence.

The natural beds being unable to meet the demand, we must then turn to some other source of supply if the industry is not to languish and ultimately expire. But no other source of supply exists. It must be created, and in creating it a peck of trouble is usually to be found. That trouble arises mainly from ignorance. It seems almost impossible for people to realize that an oyster can exist elsewhere than on a so-called "natural bed." It might with equal reason be urged that a potato could only grow upon the particular foot of ground to which it was indigenous, or that horses could not live in America because they were not found here by the discoverers of the country. It must, of course, be evident to every intelligent person that, given the conditions necessary to life, the oyster, as any other animal, can live anywhere. But the idea is very prevalent, and especially among oystermen, that these conditions can and do exist on the natural beds alone. As they generally express it, if God Almighty intended oysters to live elsewhere, He'd have put them there. Believing that the animal cannot live anywhere but on those areas, they have been accustomed to work at will and with

entire freedom. They are suspicious of any attempt at improvement of other areas and of legislation to that end. They have no faith in the sincerity of the effort, and hazily, perhaps, but none the less strongly, apprehend a scheme to deprive them of a privilege so long enjoyed as to have become, in their minds, an inalienable right. No sooner, then, is the proposition made to increase the supply by any of the various methods of cultivation than, as a rule, the oystermen, to a man, arise and oppose it. It is needless to say that their opposition has usually been effective. They compose a considerable portion of the voting population of the tidewater counties. They are supposed from their vocation to know most of the subject, and naturally are also supposed to know what is best for them. That they do not know makes no difference. As I have heard it expressed, the thing may be good enough; but if the people don't want it, what's the use of giving it to them? There is no use. Unless they want it and appreciate it, they will have none of it.

But, as I understand it, the object of this Convention is not to force theories or policies down any man's throat, but to initiate a "campaign of education." That I think a very wise decision. For I am sure, after many years of study of this question and some years of practical business association with it, that when the public once understands the facts, the course I and others have so long advocated will be universally and unanimously adopted, and that until they do understand the facts, it is useless to force them to adopt anything at all. What, then, are the facts? Briefly these:

The oyster crop, mainly derived from natural beds, has fallen off nearly 50 per cent. in eight years.

The industry is languishing and likely to expire from inanition. It is in process of transference to other localities.

The improvement, protection and preservation of the natural beds can only be accomplished by methods which will necessarily further diminish the supply of oysters, and thus increase the very evils from which the industry is now suffering.

That some 650,000 acres of bottom, now barren, is owned by the State, is susceptible of cultivation, and will, if cultivated, or improved, yield a harvest of oysters of great magnitude.

Here, then, are the facts. Can there be any doubt as to what is the wisest course to pursue? Will any one hesitate to say, Improve the barren area; cultivate it; let it bring forth and multiply?

But who is to do the improving and cultivating? Not the State; the cost forbids it. An acre of oyster bottom cannot be improved, planted and cultivated for less than about \$10 per annum. The State cannot spend \$6,500,000 per annum on such a project, and if the State could, such procedure would not only be foreign to our whole system of government, but the history of a somewhat similar attempt by the French Government shows that disastrous financial failure would result.

If not the State, then the individual must make the improvement, and to induce the individual to attempt so vast an undertaking it must be made plain to him that it will be profitable. Here, then, is another part of your "campaign of education" which greatly requires attention. Without going into details, I will say that you must show primarily two things, they being absolutely essential: First. That the existing natural conditions are favorable to the life of the oyster. That is, that while the animal does not now, it can live on the, at present, unoccupied 650,000 acres. Second. That what nature permits to exist man will not permit to be destroyed. In other words, the security of the property must be guaranteed.

To show that the natural conditions are favorable should not be difficult. The results would justify an elaborate physical survey and biological investigation of your waters. I see from Governor McKinney's recent message that the receipts from the oyster industry in 1893 exceeded the disbursements by about \$15,000. The surplus could not be, in my opinion, expended more wisely and advantageously than in the manner I have indicated.

To guarantee the security of the property, the action of your Legislature must be invoked. Here you will encounter many theories and ideas of a more or less conflicting nature. But my experience shows two, at least, that are fundamental. From the standpoint of the Legislature the demand is that the State should receive a direct revenue of considerable proportion from the property. From the standpoint of the cultivator, that he should have an indefeasible title to his ground, and that he should be protected in the use and enjoyment of it. As the two requirements are not diametrically opposed it is a matter of no great difficulty to adjust the situation.

I take it, it is not the policy of any State to make money out of its citizens, but to adopt such measures as will promote their prosperity; for, after all, they are the State. The main object here being to revive and extend the industry, no question of a few dollars of purchase money or of taxes should be allowed to hamper the progress of the movement. It will require over \$20,000,000 to improve your 650,000 acres. The investment of such a sum in any business is of far more value to the State and the community than almost any sum you might derive from leases, sales or taxes. Indeed, if no other way could be found to induce men to attempt the improvement of tracts of land lying many feet under water and subject to so many vicissitudes of weather and other natural conditions, I would cheerfully give the franchise or property without price. It must be remembered that it is not the sale or other disposal of bottom that is the object to be attained, but *the building up of the industry.*

Next, on the part of the cultivator. He asks very little—merely that he and his business be treated as all other business is. He will not improve bottoms unless he is sure of reaping the reward of his labors. He will neither buy nor lease from the State unless he is assured that the State will keep its contract with him. He will not improve the property unless he is certain that he will be free in its management, secure from deprecation, and undisturbed in its enjoyment. So far as my experience goes, he asks no especial privileges or immunities; he does ask that he shall be subject to no especial discrimination. Considering that he is embarking in a hazardous, and, in many respects and in many localities, an untried business; considering that he is in most cases required to pay at the outset more for his land and more for his improvement of it than his brother farmer on shore, his request that he should be put on a par with that brother farmer does not seem either unreasonable or unjust. Surely, if by granting so mild a demand a great industry can be revived or built up, there should be no hesitancy in doing it.

I have only attempted to generally outline the existing condition of things and the general policy to be followed. The history of the industries of nearly every locality shows a wonderful uniformity and sequence of events. The industry springs into being through the existence of, and is supported for a time by, the natural beds. Those beds sooner or later become impoverished and ultimately practically extinct. The industry languishes, and in some instances dies. The private cultivator, stimulated by the demand, enters the field. Through his efforts a revival is brought about. The market is more abundantly supplied; the

stock is of a superior quality and of less cost. A larger number of a better class of laborers is employed; the revenue to the State is increased; the wages of labor more certain and at advanced rates, and the general welfare and prosperity of the community much greater than under the previous condition of things. That Virginia may soon reach this latter and enviable result I sincerely hope; and it was with the desire to lend my small aid in bringing it about that I have ventured to address you. But in this, as in most things, it is well to make haste slowly. When, however, through efforts such as have brought us together to-day, the people of the Commonwealth have become convinced as to the true and fundamental principles upon which the industry rests, you need have no fear but that once again the waters will teem with oyster boats, that canneries and packing-houses will again open their doors, and that the Old Dominion will resume once more her proud position at the head of America's greatest fishery. I thank you, gentlemen, for your attention.

Col. Marshall McDonald, United States Fish Commissioner, was next introduced by the Chair, and addressed the Convention as follows:

Gentlemen of the Convention:

I am here not as Commissioner of Fisheries. I come as a citizen of Virginia, interested in every movement in the State that may in any way contribute to the prosperity of the State. As the Federal Commissioner of the Fisheries, it has been my duty to conduct an investigation into the condition of the industry at all points along our coast; it has also been my duty to send into other countries trained experts to study the methods that are pursued abroad in the culture of the oyster, in order that I might publish and make known to our people here who are interested what are the particular conditions under which the industry is carried on at other places, and what advantages might be derived from a study of their knowledge and experience.

Now, what I have to say to you to-night is based upon the experience and study which I have necessarily had to give to this question. In 1880, as Commissioner of Fisheries for the State of Virginia, it was made my duty by the Legislature to investigate the condition of our fisheries and oyster industries, and report to the Legislature. The report that I made then expressed substantially the views that I hold to-day, that the very essential foundation of successful prosperity in the oyster industry is in taking such steps as, under the Constitution of the State and with due regard to the best interests of all concerned, would place it under private enterprise, so that private energy and capital could be enlisted, and the industry extended to the barren area, which under present conditions can never be brought about. That report went to the Board of the Chesapeake and its Tributaries, which in that day was not only the cradle, but the grave of every proposition which looked to the industry of Tidewater. The whole industry then was regarded as purely a local interest, and no views which did not measure down to the narrow personal views of those directly concerned in it, could pass through the doors of that committee and have consideration by the Legislature.

I come before you to-day under very different auspices. Virginia has been advancing—in her conservative way, it is true, but still progressing—and I find that under the lead of her Governor, who has just retired, she has entered upon a new

policy of progress and life and development, and that she is now prepared to move in a direction which will in my opinion result in an increase five-fold, maybe ten-fold, of her oyster production.

What have you done? I might say first, what is the proper policy of the State in regard to the oyster industry? It is in my judgment only a part of the general policy which the State must apply to all the industries within its borders, whether agricultural, the mines, the quarries or the water. It is a business of the State. What will she do? Every industry should have equal and impartial protection under the law; no industry should be compelled to bear unequal burden, and no industry should have exceptional advantage; there should be no restraints imposed not necessary to the general interests, and the fullest and freest activity.

The policy which always insisted upon in Tidewater, is that the fishing is in common; that no right of individual ownership should exist. If that is good policy to apply to the water, apply it to the land. Suppose the State were to declare that there should be no individual ownership of land; that the wheat harvest should be in common; that the crops should be gathered in common; that there should be no protection of individual enterprise. What would be the condition of your land, or what would be the condition of your mines under such a policy—more particularly your agricultural lands, which depend upon labor? Why, we would have none. Just the condition our lands would be in under such a policy is practically the condition of the water, except that with the wonderful fertility of the water we do not as quickly feel the effects of this destruction by common fishing, as we would on the land if held in common.

I say the State has gone forward one step. She has adopted a new policy which must result in great benefit, when instead of trusting to the magistrate's report to determine what are natural oyster beds, she has enacted into a law a bill which defines by metes and bounds what really are the natural oyster beds of the State; you need no longer be uncertain as to what constitutes public or private grounds, and that is one of the most important steps taken in the history of this fishing. The law, however, is defective as regards the provision in the body of the bill regarding the discovery of new natural rock. Under your State Commission, and under an engineer officer especially designated for that purpose, you have completed the survey, and after that it was to be supposed that every natural rock was included; but this provision regarding any other natural rock that may be found, still leaves the uncertainty which existed before the passage of the bill. Now I say the first step is to make the delineation of the public ground absolute. When that is out of the way, what has the State done? I can testify of my own knowledge that in the allotment of those lands, they have been very generous; there are included hundred of acres on which there is not a bushel of oysters; but it was wise to do this; it was wise to give to the tonger everything claimed by his representatives, the county commissioners. Now this having been done, I think the State has given due consideration to the interest of all that body of men who are engaged in tonging; they have assigned to them the full territory from which they have been accustomed to draw their sustenance.

You have a broad area of about 600,000 acres, I believe, land on which oysters do not grow naturally, but which is capable of a production far greater than the natural beds, and the State proposes to turn that over to individuals, under a system of license. Now there are obligations on the State, in connection with that, which have got to be regarded. As soon as men begin to take possession of the bottoms under the State law, there are going to be questions raised as to bounda-

ries, and there will be constant controversies in regard to boundaries, and in order to make that whole system satisfactory and effectual, it will be necessary to establish these boundaries by some permanent marks on the land. That, I think, the State should look to.

Now gentlemen, under this system of leasing, men are only going to take up the bottoms that are already suitable for planting; you know it is but a small quantity of the bottoms that are suitable. The bottom should have a certain consistency, not so soft, so that the shell will not sink into the mud, and it must be in a location so that the tides will carry food to the oyster. The man who gets these bottoms, under the present license system of the State, at one dollar per acre, is getting them at a bargain—there is no question about that—but after having appropriated all of that land, there is an immense body of land in the State which is not fit for planting unless the bottom is made suitable; they are great areas of mud. By putting down shells, they may be turned into hard bottoms and made oyster-producing grounds; or sand-bottoms can be covered with clay, so as to form a suitable bottom in which the development can take place; but that takes money, and I don't believe the present law of the State affords any encouragement for that sort of development, which I consider the most important development of the State, because it takes up not only barren ground, but barren ground which requires investment of labor and money, all of which comes in to swell the resources of the State.

Now I do not believe that under the license system all that area of ground would be taken up; the uncertain tenure would preclude it, and I think the true policy of the State is to sell in fee simple, thus promoting the expenditure of capital and trusting to the enhancement of values in consequence of the development to secure an increased revenue by tax.

There is still another question, one unsettled in the State, to which it seems to me well to call the attention of the Convention and those who are interested, and that is the uncertainty of riparian rights. I don't suppose any riparian owner in the State has any proper conception of his rights. I think the settlement of that is one of the most important points towards the establishment of a complete policy in reference to the oyster. What I have said in regard to the bottoms, which require the investment of capital, I would say also of that vast area of land which lies between the limits of low and high water—that vast region of swamp and salt marsh, which produces nothing but here and there a terrapin or a crab. Those salt marshes occupy most important relations to the oysters; of course, the oyster must live, and it lives by feeding off of the microscopic particles in the water, most of which flows from these marshy flats and swamps. To make hard bottoms out of them would entail an expenditure which is inconceivable almost, but they could be made valuable as food producing areas for the oyster, I think. You have vast regions of flat which are fit for nothing, so far as the State is concerned or the riparian owner is concerned; one hundred acres would produce the food necessary to feed an hundred acres of oysters closely crowded together; but if authority was given to enter upon an area of that sort and enclose it by dykes, the food would breed and be floated out by the tides to where the oysters are massed together five and ten thousand bushels to the acre; so I think the question of promoting the acquisition of the shore line and of certain classes of bottom ought to be one of the most important points in bringing out and systematizing a general policy to cover all conditions of the oyster question.

At the conclusion of Colonel McDonald's address, Professor Brooks, of Johns Hopkins University, was introduced by the Chairman, and addressed the Convention as follows:

Mr. President and Gentlemen:

When I received the invitation of the committee to address you to-day, I debated for some time as to the subject upon which I was to speak. The oyster question is a many-sided one, and for nearly twenty years I have been engaged with one phase of it—the attempt to teach our people of Maryland the necessity of supplementing the bounty of Nature by the industry of man. I have got so far in this educational campaign of eighteen years that our people now tell me that Providence has put oysters wherever oysters should be, and that therefore all people should be restrained by law from growing oysters in advance of Providence. This is, therefore, not a very hopeful topic for us to discuss; so I decided to speak on another topic, and to try and tell you of the world of the oyster, in order that you may be able to see the oyster at home and to understand in this way the value and importance of the oyster for the service of man. I shall speak, then, for a few moments on "The World of the Oyster."

The vast number of oysters which the Chesapeake Bay has furnished in the past is ample proof of its fertility; but it is difficult to give any definite statement as to the value of the oyster beds in past years, although there is good reason for believing that since the business of packing oysters for shipment to the interior was established, in 1834, nearly 400,000,000 bushels of oysters have been taken from our waters.

This inconceivably vast amount of delicate, nutritious food has been yielded by our waters without any aid from man. It is a harvest which no one has sown—a free gift from bounteous nature.

The fact that our waters have withstood this enormous draft upon them, and have continued for more than half a century to meet demands which are continually increasing, is most conclusive evidence of their fertility and value, and the citizens of Maryland and Virginia may well point with pride to the boundless resources of our magnificent bay.

Four hundred million bushels of oysters is a vast quantity, and it testifies to the immeasurable value of our waters; but every one who has studied the subject, either on its scientific side or in the light of the experience of other countries, knows that the harvest of oysters from our bay has never, even at its best, made any approach to what it might have been if we had aided the bounty of nature by human industry and intelligence.

Four hundred million bushels is the wild crop which has been supplied by nature without any aid from man, and it compares with what we might have obtained from our waters in about the same way that the nuts and berries which are gathered in our swamps and forests compare with the harvest from our cultivated fields and gardens and orchards. When we have learned to make best use of our opportunities, and when the oyster beds of the bay have been brought to perfection, a harvest of 400,000,000 bushels in half a century will not be regarded as evidence of fertility.

It will take many years of labor to bring the whole Bay under thorough cultivation, and it will require a great army of instructors and skilled farmers, and great sums of money, but the expense and labor will be much less than an equal area of land above water requires. While it may be far away, the time will surely

come when the oyster harvest each year will be fully equal to the total harvest of the last fifty years, and it will be obtained without depleting or exhausting the beds and without exposing the laborers to hardship or unusual risks.

This is not the baseless speculation of an idle fancy. Our opportunities for raising oysters are unparalleled, and in other countries much less valuable grounds have, by cultivation, been made to yield oysters at a rate per acre which, in our own great beds, would carry our annual harvest very far beyond the sum of all the oysters which have ever been used by the packers of Maryland and Virginia. This is capable of proof by evidence from other countries, but it may be proved with equal conclusiveness by the natural history of the oyster. The Chesapeake Bay is one of the rich agricultural regions of the earth, and its fertility can be compared only with that of the valleys of the Nile and the Ganges and other great rivers. It owes its fertility to the same causes which have enabled the Nile valley to support a dense human population for untold ages without any loss of fertility; but it is adapted for producing only one crop—the oyster.

All human food is vegetable in its origin, and whether we eat plants and their products directly or use beef, mutton, fish, fowls, or eggs as food, we are carried back to the vegetable kingdom, for if there were no plants all animals would starve at once. Every one knows that this is absolutely true of all terrestrial animals, and all naturalists know that it is equally true of sea food. The blue fish preys on smaller fishes; many of these on still smaller ones; these in their turn on minute crustacea; these upon still smaller animals, and these pasture on the microscopic plants which swarm at the surface of the ocean. However long the chain may be, all animals—those of the water as well as those of the land—depend upon plants for food, although most of the vegetable life of the ocean is of such a character that its existence is known to naturalists alone.

If there were no plants all animals would starve, and no animal is a direct food-producer, for it can furnish nothing except what it has got from plants. Now for the purposes of animal life, a small plant is as effective as a large one, for however small it may be it still has the power, which is possessed by no animal, to gather up the inorganic matter of the earth and to turn it into vegetable matter fit for the nourishment of animals. Microscopic plants can do this work as well as great forests of lofty trees, if they are numerous enough, for size counts for nothing. Every one knows that the sea is rich in animal life; that it contains great banks covered with cod and haddock; miles and miles of water crowded full of mackerel and herring; and great monsters of the deep, such as the whales and the sharks. To a superficial observer the vegetation of the sea seems very scanty, and except for a fringe of sea and along the shore the great ocean seems, so far as plant life is concerned, to be a barren desert. If it be true that all animals depend on plants for their food, the vegetation of the ocean seems totally inadequate for the support of its animal life.

The microscope shows that its surface swarms with minute plants, most of them strange in form and totally unlike any which are familiar. They have nothing in common with the well-known trees and herbs and grasses of the land except the power to change inorganic matter into food fit for animals.

Most of these plants are so small that they are absolutely invisible to the unaided eye, and even when they are gathered together in a mass, this looks like slimy discolored water and presents no traces of structure. They seem too insignificant to play any important part in the economy of nature; but the great monsters of the deep, beside which the elephant and the ox and the elk are small animals, owe their existence to these microscopic plants.

Their vegetative power is wonderful past all expression. Among land plants, corn which yields seed about a hundred fold in a single season, is the emblem of fertility; but a single marine plant, very much smaller than a grain of mustard seed is able to increase a hundred fold in a few hours, and if its descendants were all to live there would soon be no room for them in the ocean. This stupendous fact is almost incredible, but it must be clearly grasped before we can understand the economy of the ocean. As countless minute animals are constantly pasturing upon them the multiplication of these plants is kept in check; but in calm weather it is no rare thing to find great tracts of water many miles in extent packed so full that every drop contains them and the surface forms a slimy film which breaks the waves and smooths the water like oil. The so-called "black water" of the Arctic and Antarctic oceans—the home and feeding ground of the whale—has been shown by the microscope to consist of a mass of these plants crowded together until the whole ocean is discolored by them. Through these seas of "black water" roam the right whales, the largest animals on earth, gulping at each mouthful hundreds of gallons of the little mollusca and crustacea which feed upon the plants.

In tropical seas ships sometimes sail for days through great floating islands of this microscopic vegetation, and the Red Sea owes its name to the tinge given its water by great swarms of reddish microscopic plants. The plant-life of the ocean is ample for the support of all its animal-life, just as the vegetation of the land gives a maintenance to all terrestrial animals.

The source of the food of animals is the vegetable world. What is the source of the food of plants?

Most of it consists of mineral matter derived from the crust of the earth; but before this can be used by plants it must be dissolved in water. The solid rocks cannot maintain life until they have been ground down and dissolved; and, in the form of frost and rain, water is continually breaking down and wearing away the hard rocks and carrying the fragments down to lower levels to form the fertile land of the hillsides and meadows and valleys. As the roots of plants penetrate this loose material they gather up the mineral food which is dissolved by rain. They convert this into their own substance, and as their leaves fall and their trunks decay they help to build up the leaf-mould and meadow-loam which are so well adapted for supporting vegetable life. Each year the heavy rains wash this light rich soil into the rivers, and as these cut into their banks at time of flood, they carry away the arable land, which has been built up so slowly, and sweep it to lower levels, until at last it finds its way into the ocean and is lost so far as its use to man is concerned. In a long flat river-valley it may be arrested for a time, so that man may make use of it, but its final destination is the ocean; and as this has already been enriched by the washings through untold ages, all that is most valuable for the support of life is now dissolved in its waters or deposited upon its bottom, where man can make no use of it.

We love to dream of the shipwrecked treasures which lie among the bones of the sailors on the sea bottom; of the galleons sunk and lost with their precious cargoes of bullion and jewels from the treasure chambers of the Incas and the palaces of Asia; but all these, and all the

"Gems of purest ray serene
The dark unfathomed caves of ocean bear"—

all the thousands of tons of gold and silver which, as chemists tell us, the sea holds dissolved in its waters—all these are as nothing when compared with these precious washings from the land of all that fits it for supporting life.

Man will some time assert his dominion over the fishes of the sea and will learn to send out flocks and herds of domesticated marine animals to pasture and fatten upon the vegetable life of the ocean and to make its vast wealth of food available; but at present we are able to do little more than to snatch a slight tribute from the stream of nutritive material as it comes to temporary rest in the valleys of our great rivers on its way to the ocean.

Every one knows the part which these great river-valleys have played in human civilization. In the valley of the Nile, of the Tigris and of the Ganges we find the most dense population; here were the great cities of past ages; here agriculture and architecture were developed, and here art, literature and science had their birth.

We owe to the great river-valleys, where the natural fertility of the soil has lightened the struggle for bread and has afforded leisure for higher matters, all that is most distinctive of civilized man.

The Chesapeake Bay is a great river-valley—not so large as that of the Nile or the Ganges, but of enough consequence to play an important part in human affairs, and to support in comfort and prosperity a population as great as that of many famous States. It receives the drainage of a vast area of fertile land stretching over the marshes and hillsides of nearly one third of New York and nearly all of the great agricultural States of Pennsylvania, Maryland and Virginia. The most valuable part of the soil of this great tract of rich farming land, more than 40,000,000 acres in area, finds its way, sooner or later, into our bay, in whose quiet waters it makes a long halt on its journey to the ocean, and it is deposited all over the bay in the form of fine light black sediment known as oyster mud. This is just as valuable to man and just as fit to nourish plants as the mud which settles every year on the rice fields of Egypt. It is a natural fertilizer of inestimable importance, and it is so rich in organic matter that it quickly putrefies when exposed to the sun. In the shallow water of the bay, under the influence of the warm sunlight, it produces a luxuriant vegetation; but the plants which grow upon it are almost entirely microscopic and invisible, and their very existence is unknown to all except a few naturalists. They are not confined, like plants on land, to the surface of the soil, and while they may be found in great abundance on the surface of the black mud, they are not restricted to its surface, for their food is diffused in solution through the whole body of water, and the mud itself is so light that it is in a state of semi-suspension, and the little plants have ample room among its particles. On land the plant-producing area is a surface, but the total plant-producing acreage of the bay is many times greater than the superficial area of its bottom.

As the little plants are bathed on all sides by food they do not have to go through the slow process of sucking it up through roots and stems and they grow and multiply at a rate which has no parallel in ordinary familiar plants, and they would quickly choke up the whole bay if they were not held in check. Their excessive increase is prevented by countless minute animals, which feast upon them and turn the plant substance into animal matter, to become in their turn food for larger animals. There is no difficulty in finding them in any part of the bay by straining the water through fine bolting-cloth. In this way we obtain a fine sediment which is shown by the microscope to consist almost entirely of them.

The variety of these microscopic plants and animals is very great and a series of large volumes would be needed to describe the microscopic fauna and flora of

the Chesapeake Bay, which is an exceptionally favorable spot for their growth. The exploration of this invisible world with a microscope is an unfailing delight to the naturalist; but at first sight it seems to have no bearing upon the practical matters of human life.

The ability to turn inorganic matter into food for animals and for man does not depend on size, and in this respect the microscopic flora of the bay is as efficient as corn or potatoes and infinitely more active and energetic.

In the oyster we have an animal most nutritious and palatable, especially adapted for living in the soft mud of bays and estuaries and for gathering up the microscopic inhabitants and turning them into delicate food for man.

The fitness of the oyster for this peculiar work—for bringing back to us the mineral wealth which the rivers steal from our hillsides and meadows—is so complete and admirable, so marvellous and instructive, that it cannot be comprehended in its complete significance without a thorough knowledge of the anatomy and embryology of the oyster. It is an animal which has been especially evolved for life in the black mud of bays and sounds, and the more we study its structure the more profoundly are we impressed with its fitness for making our inheritance in the black mud available for the service of men.

A thorough knowledge of the structure of the oyster will teach us much more than this. It will show the capacity of the oyster for cultivation, and it will also show us why its cultivation is necessary, and why our resources can never be fully developed by oysters in a state of nature. We have never enjoyed the hundredth part of our advantage, nor can we ever do so if we continue to rely upon nature alone. This fact, which has been proved again and again by statistics, is perfectly clear to one who knows what an oyster is and what are its relations to the world around it. As its world is chiefly microscopic, no one can penetrate into the secrets of its structure and history without training in the technical methods of the laboratory; and business contact with the oyster cannot possibly, with any amount of experience, give any real insight into its habits and mode of life.

I speak on this subject with the diffidence of one who has been frequently snubbed and repressed, for, while I am myself sure that the man who tonged oysters long before I was born may be mistaken in some particulars, it is easier to acquiesce when he asserts his right to know all about it than to argue with him. So I have learned to be submissive in the presence of the elderly gentleman who studied the embryology of the oyster when, years ago as a boy, he visited his grandfather on the Eastern Shore, and to listen with deference to the shucker as he demonstrates to me at his raw box, with his hammer and knife for dissecting instruments, the error of my notions of the structure of the animal.

Still, I may be permitted to state that I am not totally without experience. I have dredged oysters in every part of the Bay from Swan Point and the Bodkin to Craney Island and Lynnhaven. I have tonged oysters in the waters of four different States, and in the warm waters of the South, where frost is unknown and oysters flourish above low water mark. I have enjoyed the opportunity to explore the natural beds, and have spent months under the broiling tropical sun, wading over the sharp shells which cut the feet like knives, studying the oyster at home.

I have planted oysters; I have reared them by collecting the floating spat, and I have hatched from artificially fertilized eggs more oysters than the number of people in the last census, and I boldly claim enough practical experience to acquit me from the charge that my views are theoretical.

On conclusion of Professor Brooks' address, on motion, the Convention adjourned until 8 o'clock P. M.

EVENING SESSION.

The Chair called the Convention to order promptly at 8 o'clock, after which, on motion, a recess of ten minutes was taken pending the arrival of some of the delegates who had not yet put in an appearance.

The Chair then stated that ex-Governor McKinney, who had been announced to speak, was not present, but that the meeting was now open for remarks or resolutions from any gentleman present, and invited any one, whether delegates or not, who had any information on the oyster question, to address the meeting.

Captain Orris A. Browne, of Northampton, then made the following address:

Mr. President:

The oyster question is of vast importance to Salt-water Virginia; of great interest to the rest of the State as well as to the whole country, and will in the near future attract the attention of Europe, and in fact all parts of the world now reached by steam and electricity; for all these areas of the world will soon be within reach of our oyster market, and I propose to show this to this meeting.

How shall we do it, is the inquiry on every hand, and the answer is, by a broad and liberal treatment of the subject.

To get a correct view of the oyster question at this time and find out where we stand, we must review the past.

About thirty-eight years ago the oyster fundum was brought to the attention of the people of the State as a valuable property from which large amounts of money could be derived for the treasury, and at once the public became interested; the war, however, prevented the immediate action of the State. In 1886 the first oyster law for revenue was enacted; others followed from time to time, and each was supposed at the time to bring in more revenue; the execution of the law was imperfect under the military government. Soon after Governor Walker was inaugurated the oyster navy was reorganized. At this time my connection with the subject commenced, as I was appointed to the command of one of the steamers. In addition to the duties required of me by law, I at once commenced to study the oyster question *as a food product* and sought in vain to find the results of study by some one in the country. There was nothing in print on this side of the Atlantic, but I found that the subject had been scientifically dealt with, after the destruction of the natural oyster beds in France and in England. The work done in France was by Costé and that of England was found in the British Parliamentary Reports; these and all other works on the subject I secured, and gave them much thought, and applied all information contained in them to the case of Virginia. I was convinced that we were following the footsteps of the countries

mentioned and were destroying our oyster beds. As a warning I made a report to the Auditor in 1870, which was printed, recommending that steps be taken to introduce oyster culture. The report was not noticed, as no danger of decrease in the oyster beds was manifested to the public or the oystermen. In 1871 I made another report on the subject, which I have before me, in which I compiled statistics showing the decline in *Europe*, and *recited laws* that were enacted to revive the oyster beds, and suggested remedies. This report met with no better fate than the one that preceded it. I commenced to learn that the oyster was a politician as well as an edible fish, and was opposed to any innovations; in short, that the idea of increasing the supply of this food, so that the greatest number might be fed, was not thought of, and the time of those who made the laws was occupied in settling the contentions among those who were anxious to get all they could day by day, regardless of the future. Many efforts were made to get more revenue at each session of the legislature, and to more certainly accomplish this end a commission was appointed to draw a law that would yield the required money. It was composed of gentlemen from salt-water Virginia, learned in the law, but the result of their labors was less money than ever; and, in 1874, the efforts to get money were abandoned and the navy sold. It left in the State treasury \$130,000 above expenses. For twelve years succeeding the oysters were put aside from the cares of the State. In 1882 the navy was re-established and has been a burden to the State every year since, except the last year, when a small sum was raised above expenses by an unfair tax on the planter, who started in the business to pay 25 cents per acre, which was increased to \$1 without notice, or the means to get out of the business, which is regarded by oystermen as a great hardship. The last effort to raise money, like the others that preceded it, has practically been a failure, and the idea of getting a large sum of money from this industry will continue to be so. I want it well understood, however, that the oyster interest has still a balance to its credit in the State treasury, as the Auditor's books will show.

There is evidently in the minds of many an idea that a new way to get money is now offered; that the day is about to break, and that the wealth will soon roll in. This will prove, like the other predictions, a failure. The air castles built on this subject will sink, because they are not on good oyster bottoms. During the twenty-eight years in which efforts to obtain revenue have been running, there have been before the public many enthusiastic officials in turn who knew how to make the oyster yield its wealth, but as yet none have succeeded, and I venture the assertion that enough will never be realized in any one year to furnish each inhabitant of the State a postage stamp to mail a letter.

The State may continue on this line, but no good will come of it.

The standpoint from which their interest ought to be regarded is as a *food supply*; and to increase it to the greatest point of production possible; to do this, it must be treated as other industries. The survey of the natural beds has now been completed and accepted with favor. When I first advocated this plan it was very unpopular, and it went so far as to cause meetings of the oystermen to denounce it and its author. This goes to show that any step in the proper direction will be approved when the people fully understand it.

The next step is to grant the grounds outside of the natural beds for oyster culture, and leave each person untrammelled to do as he thinks best with it; give the best possible title. It would seem that if the State can rent these lands she could sell them, and this ought to be, and at no greater price than she has sold to others her territory containing valuable gifts of nature in coal, iron, and other metals.

This liberal treatment will produce oysters in large quantities and put them in reach of laboring men as an article of food. The oystermen of Virginia will produce oysters at the same price per pound as Western pork, and get rich at it. The propagation of oysters is an easy matter, and they grow fast.

In 1891 I hatched 10,000,000 oysters and attached them to shells previously placed on bare bottom at a cost of \$100 per acre.

A new process has been invented and patented by which oysters at a temperature below 50 degrees can be kept for sixty days in perfect condition. This is by a rivet placed through the bill, so that the oyster cannot lose its liquor.

Virginia has the best end of Chesapeake Bay to furnish oysters. The supply will all be taken, and an immense business can be done; but the oysters must be cheaply grown. The idea of taxing the oyster industry beyond cost of executing the law is all wrong, and that should be done economically but efficiently.

The people should be encouraged to go ahead, by dispelling the idea that they are unjustly dealt with; for when people believe this, as our people do, they resent it, and it is depressing to the growth of the oyster business. They believe when they pay 50 per cent. more on the oysters and shells than is collected from all the minerals of the State, and in addition thereto pay heavy license and fee, they are paying more than their share, and when this is done with the idea of relieving others of their taxes it is not pleasant to them.

Again, many counties in salt-water Virginia believe that they have been sufficiently burdened in building railroads, canals, and other public works in the State for which they have never had any adequate return, which still rests on them in the shape of the public debt.

A broad and liberal policy to the oystermen must be inaugurated, and they will build up salt-water Virginia, and on the wealth created the State will get ten times the tax that she gets now. This will be a constitutional tax, bearing equally on all species of property. Until this is done the development will not come. Even-handed justice must be meted to all, and the oyster industry must not be an exception to the rule.

JUDGE EWELL: Mr. Brown thinks there should be no tax upon oysters—that the State should derive no revenue from them. As a member from Tidewater Virginia, I think differently, but at the same time the revenue that men from the western and other sections of the State think could be raised from that source is erroneous. The surveys have been made, and while I do not censure any one, and do not think it could have been done better, yet I can safely assert that those surveys do not approximate the truth in the estimate of the planting ground or the natural rock; because within those surveys there are large areas of mud, grounds that are perfectly worthless for propagating oysters, and grounds upon which oysters do not grow. The amount of revenue which they might suppose cannot be raised. My views are that we should go on with the present law and see what amount of revenue can be derived from it after a fair trial; there may be some little points in it which are defective, and if so we can ascertain them and adopt a remedy. Last year the State received fifteen or sixteen thousand dollars in excess of its expenditures on account of this industry under the present law, and we are satisfied in our section that the amount will be doubled when we have had time to carry the law into effect. The charts have not been given us, and therefore the inspectors cannot survey the planting grounds. I cannot answer for all over the same, but in Northampton county not one-fourth of the planting grounds have yet been surveyed.

ALEXANDER E. WARNER: I am here to-night as a delegate from the Board of Trade of the city of Portsmouth. I was born and reared in the neighborhood of the oyster; my earliest recollection was the oyster; in fact, I believe my teeth were cut on an oyster-shell. I have listened with great pleasure and profit to the able papers read before this Convention this afternoon, and I agree with Lieutenant Winslow that we should make haste slowly. I also agree with the gentleman from Accomac, Mr. Browne, that the oyster should not be made a subject of extraordinary taxation; it should be produced as a cheap and nutritious food product for the people; and looking to the carrying out of Lieutenant Winslow's views, I have prepared a resolution which I would like to offer on the line of entering upon a campaign of education. With your permission I will present the resolution:

Resolved, That a committee be appointed from this body whose duty it shall be to compile in a clear, practical and comprehensive manner a pamphlet containing an exposition of the great necessity for action looking to the artificial propagation of oysters in the waters of this State, and the rebuilding of the depleted beds and rocks.

That said publication shall also contain simple and practical directions of the most approved and scientific processes for such artificial propagation, and shall also contain comparative statistics as to sums realized from the sale of oysters taken from the public grounds and of those taken from grounds practically and scientifically worked.

That said committee prepare a bill providing for the compilation and publication of said pamphlet by the State of Virginia, and urge its enactment by the General Assembly.

That it is the conviction of the convention that we cannot continue to reap unless we sometimes sow; and that, in our opinion, it is the imperative duty of the State to at once and energetically take up the matter of oyster culture.

This resolution met with some opposition from Mr. Lee, who said he did not think there could be a committee appointed by this Convention, or any other, who could go so deeply into the oyster question as that resolution would call for in the short space of time intervening until the day on which the Legislature would probably act on the oyster question and form intelligently any measures which would meet the demands of this vital question.

Captain Brown offered as a substitute that the proceedings of this meeting when published be presented to the General Assembly, which was carried.

JUDGE GARNETT: If you are going to suggest anything to the members of the Legislature, I suggest that they adopt the bright and comprehensive views expressed by Lieutenant Winslow in his discussion of the oyster interest this evening as their guidance for any legislation on the subject. I endorse every word that has been said by Lieutenant Winslow on this subject. I would offer as a resolution that the splendid address of Lieutenant Winslow be specially commended to the Legislature. I will endorse it, and I believe all my people will. We will cross every T and dot every I of it.

JUDGE EWELL: I have very little to say, because I did not hear it—or but very little of it—and I certainly could not endorse anything that I did not hear. But there was one point, as I understand, which I especially could not endorse, and

that is the statement that the natural rocks could not be replenished. We are doing that very rapidly by making the season shorter and enforcing the law. That part, at least, I could not endorse, and I could not endorse anything I did not hear.

JUDGE GARNETT: I am very glad to hear that the natural beds are being replenished in your section of the country, but it is not the case in mine.

J. D. ARMSTRONG: I have sat here and listened to a great deal of talk on the oyster question. I believe that Lieutenant Winslow is the only one who took a really practical view of it. I am a practical oysterman, both packer and planter, and I have come up here to learn something about the oyster business. Take the market of Norfolk to-day, and it is demoralized. What causes that I am at a loss to say. Four years ago, when I was induced to go into the oyster business, I had taken a theoretical view of it and figured it up. To-day I expected to have owned a yacht, but I have hardly got a row-boat. So that is the way the oyster business finds me to-night. I put \$25,000 into the business, and I don't know where I will wind up. I have talked to my people down there, and they are satisfied in part with the law as it now exists. What we want, gentlemen, is protection. When a man comes on our planting ground and we take him before a magistrate, the magistrate renders his decision, the man takes an appeal and carries it before a jury. What does that jury say? Twenty negroes will come up there and say that man has a perfect right to go on that ground—"My father worked on there as an oyster rock." There is a doubt in the mind of the jury, and the prisoner is discharged. The result is that the man has not only stolen your oysters, but you have had to pay the cost of the court in trying to protect your interests. We have got some practical oystermen here to-night, and I want to hear from them on this question. We would like to get some guarantee of our ground. We pay \$1 per acre and are willing to pay it. All we want to know is, that when we pay that dollar per acre, that what we have put there we will have a chance to take up again. My instructions, gentlemen, to my watchman are not to lay hands on a man, but shoot him when within my stakes. After wounding him I would rather fight him with air than fight him in a court for stealing my oysters. So that is the way the affair finds us in Norfolk to-day, and the packers of Norfolk cannot compete with those of Maryland in prices. To-day there is a difference of ten cents a gallon between Maryland oysters and Virginia oysters, and the main cause of that is that your planters cannot get protection whereby they can go ahead and bring all their stuff into market. Lots of our people are afraid to plant for fear that they will never get back what they put down. In the first bed I planted I set out 6,000 bushels; I got up 2,000 bushels; I thought there was a mistake. The next year I planted 15,000. I don't know how many I am going to get up. And that is the way it has been all the while. What we want is some law which will protect us in our rights as planters. We are willing to pay you for that, but don't put any more taxes on us, as we are laboring hard now as planters.

JUDGE HENLEY: I hate to take issue with my distinguished friend from Mathews, but it seems to me we would err in singling out the address of one person when we have been addressed by others who, I am sure, have greatly edified us. I represent in part the oyster planters of James City; our people are very well satisfied with the present oyster law; they think the Legislature has taken the right step, but they want security in tenure; they want to know that these lands

they have leased they can hold; they have ascertained that fact and are satisfied. They are willing to pay the tax or license, whichever you please to call it—a tax it is, and a big one—but they are willing to pay it if they can be protected, and they want to see the present law enforced. I could not help thinking, when I heard the discussions this evening, and statements were made as to how the oyster industry was increasing in New York and Connecticut, that all those oysters did not come out of their oyster beds. I know that as many oysters are carried away from Virginia as are left here. We think these laws should be amended in some respects, and we think that there are two ways of looking at some of the ideas advanced by some of the speakers this evening. There has been mention here this evening of the larceny committed on the oysters. We know it is the most prolific object of larceny, and I think it should be made a felony to steal oysters. I think with this amendment and one or two others, which I will not tire the Convention with suggesting, the present law is a very good law as it is, and we would like to see it preserved as it is.

J. F. BONEWELL: As Inspector of the Twenty-eighth District of the county of Warwick, I would like to say that in my district it is impossible to enforce the law. Enforcing the culling feature of the law means with us simply to abandon and give up the industry, and that would be destruction to all the rocks, as they would become so infested with muscles as to ruin them. As Judge Henley says, the present law is a very good law, but it needs some amendments. Under the present system a planter owning 100 acres or more on Hampton Bar has a right to dredge his oysters. Change the locality only a few miles and there he may own 250 acres, but he has no right to dredge his oysters. I say the planters of James river should have the same right as the planter of Tidewater to cultivate his oysters in the way most profitable to him. In those two cases I say I think it is necessary for the law to be amended.

The Chair then announced that the question was on the motion of Judge Garnett to recommend the address of Lieutenant Winslow to the General Assembly.

Mr. Lee moved that the resolution be laid on the table.

Lieut. Winslow stated that he appreciated the compliment paid him by Judge Garnett in suggesting that his address be brought specially before the General Assembly, but that it would be very disagreeable to him to have his address distinguished in any way as apart from the addresses of other gentlemen who have offered papers and read them before the Convention, and he hoped that no such distinction would be made.

The question was then put by the Chair, and resulted in a vote to lay the resolution on the table.

CHAIR. There is a desire on the part of some gentlemen here to hear further from Lieutenant Winslow on the oyster question. By laying the resolution on the table, it was by no means the intention of this conference to lay Lieutenant Winslow on the table, and I believe I voice the unanimous sentiment of the conference when I say that we shall be very glad to have him get on his feet and give us further information, the wealth of which we know he possesses.

LIEUT. WINSLOW: I think I have already occupied a vast amount of your time, and I hardly know how to elaborate anything further on the line upon which I

addressed you to-day. The only principles I desired to inculcate or to bring to your attention here this afternoon were, first, that the natural beds in no State can support the industry. History shows that. Secondly, that a barren territory which can be improved ought to be improved; and, thirdly, that every possible inducement should be given to people to improve it. And, as a means to this end, you cannot successfully achieve the result if you run much in advance of the sentiment of your own people. I would say, for instance, as regards North Carolina, it was my effort there when I made the surveys of the beds to give the people of the seaboard counties the benefit of all the experience I had and all the knowledge I had to this extent: that in every little place I went I got the oystermen and the people who were interested in the matter together and gave a sort of informal lecture, much along the line of what I have been talking about this afternoon, explaining how the oysters live and the condition of the industry and the advantages of a new course of procedure. There was a new movement, to come from the bottom up and not from the top down. We went then to the Legislature in 1887, and they were good enough to adopt my recommendation. We had in the State then certain machinery for the entry and occupancy of public grounds, but before we allowed any occupation of it we required that the natural beds of the State should be surveyed. That was the work I was then engaged upon. When they were surveyed and mapped, three commissioners were appointed to lay off what we called the public grounds of the State, and these public grounds were to include the natural beds and such territory adjacent thereto as would be sufficient for the natural expansion of those beds. The Commissioners having laid off these public grounds, they were required to publish their decisions in five places in the county, and in two newspapers having a circulation in the State, for a period of twenty or thirty days. Any person who objected to the decision of the Commissioners as to these areas or limits of the public grounds, was at liberty to file a protest with the clerk of the Superior Court, to be transmitted to the Board of Commissioners. It was my object not to have the responsibility of laying off these limits myself, and to have the aid, both for myself and the Commissioners, of every person having any knowledge of the natural oyster beds in the State, or the particular county. These protests being filed under the law, it was necessary for the Commissioners on twenty days notice to have a hearing of the protest; the protest might be made that the Commissioners included too much in the public grounds, or that they had omitted a natural bed; some protests were made—and they were the principal ones—that too much ground had been taken in; the next one was that some natural beds had been omitted. These protests having been heard, the Commissioners were required, after a certain period—twenty days, I think—to come to a decision, which would be final unless reversed when appealed to the Superior Court of the county. So you see the process we adopted down there was first to locate the natural beds; second, to have a Board of Commissioners appointed by the State Board of Agriculture to lay off the public grounds, which should include these natural beds, and to require any person who thought the Commissioners were in error to come up and say so, or forever hold his peace. Those requirements of the law were carried out, and upon the final decision and announcement, publication was made in five different places in the county, and in the public press, stating the area, location, and limits of the several public grounds; that this was the official decision of the Commissioners, and that the remaining area—area not included in the limits of the public grounds—was subject to entry as provided by the law. We then went on to adopt the machinery which had already existed for the entrance of lands, in the entry of these grounds under

water. These grounds then becoming subject to entry, any person desiring entry went before the Entry Taker in the county; filed his application; paid his fee, and received his warrant from the Entry Taker to the Engineer appointed by the Shell Fish Commissioners; that engineer makes a survey of the grounds and locates it on the maps; he locates it by the approved method of the Hydrographic Surveys; it is necessary that every corner should have reference to some established mark on the land. The Engineer having made this survey, forwards his certificate to the Secretary of State, giving a description of the ground, and certifying that it does not include any of the public grounds of the State. The law provides that if it does include any of the public grounds, no grant shall be issued, and no grant shall be issued except in accordance with the certificate of this Engineer. Upon the Engineer filing this certificate with the Secretary of State, and a copy of it being forwarded to the applicant, it then rests with the applicant to send 25 cents per acre for the ground and the fees for issuing the grant. The Secretary of State then issues the grant under the Great Seal of the State, authenticated by the Governor, and the applicant is required to record it within three months in the county in which the land lies. That grant gives him not a fee simple right, but a perpetual franchise to the growing and cultivation of shell fish on that particular area, with this proviso: that he shall make a *bona fide* effort within five years after the issuance of the grant, to improve that area; otherwise, it becomes null and void. Well, as I said this afternoon, about 1889 or 1890, when the law finally got into operation, a very large area was entered by different parties; some entered ground out in the middle of the sound.

MAJOR HOTCHKISS: What is the depth of the water out in the Sound?

LIEUT. WINSLOW: It varies from two to four fathoms—say from twelve to twenty-four or thirty feet.

MR. LEE: What Sound is that, sir?

LIEUT. WINSLOW: Pamlico Sound.

BY MEMBER: What is the nature of the bottom?

LIEUT. WINSLOW: It varies a good deal; there is some sand and some mud.

CAPT. BROWNE: Can you tell me the density of the water in Pamlico Sound, as compared with that of Chesapeake Bay?

LIEUT. WINSLOW: I can hardly remember it, but if you will write to the Secretary of Agriculture for my report, you can get it; or you can get it from the Coast Survey; one was made in 1887, and the other in 1889.

CAPT. BROWNE: There is one point which I think has not been brought out, and I would like to hear something on it. It has been represented that Virginia has a large area of oyster grounds that can all be used for oyster purposes. Now, the density of the water has a great deal to do with whether you can get the young oysters down on the bottom or not. In very salt water oysters can only strike where the water is very shoal, or where the specific gravity is very great.

LIEUT. WINSLOW: I am not so sure of that; I think the data is rather insufficient. For instance, I found oysters in Chesapeake Bay in nine or ten fathoms of water, and I found them in Long Island Sound in ten fathoms of water.

CAPT. BROWNE: You are acquainted with the coast down along North Carolina. Now, in those waters, there is no natural rock below low water; the density of the water has always been given as the reason for their not going down deeper. In Chesapeake Bay, the water is lighter, and they can get down lower—but you are not satisfied on that point?

LIEUT. WINSLOW: Not as to the question of density. The theory that the density is so great that the oyster cannot get down on the bottom, I think needs a little more investigation. I don't say it is not so, but I am not at all sure that it is so.

I would like to say something about the success we are meeting with in North Carolina, but it is rather early to talk about that just now, as we have just started—

MAJOR HOTCHKISS: When did you start?

LIEUT. WINSLOW: The movement started about 1890, but it will take four or five years, after planting, to bring the oysters to maturity. I thought it would take about three, but I found I had under-estimated the time, and that it would hardly do for anybody going into business to accept the experience of the Connecticut people. Take the maximum time, and that is about five years. This winter, our fruit is about ripe for cutting, and if Providence had been kind enough to freeze up James River and Chesapeake Bay, I think we North Carolinians would have made some money; but it costs us nothing to keep our oysters on the ground there, so we are just resting on our oars.

Something was said about the natural beds; I did not mean to be understood this afternoon as saying that natural beds could not be improved, because that is quite a possibility; but they cannot be improved without restricting the fishery, and if you restrict the fishery it reduces the supply, and if you reduce the supply, you are worse off than you are now. I do not mean to say you could not improve the natural beds, because you can improve them, as well as you can improve any others; the trouble with the natural beds is that they are suffering from the taking off of too many brood oysters; it is like calling off the bulls, and leaving the cows behind. I agree with my friend from Portsmouth, when he says it is easier for the oyster planter to clear a man of a capital offence, than it is to convict him of a petty larceny; that is about the truth of it—I have been there.

JUDGE HENLEY: Assuming that there are 600,000 acres of oyster grounds owned by the State of Virginia, are you prepared to express an opinion as to what proportion of those 600,000 acres are susceptible of cultivation to-day?

LIEUT. WINSLOW: No, sir; my examination has been a most cursory one, and that was made fifteen years ago. How large a proportion of that 600,000 acres is really susceptible of cultivation, requires a very careful investigation; you may find an acre here which will grow oysters, and on the next acre to it you may find that oysters will not grow at all. It requires a very, very careful scrutiny.

JUDGE HENLEY: I move that we now adjourn.

CHAIR: Before putting the motion I wish to say to the Convention that I feel very grateful to you for the honor you have done me in permitting me to preside over the deliberations of this assembly, and for the opportunity given me to enjoy the pleasure of being with you during your entire session. I trust you gentlemen will carry away with you pleasant recollections of Richmond, and that this may be the beginning of what will be something practical and useful to all of us in the development of the oyster industry. I know that our friends from Tidewater section will be more rejoiced than anybody else in the Commonwealth to have the help of anybody who will give them aid in that direction, and it was with the hope that this conference might result in some wise suggestions that prompted the Chamber of Commerce to call it. We are glad you came, gentlemen, and we trust we may have the pleasure of meeting at some time in the future, when we will rejoice at the good results of our meeting to-day.

Mr. Lee offered a resolution of thanks to the Chairman for the able manner in which he had presided over the business of the Convention, which was unanimously adopted.

The Convention then adjourned *sine die*.

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