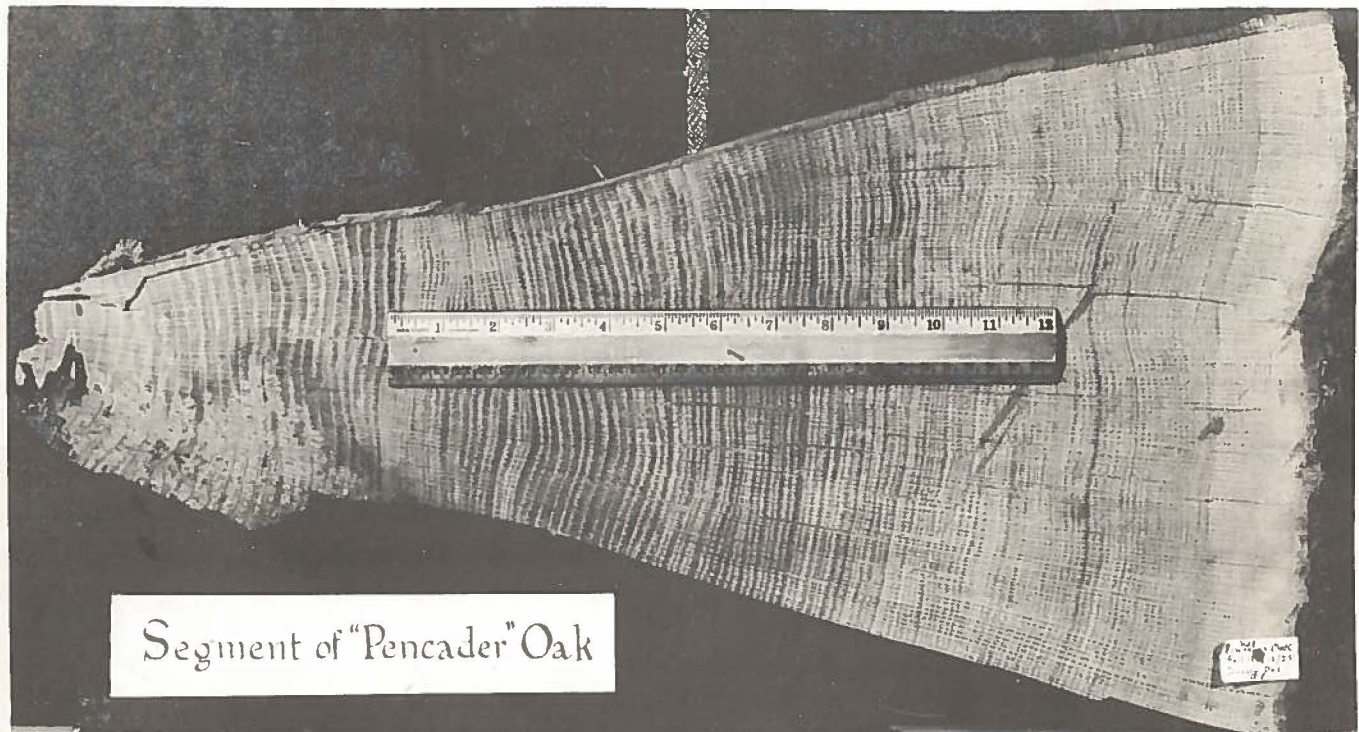


THE ARCHEOLOG

SUSSEX SOCIETY of ARCHEOLOGY and HISTORY
DELAWARE



Segment of "Pencader" Oak

Figure 1

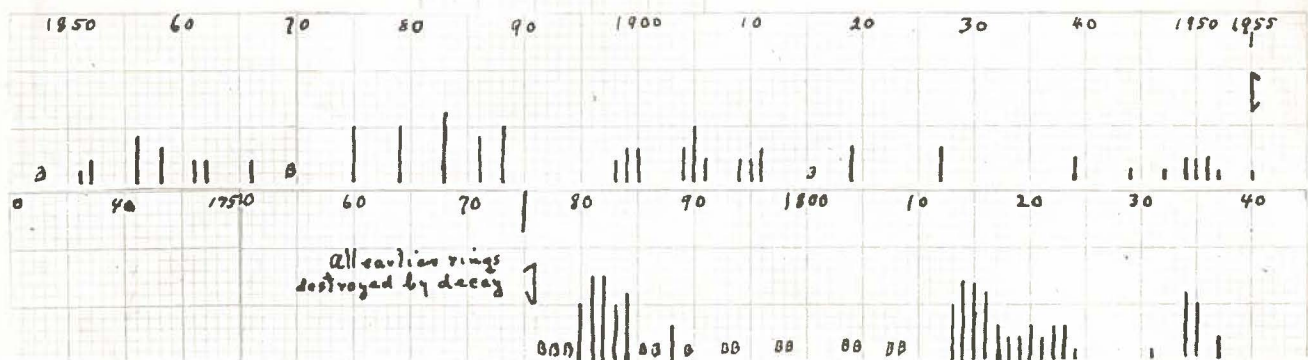


Figure 2

Pencader Oak
Fell Aug. 13, 1955 ("Connie")
Skeleton Chart

The Pencader Oak, Glasgow, Delaware
An Analysis of the Annual Growth Rings

by David Marine

The Pencader or Welsh Tract white oak fell August 13, 1955, during hurricane "Connie". It stood in the yard of the Pencader Presbyterian Church at Glasgow, Delaware. Through the courtesy of the Delaware Highway Department, under whose direction the fallen tree was removed, the Sussex Archeological Association (now the Sussex Society of Archeology and History) was given a cross section of the trunk approximately 8" thick and weighing 645 pounds. This section was added to our collection of material for the study of tree ring dating in Delaware.

Up to the present time the only extended studies of tree rings in the Atlantic Coastal Plain we are aware of are those of Lyon (1) on hemlocks in New Hampshire. Institutions and individuals have generally shied away because, in this region, it is a highly complicated and unpromising field of research. We have no single, major, annual, variable climatic factor controlling tree ring growth in the coastal plain comparable to the major variations in precipitation in the arid Southwest or the yearly temperature variations in the subarctic regions.

There are, however, considerable variations in tree ring widths in the Coastal Plain, and these variations will ultimately be subjected to intensive study even though the spectacularly valuable contributions of tree ring dating to Archeology and to the climatic variations over thousands of years in the States of California, Nevada, Arizona, New Mexico, Utah and Colorado cannot be duplicated in the Coastal Plain.

DATA The circumference of the section with bark attached measures 14'11" and the average diameter, excluding bark, is 53 inches. The central portion shows an irregular area of decay - the central most area of which is a small cavity. How many annual rings were totally destroyed by decay can only be estimated, but the diameter of a circle made by projecting the arc of the last countable ring is 5 6/16 inches, and, assuming the lost (earliest) rings to average the same width (about 1/4 inch) as the innermost preserved rings, there could not be more than eleven rings completely lost through central decay.

The total number of preserved and countable rings is 179 along a radial length of approximately 23 3/4 inches (see Figure 1) and adding the 11 estimated lost rings makes a total of 190. We believe this total is accurate to plus or minus two rings - thus making the age of the tree between 188 and 192 years. This estimate of the total number of annual rings would place the beginning of the tree somewhere between the calendar years 1763 and 1767.

Following the classical method of tree ring analysis developed by Prof. A. E. Douglass, we made a skeleton plot (see Fig. 2). This plot shows two major groups of small annual growth rings - the first, extending from the years 1780 through 1784, and the second, extending from 1813 through 1816. A third possible group of small annual rings occurred in the years 1834 and 1835.

Regarding the 1780-1784 group of small annual rings, it is of interest to note the abrupt change from the wide rings of 1779 and earlier to the five uniformly narrow rings of 1780-84 and then again the abrupt change to wide rings in 1785, which continued until 1813. There are some authentic data on weather conditions (precipitation and temperature) in the year 1783 - a particularly cold one. (2) (3) (4). Similar groups of small annual growth rings, however, could be caused by overcrowding, pests, disease and injury by fire or trauma.

Regarding the 1813-1816 group of small rings, one also notes an abrupt change from the wide rings of 1812 and earlier to the 4 uniformly narrow rings of 1813, 14, 15 and 16. Then beginning with 1817 there is a gradual change to wider rings over the next 7 years, and continuing up to the two narrow rings of 1834-35. There is abundant documentary proof that the year 1816 was perhaps the coldest recorded in Sussex County, Delaware. It is said to have snowed every month of the year. It was also recorded in New England as "the year without a summer". (5) (6). It is possible that there may be some correlation between the 1780-84 and the 1813-1816 series of small growth rings and the extremely prolonged cold weather of those periods. The only association with the 1834-35 small growth rings we have been able to find was the very numerous and

prolonged meteoric showers (falling stars) of 1833 and 1834.

Thus there is documented evidence that two of the three periods with decreased tree ring growth in the Pencader Oak included the cold years of 1783 and 1816. There is no evidence of any association with variations in precipitation, but the collection of weather data by the U. S. Weather Bureau did not begin until 1871. The ground water level (water table) in the coastal plain is high, and deep rooted trees would not be affected by considerable variations in precipitation.

Because of the possible relation of fine volcanic dust to the 1780-84 and 1813-16 groups of narrow growth rings, it should be pointed out that great quantities of dust were discharged into the upper atmosphere by the tremendous eruptions of volcanoes in 1783 (Iceland, Skaptor-Joekull, and Japan, Asama) and in 1815 (Island of Sumbawa, Tamboro).

Volcanic dust may rise 70 miles above the earth's surface and remain suspended for 3 years or more.

Benjamin Franklin (2) (4) was probably the first to point out the possible connection between the volcanic dust and cold years. He noted: "During several of the summer months of the year 1783 when the effects of the sun's rays to heat the earth in these northern regions should have been the greatest, there existed a constant fog over all of Europe and a great part of North America. This fog was of a permanent nature; it was dry, and the rays of the sun seemed to have little effect toward dissipating it, as they easily do a moist fog, arising from water. They (the sun's rays) were indeed rendered so faint in passing through it that, when collected in the focus of a burning glass, they would scarce kindle brown

paper. Of course, their summer effect of heating the earth was exceedingly diminished."

Single wide growth rings occurred in 1915, 1869 and 1848 (marked "B" on the skeleton plot). Then between 1785 and 1810 there is a continuous series of wide annual rings and also for the years 1779, 1778, 1777 and 1776 - the last year with a countable ring on account of the central decay.

Apart from the wide rings and the three groups of narrow growth rings above mentioned, there are only occasional single narrow rings, and for the most part the rings are complacent (not significant) or fairly uniform from the year 1835 to the tree's destruction in 1955.

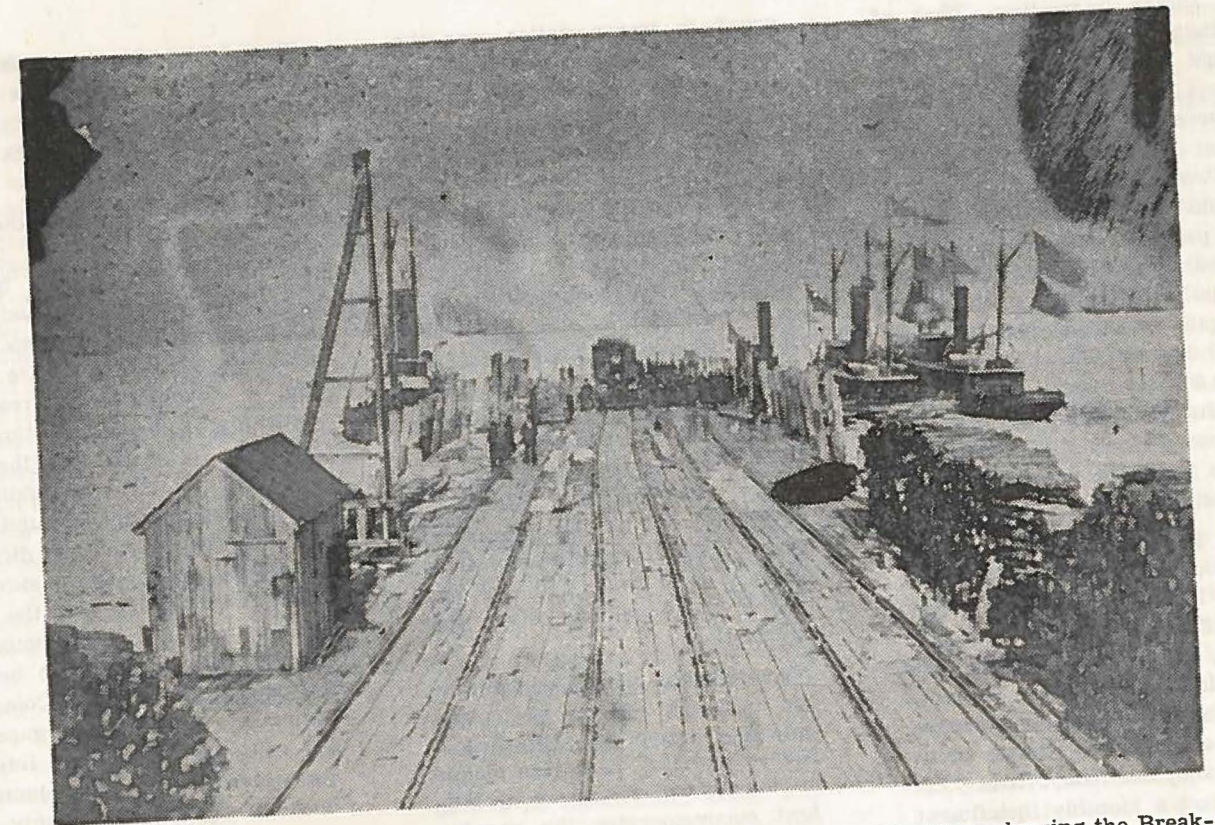
No conclusions can be drawn from the above analysis. The purpose of this report is to record from the tree-ring pattern of a white oak of historical interest in northern Delaware in the hope of stimulating interest in obtaining other suitable specimens so that cross matching can be attempted.

The first Presbyterian Church on this site (Welsh Tract) is recorded as having been built in 1710, and the present brick church was built in 1852 (7).

Wildman, in his book, "Penn's Woods", Philadelphia 1933, page 54, writes as follows: "Here [village of Glasgow, Del.] in the yard of the Pencader Presbyterian Church there is a white oak which is mentioned in the deed for the land sold by the original grantors - David Evans, Wm. Davies and Wm. Willis. These three men were granted 30,000 acres on October 15, 1701. This was the Welsh grant. This oak has been used as a land mark since 1723." Our tree ring count and the estimated age of this tree (188-192 years) cannot be reconciled with the above quoted dates if Wildman and we are discussing the same tree.

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- (2) Abbe, C., Proc. Am. Phil. Soc. 1906 45, 127
- (3) Giddings, J. L. Jr., Bulletin No. 1, Univ. of Ariz- Lab. Tree-Ring Research, 1941.
- (4) Oswalt W. H., Science, 1957 126, 928
- (5) Willett H. C., Saturday Evening Post, 1956, March 24th issue, p. 23
- (6) Editorial, Rural New Yorker, 1956, Aug. 18th issue, p. 530
- (7) Scharf, J. T., History of Delaware, 1888, Vol. II, p. 955



IRON PIER AT LEWES IN 1888 — H. W. T. Purnell loaned this old picture showing the Breakwater in the days when the trains ran out on the pier (engine shown in rear center). The steamboats are at the dock and wood is piled up ready for stoking the furnaces of the boat.

Junction and Breakwater Railroad Primarily a Sussex County Project

By WILLIAM H. McCAULEY

The Junction and Breakwater Railroad is a railroad which should be particularly interesting to people in Sussex County. The Junction and Breakwater operated entirely within the State of Delaware, most of it in Sussex County. It was locally organized and for the most part was locally owned. Furthermore to the best of my knowledge it was the only railroad operated completely within our state which had its own operating system. The Delaware Railroad, also completely within State lines had been promoted

and built by the Philadelphia, Wilmington and Baltimore Railroad and has always been operated under lease, first to that railroad and then the Pennsylvania system when the two were merged.

The charter for the Junction and Breakwater was put through the State Legislature on February 13, 1857, just over one hundred years ago. The railroad was to commence at Harrington at a junction with the Delaware Railroad and was to be built first to Milford, then to Georgetown and then east again to its terminus at Lewes,

covering a distance of about forty-five miles in all.

The incorporation of the Breakwater and Junction was actually fortunate for the Delaware Railroad because by the terms of its charter the latter was required to build a branch from Harrington to Milford. However it had been forced to secure a State loan in 1855 to continue its construction and so was hardly in a position to build the branch line.

Several of the provisions of the Breakwater and Junction charter

are rather interesting. First of all there was to be a capital stock of not more than half a million dollars, consisting of 20,000 shares at twenty-five dollars each. The Board of Directors was to number nine with a majority of them citizens of Delaware. A State tax was provided for at the rate of one half of one percent each year on the total capital stock. With a capital stock of \$500,000 this would have made an annual tax of \$2,500 per year. However it was further stipulated that the tax should be paid only when the profits yielded a dividend of nine per cent or more.

The \$500,000 was to be raised by stock subscription with so much being paid each month much like our modern installment buying, except in this case you were buying a railroad. In addition the restrictions on the subscriber of stock were just as stringent as they are today. If he failed to meet a monthly installment he was forced to pay interest on that installment at the rate of two percent each month and if he fell down on that he forfeited all the shares of stock he had already paid for.

The group of commissioners who organized the railroad could almost constitute a mid-nineteenth century Who's Who of lower Delaware. The group of twenty-seven commissioners was a rich mixture: politicians, bank presidents and transportation capitalists. The group included two former governors and the present one, Peter F. Causey of Milford. Two Superior Court Judges including John W. Houston, later President of the Railroad, and also former Chancellor Harrington who was appointed Chief Justice of the Superior Court one month afterwards. A good half dozen were either presidents or directors of banks. Among those already en-

gaged in transportation was the former president of a steam boat company which had attempted to run a passenger service between Milford and Philadelphia. But the sidewheeler that they used wasn't able to dodge the Mispillion mudflats and the business folded up. Andrew C. Gray was an influential commissioner. He was president of the Delaware and Chesapeake Canal, President of the Farmers Bank of New Castle and former president of the New Castle and Frenchtown Railroad. Another important commissioner was Trusten P. McColley, of Milford. He had been president of the recent Constitutional Convention of 1851-52, and was one of the first presidents of the new railroad.

Construction was begun but by the outbreak of the Civil War only the branch to Milford had been completed. A marble plaque on the side of the depot at Milford commemorates the opening to Milford with the words "opened to Milford Sept. 7th, 1859". It then gives the names of the directors and officers.

Examination of the rights of way at the Recorder of Deeds office at Georgetown reveals that this branch was described as "The Southern line or route from Milford Junction or Clark's Corner to the Town of Milford." At this time Harrington was best known as Clark's Corner and it was not until 1862 that the Legislature changed its name to its present form. The rights of way are all dated 1858 and call for a sixty foot wide strip. The usual consideration stated in the deed so as to make the transaction binding was one dollar although the consideration in one deed from a Charles T. Polk is listed as five cents. Several of the deeds required the railroad to establish and maintain fences on the branch

line. In one instance the Railroad relieved itself of this responsibility by paying to the property owner two shares of stock in the Railroad.

With the end of the war thoughts again turned to the completion of the line but by this time the railroad had come under financial difficulties. Once again the State of Delaware bailed out a floundering railroad by extending a loan, this time for \$400,000. To get the loan the railroad had to raise an additional \$200,000 as a matching fund. Apparently the railroad had difficulty raising this much money because the following year the Legislature reduced this amount to \$50,000. The loan was to be repaid by 1890, with the Company giving the State a mortgage on the railroad. The rate of interest was correlated to the volume of business done — twenty-five cents on each passenger and twenty per cent of the fares for all freight carried. An interesting bit of price regulations was a rider on the loan to the effect that the State could fix railroad fares. This was later repealed however with the stipulation that the railroad could not charge more than eight cents per mile for any kind of freight or more than six cents per passenger mile.

With the help of the loan the line was extended to Georgetown in 1868 and in November of 1869 it was completed to its terminus at Lewes. Beginning Jan. 1, 1870 trains were run regularly to Lewes. The railroad pier at Lewes was also completed that same year and a regular line of steamships was established between Lewes and New York by the Old Dominion Line.

Promoters planned yet another railroad through Sussex County which would connect with the J.

& B. This ill-fated line appropriately named the Sussex Midland R. R. was to cross the County east and west, a switch from usual north-south shuttle. The act of incorporation passed by the Legislature in 1845 and amended in 1883 provided that the line should extend from Bridgeville through Georgetown or within one half mile of it where it would connect with the J. & B. on to Lewes. From Bridgeville it would proceed westward to the State line where it would connect with the Dorchester and Delaware R. R., thus traversing the peninsula. The Sussex Midland's reliance on the J. & B. is evident from its charter. Permission was given it to cross any tracks between its termini other than the J. & B. It was also given permission to lease or consolidate with any other railroad or to make arrangements with the J. & B. for use of its rolling stock.

By the terms of its amended charter passed March 26, 1883, the Legislature was not as kind to this railroad as it had been with some others. The Sussex Midland was required to commence work on its line within one year and complete it within three years or else lose its charter. In addition a legal fence was required along its whole length.

Hopes were high for the contemplated line, as is shown by an excerpt from the Milford Chronicle, date July 6, 1883. "Of the Sussex Midland, the Every Evening says: The new line will run from Kent Island to Bridgeville and Georgetown, using the Delaware, Maryland and Virginia branch to Lewes. This is a shorter line than the one by Harrington, and it opens up an exceedingly fine part of the peninsula. This line, it is said, is destined to make Lewes second in importance to Wilmington alone. Eventually it

is believed, extensive grain elevators will be built at Lewes and the place will become an important shipping point for European trade. The Maryland and Atlantic line to Lewes via Annapolis and Kent Island, is the shortest route from Baltimore to the seaboard -- not more than 100 miles—and the journey, it is said, will probably be made in three hours, fast trains being transferred bodily on large swift steamers from the Western shore to the Island."

A news item from the Chronicle a few weeks later on July 27th shows that the proposed line passed the mere planning stage. The item reads, "It is reported that the survey of the Sussex Midland railroad is completed, that the right of way will be obtained immediately and that the construction will be commenced about September 1st." The author has no information about this mysteriously forgotten railroad beyond this point. However, for the readers' interest the list of incorporators consisted of the following: George M. Davis, Simeon Pennewell, Joseph R. Richards, Daniel F. Ball, William A. Jacobs, David S. Meyer, Garrett S. Layton, Isaac C. Cottrell, Milo L. Blanchard, Jacob Kinder, Loxley R. Jacobs and Henry Q. Nicholson.

In the meantime two other local railroads were under construction to connect with the Junction and Breakwater. These were the Breakwater and Frankford Railroad, extending from Georgetown to the State line at Selbyville, and the Worcester Railroad, from Selbyville to Chincoteague Island, Virginia. The Breakwater and Frankford Railroad, 17 miles in length, was completed in 1874 and the Worcester, 34 miles in length, was completed two years afterwards. They form-

ed a part of the Junction and Breakwater operating system and along with the forty-five miles of that line made an aggregate of 96 miles.

Business proved good and one last branch was planned, this one to Rehoboth. The original plan must have contemplated a branch all the way to Rehoboth Bay because the act passed by the Legislature gave permission to "occupy any part of the shore along Rehoboth Bay, and build wharves and piers into the Bay." The branch was completed to Rehoboth in 1878, two days before the Fourth of July. Six years later, in 1884, the line was extended down the main street of the town and the depot was built. The year 1884 also saw the construction of the boardwalk, one quarter mile long and eight feet wide. Passenger service was run the year round though it might have been better if it hadn't. A contemporary letter tells how the train got snowed in at Lewes and the passengers had to walk all the way from there to Rehoboth.

With the operation of the three small local railroads by one of them, the Junction and Breakwater, consolidation of the three was a natural outcome. This occurred on May 31, 1883 with the new railroad appropriately called the Delaware, Maryland and Virginia. The terms of the merger are contained in one of the deed books in the Recorder of Deeds office here in Georgetown. Each stockholder was to be given one share of D. M. & V. stock in return for one share of Junction and Breakwater stock. The same ratio applied to Breakwater and Frankford stock. The ratio for Worcester Railroad stock was one share of that railroad for one-

by Carmel Moore

third share of D. M. & V. stock. This disparity in the value between the Maryland stock on the one hand and the Delaware stock on the other may help explain the delay in consolidation. The two Delaware roads had agreed to the terms of the consolidation back in 1878 and our Legislature that same year had passed a law making the merger possible. However the Maryland Legislature didn't approve it until 1882. A clue to the comparative worth of the railroads is given in one of David Houstons letters to his brother, John Houston, where he says "the J. & B. which keeps up the other two."

I examined the files at the Milford Chronicle office about this date to try to get some reaction to the merger. The only mention was a terse statement dated Friday, June 1, 1883, "Yesterday was the occasion of the annual meeting of the Junction and Breakwater railroad at Georgetown. The consolidation of the Lewes system of roads was undoubtedly completed at yesterday's meeting". The following week another item appeared, equally uninformative but a somewhat humorous blend of news and advertising—"Friday, June 8, 1883, The directors and stockholders of the Worcester Railroad met at Snow Hill last week. It is very possible that all the employees of this branch of the road will purchase their new suits of Treidlers."

An examination of the train schedule advertised in the Chronicle shows that if you left Philadelphia at 8:00 in the morning you could arrive in Rehoboth at 2:30 in the afternoon or if you left Philadelphia at 3:00 in the afternoon you could arrive at 7:45 p.m. The shorter of the two times, the afternoon, took four hours and forty-five minutes. In 1885 an express train was put on which cut the time down to four hours and ten minutes. The fare for this distance on the express cost \$5 and from Wilmington \$4.50.

Trains connected with steamers at the Lewes Pier on Tuesdays and Thursdays at 3:00 in the afternoon. Shortly before the removal of the steamship line an additional run was added making it three a week.

It seems the Old Dominion Steamship Line in order to create future users of its facilities attempted to aid immigration into the State. The line sold excursion tickets to intending immigrants at half the usual rates. If the immigrants purchased and settled land on any point along the Delaware, Maryland and Virginia Railroad their stock, implements and other belongings were transported at half the usual rates. It was said that though people may criticize the railroads as they please, one thing is certain, they have everywhere added ten times their cost to the wealth of the country.

The consolidation of the three locals into the D. M. & V. was

followed in 1885 by the absorption of that line by the Philadelphia, Wilmington and Baltimore, part of the Pennsylvania system. Though undoubtedly advantageous in some ways the mergers were not a blessing to the people of Lewes. With the consolidation of the three roads the railway repair yard at Lewes was briefly moved to Georgetown until the second merger removed the yard again, this time to Wilmington. In addition the absorption into the Pennsylvania system brought about the removal of the competing line of steamers at Lewes. Sussex County's first courthouse town again lapsed into a quietness that characterize it today.

The operation of the railroad was not without its amusing incidents, and one of the most humorous of these occurred at Georgetown. At the time of our story Georgetown was possessed of a practical joker who had quite a local reputation as a ventriloquist. One day a coffin containing the body of a departed colored man was being unloaded from the train for burial. The event was witnessed by colored pall bearers in dark somber suits, chanting friends of the deceased and curious onlookers including our friend. Just as the pallbearers were lifting the coffin down from the baggage car, a deep voice from within said, "let me down easy, boys." With a thud the coffin dropped to the ground, faces turned an ashy white, and our ventriloquist made a quick exit.

If the members of this organization should visit Laurel, Delaware, and I were acting as guide, I would most certainly point out six depressions which, with twenty-four other valleys or ravines, have played an important role in the development of Little Creek Hundred.

What and where is Little Creek Hundred? It is a political division of fifty square miles in the southwestern part of Sussex County. It is bounded on the south and west by the Maryland line. The Nanticoke River and one of its largest tributaries, known as Broad Creek, form the northern and eastern boundary. Little Creek Hundred is drained almost entirely by the branches of this creek. Its unique position makes it the most inland hundred on the Delmarva Peninsula. It is almost exactly halfway between Wilmington and Cape Charles, and it is almost equidistant from the Atlantic Ocean and the Chesapeake Bay. The land is nearly flat, with the highest elevation only about thirty feet above sea level. Yet at one time in this small area there were thirty man made ponds that furnished power for fifty or more water-driven mills.

Here permit me to relate a little history of this area. According to Scharf, who seems to be our chief source of information before 1888, this entire area was settled from the west or Chesapeake Bay side (Colony of Maryland). All land in this hundred was granted on patents from the Calverts at St. Mary's, Maryland. This was definitely Maryland territory until about the period of the Revolutionary War.

How did this happen?

As possibly you recall, the Ark and the Dove brought the first inhabitants to Maryland in 1634. The original settlement of St. Mary's was on the north bank of the Potomac very near the mouth of that river. At that time the charter that George Calvert received from King Charles I included all land north of the Potomac, east to the Atlantic Ocean and the Delaware Bay and north to the 40th degree of latitude. Of course this included all of what is now the state of Delaware. Gradually this settlement fanned out in all directions, northwest, north and east, including the land east of the Chesapeake. In time, the pioneers penetrated all seventeen rivers on the Eastern Shore of Maryland.

By 1666, enough settlements had been made on the Eastern Shore to establish Somerset County, which included all land from the Virginia line to the Nanticoke. This included what is now Worcester County, Somerset County, Wicomico County and the southern part of what is now Sussex County, Delaware. The county seat was at Princess Anne.

These settlers were nearly pure English stock and remained so for the next ten or fifteen generations. So we grew up and remained a very provincial race. Being a descendent of these people, I am neither boastful nor apologetic. It is simply a statement of historical fact.

As our ancestors penetrated this pioneer country, what did they find? We are told that this land was covered by primeval forest that had never been touched by a metal ax. The rotted leaves that had fallen for thousands of years had produced a deep rich soil. Trees rooted in this soil had reached eternally upward for air and sunshine. Here stood mighty oaks sixty to eighty feet tall before a single limb thrust out. Pines straight and tall, chestnuts, hickories, maples, cottonwoods, poplars, silvered beeches and ash trees covered this land as a jungle.

Many kinds of vegetable life grew in profusion. Strawberries, blackberries, raspberries, gooseberries and huckleberries covered the forest floor with plants and shrubs. Grapevines twisted themselves among the trees and hung full of fruit in summer season.

This forest gave food and shelter to a great abundance of animal life. Deer and elk were plentiful. Wolves, bears, panthers, wildcats, foxes and other beasts of prey lurked in the wilderness. Raccoons, skunks, rabbits, minks, weasels, muskrats, otters and squirrels inhabited the woods and marshes. Large wild turkeys, partridges, pheasants, geese, swan and ducks roamed the forest or covered the streams. At times wild pigeons, flying in great numbers, darkened the sun from view. The creeks and streams were choked with shad, rock, herring, bass, pike and mullets.

The Indians that stalked through these forests were never very numerous. Even though vegetable and animal life were plentiful here, the dense forest of evergreens shielded the ground from sunlight.

This condition when combined with the humid atmosphere produced a very unhealthy climate. This was especially harmful to the Indians, as they were very susceptible to tuberculosis.

Today, there is very little evidence of the scene which our ancestors found here. The deep ravines which were cut by the streams that now flow in their bottoms are about the only reminders of the original landscape. Most of them are still bordered by the marshy woodlands which we call branches.

Now let us picture our ancestors moving in on this scene. Possibly the earliest pioneers could have been the counter parts of Daniel Boone and David Crockett. They may have been traders and hunters who could live on the wild life they found here.

But for the most part the early settlers were pastoral and agricultural people. They wished to pasture their flocks and till the soil. They must have been ambitious, ingenious and aggressive. Their big problems involved clearing the forests, planting, tilling and harvesting their crops, building their homes and providing homespun clothing.

Now let us appreciate that they possessed only one type of power, that vested in their own muscles and the muscles of their domesticated animals. Possibly the chief beast of burden was the ox.

These settlers were acquainted with the water mills of Europe. It would have been natural to expect a water-driven mill to be built at the foothills of a mountain or in a hilly country. But to use falling water in a flat, level country was quite a different proposition.

We have no record as to who among the settlers first succeeded in damming a stream and built the first sawmill or grist mill. There must have been several competent millwrights, because before 1800 at least thirty ravines in Little Creek had been dammed. The ponds thus formed were furnishing power for at least fifty mills.

A lot of credit is due the people who selected the dam sites and the mill owners who put their efforts and treasure into these projects. There must have been some master craftsmen

who used the crude hand tools of that time to turn the products of the forest into practical working parts for these mills. We also should pay our respects to the laboring man who put in long hours of arduous toil in carrying out these projects.

Try to imagine the vast amount of work that went into the building of a dam. After the trees were cut with only an ax and adz, sheet piling had to be hewed out. This consisted of planks possibly two inches thick and eight inches wide by six feet long. They had to be driven down to secure the base of the dam. Then dirt had to be shoveled into carts with hand slovels, hauled and dumped on to the dam. Imagine the amount of shoveling this required. Some dams were 100 yards long, ten yards wide at the bottom and three to five yards high. Very conservatively, this would require at least 8,000 to 10,000 loads of dirt.

Imagine the amount of labor required in cutting the framework of the mill and gates. This all had to be hewed out and put into place without the use of machinery.

All the mill stones had to be imported, for there are no natural rocks on the Delmarva Peninsula.

Let us remember that these mills and ponds were built at a time when the builders were very busy with other duties: clearing the forests for farm land, removing the stumps from fields with grubbing hoe and ax, plowing, planting and harvesting to provide food not only for their own families but for a salable surplus. At the same time lumber had to be manufactured for home use, shipbuilding and trade.

Most of these tasks were performed by the mill owners, their sons, and free labor. There are few accounts of slave labor, and the number of indentured servants in this area was small.

What is the present status of these ponds and mills?

Only one grist mill is still operating. The sawmills and carding mills have entirely disappeared. Three mills are still standing. Two of the ponds have never gone down, two have been restored, and one is now in the process of being restored. (1958)

The water-driven sawmills began to decline in importance after 1850 when steam power was first used in the lumber business. The first steam mill was established in Whitesville in 1845; one was set up in Delmar in 1868. Others followed. The greatest number were abandoned between 1870 and 1885. But several people now living recall the old water-driven

up-and-down sawmills in operation as late as 1912. Mr. Howard Dickerson, former State Treasurer, remembers seeing at least three operating on Tussocky Branch and Cod Creek.

Many of the grist mills continued in operation long after steam power replaced the water-driven sawmill.

Old Forge

Old Forge, located about a mile and a half southeast of Laurel, was possibly one of the earliest town sites in this area - a thriving little village when the present site of Laurel was an Indian reservation. According to Scharf's History (1888) and Beers' Atlas of Delaware (published 1865) it was a small commercial center with a forge, a sawmill, a grist mill, stores, and several dwelling houses. The dam was rather high and long, and stage coaches passed over it in traveling from Salisbury to Georgetown. Today this site is one half mile from any passable highway. The dam is still there, and the old bed timbers are still in the mill race. Plenty of slag from the charcoal fired bog ore forge can still be found.

Big Mills

The old foundations of Barkley Townsend's Big Mills on Little Creek can be seen from the highway leading from Laurel to Portsville. At one time the rather large lumber mill that stood here employed ten men and sawed 5,000 feet of lumber a day. At a later period A. J. Horsey used the water power to operate a crate and basket factory; he also operated a tannery here.

Horsey's Pond

This pond, the second mill site on Little Creek, supplied power for the old Horsey saw and grist mills near the town limits of Laurel. It was also the site of a crate and basket factory. The grist mill went down about 1920. Now the pond is being restored by the game and fish commission. The concrete spill way can be seen from the Laurel-Sharptown highway. A concrete ramp has been installed as a landing place for pleasure craft and fishing boats. The pond, now dry while contractors are removing brush, stumps, and trees from the bottom, extends back to the right for a mile and a half.

Trap Pond

Trap Pond is one of the beauty spots of Sussex County. It once supported a saw and a grist mill; the latter was last used in 1920. The August flood of 1933 washed out the dam, but between 1936 and 1938 the Federal Government employed CCC boys to restore the pond and create this excellent recreation center. They rebuilt the dam and spill way, cleared the woods for a park, removed stumps, trees and brush from the pond bottom, and provided bathing beaches, bath houses, park benches and pavilions. The park now belongs to the state.

Chipman Mill

Although this mill is only one and a half miles from Laurel, it is in Broad Creek Hundred. Its pond, which empties into Records Lake or Laurel Pond, and the mill, including the dam, are owned by Carlton Lowe. So far as I know, it is the only individually owned pond in Sussex. During the flood the dam was cut to save the dam and mill. At one time this pond supplied power for a saw mill, a grist mill, and a carding mill. The grist mill, which could grind about fifty bushels of corn a day, still stands and is in a fair state of repair. It operated until 1948.

Laurel Flour Mills

This is the only grist mill that is still operating in Little Creek Hundred. It has been in continuous operation since about 1800 except when it was being repaired or remodeled. The Hon. Nathaniel Mitchell, former governor of Delaware, put the original dam here about the year 1800. It has changed hands several times since then and has been rebuilt five times. At one time this pond also supplied water power for a basket and stave mill at the north end of the dam. Although electric power is now used in making flour here, water power still turns the old stones that grind corn.

Trussum Pond

Trussum is the most picturesque pond in Sussex County. In summertime this pond has the appearance of the lakes in the Cypress Garden area of Florida. The old cypress knees, large bottom tree trunks, and stumps are characteristic of the Deep South.

As is true of other ponds, we do not know who first dammed this stream and built the first mills. But according to Scharf this pond with two mills and 428

acres of land was owned in 1816 by Levin Thompson, a colored man.

The original grist mill was abandoned about 1840. But the pond and the saw mill after changing hands several times were owned by Selby M. Lowe in 1885. At that time Mr. Jacob Wootten was operating the saw mill for him. Mr. Wooten, born in 1868, now lives with his nephew, Harold Wooten, on the shores of this pond (Feb., 1958). He gave the writer much of the information for this description.

About 1885 Mr. Lowe enlarged and improved the mill. Prior to this time an up-and-down saw could cut about 1000 feet of lumber a day. After the circular saw was installed three men could saw 4000 to 5000 feet of lumber a day. About 1890 a planer was installed and the mill made tongue and grooved flooring, berry crates, peach boxes, plaster laths and shingles.

About 1905 when the owner tried to increase the head of water to get more power, the sheathing under the mill washed out and the entire mill was undermined. It was never restored. The entire mill, except the planer, was sold and moved to Concord, near Seaford, Delaware, where it was later turned into a water grist mill. The planer was sold to Joseph Warrington, Sr., who at that time had a steam crate and basket factory at Pepperbox, in the eastern end of this hundred.

In the meantime about 1885 Mr. Lowe bought the grist mill at the old Ellis (former Bevins) Pond and moved it to the center of the dam at Trussum. For about 20 years both a saw mill and grist mill operated here.

About 1928 Mr. Isaac and Jacob Wootten bought the grist mill and operated it. They ground corn into meal and also other grains, including wheat and buckwheat, but they never made wheat flour. Payment for grinding was by toll, which consisted of 1/8th (or one gallon) to the bushel. The mill had a capacity of about twenty bushels of corn a day. As the miller received 1/8th, the mill earned about 2 1/2 bushels of corn or about \$1.50 a day.

During the August flood of 1933 the dam washed out, and the mill toppled over into the race. It was sold to D. W. Stauffer for \$100, dismantled, and moved to Nassau, near Lewes, Delaware. The dam was rebuilt by the State Highway Department, and a wooden spill way was installed in 1934. Today the spill way is badly decayed and in need of repair.

Let us hope that the pond is maintained as it is now. If speed boat owners want wide open spaces, we have plenty of other ponds free of stumps; this beauty spot should be preserved for canoers and fishermen with small row boats.

Closing Words

Although I do not own land adjoining any of these ponds, am not in the tourist business, and do not hunt or fish, I have a sincere interest, both historical and personal, in these old ponds and hope to see them all restored.

They could be very valuable as fish and game preserves. They make delightful camp sites for tourists and fishermen. Those from which stumps have been removed are excellent for boating. The shores can be developed into recreational centers, such as Trap Pond.

The farmers should be vitally interested in their preservation, for they could be utilized during drought periods for irrigation.

Hijacking of Sussex County Boat in 1812

The following transcript is from the rough draft of a letter written by Levin Collins shortly before March 19, 1812, telling of his Schooner Sally being stripped of equipment and findings. Levin Collins, a well known resident of Sussex near Laurel, was engaged in farming and trading; he owned several sailing schooners and also did a lot of local surveying. One extensive survey was made by him between October, 1810, and December, 1811, of "The Old Indian Lands" that were reserved by Maryland in 1711 for the Nanticoke Indians where the town of Laurel now stands.

Collins lived in a house that stood on the Laurel-Portsville road about two miles west of Laurel on property now owned by Mr. Emory Spicer. The original house was destroyed by fire in the spring of 1955. This old manuscript is from the family papers of Mrs. Nann Campbell (nee Bacon) and was among the papers of her grandfather, Thomas Bacon, who died in 1903. (Blank spaces in the following transcript indicate torn and lost parts of the original. Original spelling is retained.)

Transcript

"Laurel Town, Easting Shore, Sussex County, State of Delaware. Capt Smothers and one of the hands that were on my schooner when she went on shore on the shole called The Indian Graves, returned home yesterday evening, they bring an account of the vessel being boarded while they were on shore in search of a vessel to lighten her and toe her into a harbor. And the lad that they left on board was taken off together with the main sail and main sheat toping, left toping, left faul main throat and peak hallards, with all the blocks belonging to said sail with the Capt chest containing his cloaths and other hands cloaths and their bedding, a watch, shaving instruments, three pewter plates and the Schooners Papers, a small iron pot and hooks, tea kettle, their provisions, also some carpenters tools consisting of a broad axe, hand saw, three or four augers, a crow bar, two or three planes, several chizels and a spike gimblet and hammer. Arrived the same day Capt Cannon immediately from Baltimore who gives me the information that you were the person that carried the Lad up to Baltimore but gives no acct of the things taken off, or of the Lads intension of returning to this place. My view in writing to you on the subject is to get a just account of what the lad took off the sch'r with him and to know of you what become of them. Whether any part of them remain in your hands, as the men belonging to the sch'r got a vessel to go out to her and found her a drift in the bay and towed her safe into Anopolas. In consequence whereof I shall need the greater part of the things if they remain in your hands or any part of them. I wish you to give me notice immediately and write me what I shall have to pay you for your trouble and I will send it on to you when I send for the artickles which you may have. NB The vessel was an old sch'r just repaired and on her first trip. Called Sally. She had externally every an appearance of a bran new vessel. The Captains name was Jonathan Cathell. The lads name that was left on board was John Garman Stonecalled Garman. I give you this postscript thatare in possession of the papers. Wheather orof such a sch'r. Her main mast wasasking a raft to get on shore.

(Signed) - Levin Collins"

(End of transcript)

Further search through Thomas Bacon's papers has not, so far, revealed what happened to the "lad" or to the stolen "artickles". Also search of maps, both new and old, of the Chesapeake Bay has not shown us where the "shole called Indian Graves" is located. Have any of the readers of this article ever heard of said shoal? If you have, please communicate with the editor of this "Archeolog", or the undersigned.

Henry H. Hutchinson

Old Place Names Along the Delaware River

by Henry Hutchinson

In old papers, deeds, letters, etc., we often run across names of places, streams, etc., that are unfamiliar to us because new names have taken their place in our local descriptions and on our new maps. Some of the old Swedish, Dutch, Indian, and English names of places along the Delaware River are given in an old book originally published in Stockholm in August 1758, and translated and published in English by the Historical Society of Pennsylvania in 1876. The name of this book is "A History of New Sweden; or, The Settlements on the River Delaware" by Israel Acrelius, Provost of the Swedish Church in America.

The book reproduces a map of the Delaware River drawn by Peter Lindstrom, Royal Swedish Engineer 1654 and 1655. The Title on his map was "SWENSKA REVIER in INDIA OCCIDENTALIS".

Starting at Cape Henlopen and going up the west side of the Delaware River we give various names of the places as mentioned on the above map and in the text of Acrelius's history. There are many other place names given north of Wilmington and in New Jersey, but for the sake of brevity only those of more local interest are given here.

<u>DUTCH</u>	<u>SWEDISH</u>	<u>INDIAN</u>	<u>ENGLISH 1758</u>	<u>PRESENT NAME</u>
Caput Hinlopen	- - -	- - -	Cape Henlopen	- - Same
	Horekihl	- - -	- - -	- - Broadkill?
	Paradisat	- - -	Lewestown	- - Lewes
Blommerskyl	- - -	- - -	Flower River	- - Lewes Creek
Paradys udden	- Paradise Point	- - -	Prime Hook	- - -
Mordars Kyhlen	- Mordare Kihl	- - -	Mother Creek & Murderer's Creek	- - Murderkill River
	(Warge Kihl	- - -	Dover's River	- - St. Jones River
	(Wargs Kyhlen	- - -	- - -	- - -
Bontie's Hook	(Spinnel Udden	- - -	(Bambo Hook	- - Bombay Hook
	(Spinnel Udden	- - -	(Bombo Hook	- - -
	(Spider Point	- - -	Duck Creek	- - Same
	Ancke Kyhlen	- Amke Kill	- - -	- - -
	Bomtiens Udden	- - -	- - -	- - -
	Hager Udden	- - -	Heron Point	- - -
		Aekan	- Blackbirds' Creek	- - Same
	(Minques Kyleller	- - -	- - -	- - -
	(Minquess Kihl	- - -	- - -	- - -
	(Apoquinema	- - -	- - -	- - -
	(Menejackse	- Apoquemeny	- Apoquemeny	- - Appoquinimink Creek
New Claus Land	- - -	- - -	(St. George's	- - -
	- - -	- - -	(Red Lion Hundred	- - -
Fort Casimir	- (Drufve-udden	- - -	- - -	- - -
	(Sandhuken	- - -	- - -	- - -
	(de Sandhoeck	- - -	- - -	- - -
	(Trefaldigheets Fort	- - -	- - -	- - -
	(Trinity Fort	- Tamahonck	- New Castle	- - Same
Talckhockung (a creek just north of New Castle)	- - -	- - -	- - -	- - -
	Niew Clarelandh	- - -	- New Clearland (n. of Talckhockung)	- - -
	Strandwyk (n. of Niew Clarelandh)	- - -	- - -	- - -
	Ackon Mamangiha (a creek just n. of Strandwyk)	- - -	- - -	- - -
	Christiana Kihl	- (Maniquas	(Christiana	- - -
		(Minquas	(Christine	- - -
			(Christeen	- - Christiana River

<u>DUTCH</u>	<u>SWEDISH</u>	<u>INDIAN</u>	<u>ENGLISH 1758</u>	<u>PRESENT NAME</u>
Fort Christiana	- - Hopokohacking	- - -	Rocksens	- - - Christiana R.
Hwitler's Kihl	- - Swapecksisko	- - -	White Clay Creek	- - Same
Rodler's Kihl	- - Hwiskakimensi	- - -	Red Clay Creek	- - Same
		Taswoyen)	- - -	- - -
		Sickpeckon)	- - -	- - -
		Sickpeckans)	- - -	- - -
Fiske Kihl)	- - -	- - -	- - -	- - -
Branwins Creek)	- - -	- - -	Brandywine Creek	- - Same

NOTE - Acrelius gives the meaning of "Hinlopen" as "Holland", and says that Prime Hock was near Mespillon Creek (which we now call Mispillion River).

* * * * *

NEW MEMBERS

Mrs. C. W. Berl	Rehoboth Beach, Del.
Miss Katherine Berl	Rehoboth Beach, Del.
Mr. & Mrs. Karl K. Brown	Seaford, Del.
Ronald F. Dodd	Georgetown, Del.
James L. Parsons	Lewes, Del.
Theodore W. Jones	Milford, Del.
Paul P. Porter	Seaford, Del.
Mr. and Mrs. Edgar H. Riley	Rehoboth Beach, Del.
Orlando V. Wooten	Salisbury, Maryland

Officers for 1959-1961

President: Henry Hutchinson	Bethel, Del.
Vice-President: Warren Callaway	Bridgeville, Del.
Secretary: Mrs. Desmond Lyons	Milford, Del.
Treasurer: Robert Bell	Rehoboth Beach, Del.
Custodian of Records: Miss Catherine Maull	Lewes, Del.
Chairman of Publications: Edgar Riley	Rehoboth Beach, Del.

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Whatever in the appearance or editing of this issue pleases you is due to the expert assistance of Mr. Orville Peets. Please attribute anything that displeases you - after you have made proper allowance for your own brand of editorial perfectionism - to my ignorance and lack of experience.

Members who have regularly attended our meetings will recognize in our three major articles Dr. Marine's talk on May 21, 1959; Mr. Moore's on May 15, 1958; and Mr. McCauley's on February 19, 1959. The "Sussex Countian" anticipated us in publishing Mr. McCauley's paper; to save cost we simply have had reprints made for this issue. Hence the admixture of offset and letterpress, a variety of appeal seldom offered even by the best periodicals.

All this is by way of filling what would otherwise have been a blank page. There remains just space enough for me to add a little something to our Sussexana: several stanzas from a "Tribute in Song, respectfully inscribed to the Rehoboth Beach Association, written, composed, and published by William A. Simpson, Wilmington, Delaware, and entered according to act of Congress in the year 1874 by W. A. Simpson in the office of the Librarian of Congress in Washington, D. C." I regret that we cannot print the music; it is as naive as the poetry but has, I think, an antiquated charm. As for the verses, may they bemuse you and amuse you as much as they did me when I found the song among some old music that had miraculously escaped the trash can for three quarters of a century. We Rileys have been coming to Rehoboth since 1873.

E. H. R.

The Bright Rehoboth Beach

Words and Music by W. Ashley Simpson.

Arr. by Prof. F. Becker.

1

While upon Rehoboth standing
Gazing o'er the vast expanse,
On that mighty wonder musing,
See the whitesailed fleets advance,
In the golden sunlight gleaming;
Deck like stars the ether blue,
While the nations colors streaming,
Float above the gallant crew.

Chorus

Proudly they ride the bright waves o'er,
Hailing perchance from some foreign shore;
Charming the sight of all and each:
View'd from the bright Rehoboth Beach.

2

Here we quaff the balmy breezes,
Wafted from some tropic isle,
That from lanquor dull releases.
And reverts instead a smile,
Here the waves in ceaseless motion;
Breaking o'er the sunlit strand,
Scatter pearls and shells of ocean,
Gathered by the fairest hand.

Chorus

Watching the motly groups that lave,
Sport in the foam of the rolling wave;
Merry the hearts of all and each:
Chasing dull care from Rehoboth Beach.

4

When perchance the north wind blowing,
And the white waves dancing by;
Clouds are o'er the green sea throwing:
Shades that deepen as they fly.
Yet the while is heard the music,
Of the deep toned billow's roar:
As in forms they rise majestic,
Leaping, bounding to the shore.

Chorus

Greeting with shouts the merry throng,
Chase the bright waves as they roll along.
Laving as far as eye can reach:
All the bright shore of Rehoboth Beach.

5

Yet at morn the scene is grandest,
When the rising king of day,
Dons his royal robe the brightest:
Bids the paler orbs away.
Who in modesty retiring,
Seem to seek their wonted rest;
E'en until the day declining:
Lights the golden sunset west.

Chorus

Then with the twilight hours along,
Float the sweet strains of music and song;
While with a greeting all and each:
Welcome you here to Rehoboth Beach.