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Chester County, Pa

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Author: Richard Darlington

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GREAT TORNADO IN CHESTER COUNTY, PA \*\*\*

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A

**FULL DESCRIPTION**

---OF THE---

**GREAT TORNADO**

—IN—

**CHESTER COUNTY, PA.**

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**By RICHARD DARLINGTON, Jr.,  
PRINCIPAL OF "ERCILDOUN SEMINARY."**

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*WEST CHESTER, PA.:*  
F. S. HICKMAN, PRINTER & PUBLISHER.

The unprecedented destruction of the tornado which passed through the western part of our county on the first of July last, created in the minds of many a desire to have a full account of the movement, conduct, and origin of the storm cloud, together with such scientific explanation as would throw some light upon this remarkable phenomenon. After some weeks had elapsed, I gave the subject considerable attention, and have prepared this pamphlet, which I trust will meet some of the wants of intelligent inquirers upon this subject, and will also be the means of enabling the people to have a better knowledge of the loss sustained by those living along the route of the storm. This account has been prepared at the suggestion of a number who are interested in the subject.

[Pg 2]

R. D.

*West Chester, Aug. 15, 1877.*

## THE GREAT TORNADO.

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The Summer of 1877 has been remarkable in some localities for the severity of its storms. These, in several instances, have partaken of the character of tornadoes. Mt. Carmel, in Illinois, was nearly destroyed about the 20th of June last; Pensaukee, in Wisconsin, was nearly ruined on the 8th of July, and Pittston, in Massachusetts, suffered terribly from a tornado on the same day. While these great moving storm-clouds occur occasionally in some of the Southern States, they generally move through sparsely settled districts, and the damage inflicted excites but little attention elsewhere. In the West Indies, and in other tropical regions, these tornadoes are of frequent occurrence, and the damage is often fearful, whole towns being completely swept away. In the East Indies, and on the coast of India, these storms are known as Cyclones, because of their rotary motion—the Greek word *Ruklos*, from which "Cyclone" is derived, meaning "*a whirl*". A cyclone frequently extends across a great belt, and is from fifty to five hundred miles in width. It may last for hours, and if it occurs on the ocean it destroys most of the vessels within its reach. In the dreadful hurricane that fell upon Coringa, in India, in 1839, the town was destroyed and twenty thousand people lost their lives.

Cyclones or hurricanes of this class, do not occur in our northern States; tornadoes, however, do in rare instances. These extend in width not more than a few hundred yards, or even feet, and come and go within the space of one or two minutes. In power and violence, however, they are as destructive as the cyclones. In tornadoes the storm-cloud, in nearly all instances, has a rotary motion; the wind also sweeping forward progressively at the rate of from five to twenty miles an hour. Science has shown that in the latitude where these rare visitors come, they nearly always proceed from south-west to north-east. In the great Illinois hurricane in May, 1855, that passed over Cook county, it is said that a family of nine persons was carried up in the air in a frame house, four of the nine being killed outright and the remainder severely injured. The house went to pieces amid the fury of the storm. Generally these great storms are accompanied by peculiar electrical phenomena, though not in all instances. Rain and hail often go with them. The storm-cloud of a tornado is nearly always funnel-shaped, the small end of the funnel extending downward. It looks like an immense balloon, and revolves on its axis with fearful rapidity. The air beyond the limits of this cloud is also in rapid motion, but merely partakes of the character of a very high wind and is not particularly destructive. The death-dealing and destructive power of the storm is confined to the limit of the conical cloud. All movements for personal safety must extend entirely beyond the circumference established by the rotary motion. The primary cause of these tornadoes is probably due to a low barometric condition of the atmosphere accompanied by a high temperature, and spreading over an area of very irregular shape. An area of high barometer, accompanied by a low temperature, encroaches upon the former, and then comes the mighty effort to equalize these two different conditions of the atmosphere and restore the equilibrium, which is the constant effort of nature. The more diverse these two conditions are, the greater will be the struggle of the giants in the contest. Of course the electrical condition of the atmosphere existing at the time may form a very important factor in the tornado which may follow. What was the character and condition of the atmosphere on the memorable first of July last, when the storm-cloud which spread desolation over a narrow belt of not more than two hundred yards at most, swept across the western half of Chester county, Penn'a? The middle part of the day was hot and oppressive; the thermometer stood at about

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92 and the barometer about 29.6. The atmosphere seemed very close, and the inhaling of air in the lungs was attended with rather more difficulty than usual. I remarked to a friend that there was a peculiar condition of the atmosphere, and yet who could have foretold the terrible results of that afternoon? The oldest inhabitant had never heard of a tornado in this section of country, and yet one was at hand. To give a faithful and accurate description of the movements and conduct of this storm-cloud, made it necessary for me to pass over the route of the moving mass and observe critically its results, and also to inquire of those living along and near its track what was its appearance, what was the direction of its sweep through the forest trees, how far the *debris* were carried, what amount of life was destroyed, what was the width of its track, and how the rotary motion of the cloud seemed to affect the buildings and obstacles that vainly attempted to resist its march in a direction a little south of east.

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The first point of interest in connection with the tornado was about one mile south-east of the Gap station, on the Penn'a Rail Road, and about two miles west of the boundary line between Chester and Lancaster counties. From this point the storm-cloud proceeded for about two miles in a direction south 70 degrees east, or about 20 degrees south of a line running due east. About three-fourths of a mile east of Sadsbury Meeting House a slight change of direction occurred in the movement of the cloud, and it took a direction a little to the north, running south 75 degrees east. It proceeded, with slight local variations, for about eight miles in a direct line, and cutting a track about 200 yards wide, until it reached the property of William Hamill, in East Fallowfield township, near Newlin's Mill, and here it widened to about 300 yards, destroying the fences, crops, etc., on his property. At this point a slight change of direction occurred towards the south, bringing it into contact with the timber tracts of E. Phipps and Thos. Shields, in which a terrible destruction of forest trees occurred. It now veered to the north about ten degrees, and passed through the southern half of the village of Ercildoun in a line south 83 degrees east, or in a direction nearly due east, and continued thence until it arose in the air about half-a-mile east of Ercildoun, and proceeded, at a higher elevation, for about seven miles, relieving the farms and property of the intervening country from destruction. As it approached Broad Run, about a mile west of Marshallton, it descended sufficiently long to unroof and almost destroy the barns and out-buildings of two properties, owned respectively by Richard Baily and Joseph Marshall, of West Bradford township. Here it came to an end in its mad and reckless career. The two opposing currents of air had no doubt now become thoroughly blended and partook of the character of a high wind, fully relieved of its devastating properties. The storm-cloud was dissolved, or had permanently taken a higher elevation over a still greater amount of territory. The whole route of the tornado, as measured by its effects, was about 22 miles. The width of its track was from 100 to 300 yards, averaging generally about 200 yards. The following points also have been pretty clearly established by the use of the compass, and also by careful observation along the route of the storm:

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*First.* That the general direction of the storm-cloud during the first half of its journey, to a point near Newlin's Mill, one mile west of Ercildoun, was south 75 deg. east, but at that point it changed and its course afterwards was south 83 deg. east, or nearly due east. *Second.* That the destruction of property was generally greater as the cloud moved across a valley. *Third.* That the velocity of the moving mass varied at different periods from 5 to 15 miles an hour, but twelve miles an hour would be considered a fair average. *Fourth.* That the trees along the southern side of the track of desolation were generally thrown with their tops towards the north, or at right angles to the direction of the progressive motion of the cloud, while those on the northern side were thrown in the opposite direction. *Fifth.* That in some instances houses and buildings near the *centre* of the track were but slightly injured. These cases, however, were rare. *Sixth.* That from local and other causes, the lower part of the conical cloud frequently moved out of a straight course, while the upper or larger part of the cone kept in a line very nearly direct. *Seventh.* That as soon as the cloud was formed, a roaring sound commenced, which continued without interruption during its entire course. This sound was not unlike continuous thunder. *Eighth.* That the movement of the storm-cloud was unaccompanied with much rain or hail, though one or the other fell at some distance north or south of the track, the sun frequently shining at the time. To explain some of these phenomena, even with the aid of science, is difficult. The storm-cloud itself was an entirely exceptional phenomenon in this latitude. Such an event had never occurred before in eastern Pennsylvania, and we are without the benefit of previous observation and experience. The great destruction of property in crossing valleys has excited marked attention. The cloud undoubtedly required an immense amount of air to feed it as it went along. Persons near its track say that they breathed with the greatest difficulty. The surrounding air must have been very rare; in fact, a partial exhaustion must have resulted from the absorption of air by the moving mass. In crossing a valley at right angles, or nearly so, the dense air up and down on either side, would be at hand to furnish it with the necessary material, thus increasing its power and devastation; this is one explanation. Another theory, which is probably the correct one, could safely be

advanced upon plausible grounds. Supposing electricity to be the primal cause of the cloud itself, in passing across deep and irregular valleys with rugged surface, more electricity would be developed, and greater power would be infused into the revolving cone as it moved forward. When passing over a smooth, level plateau, it would excite less of the electrical fluid, and would hence be disarmed of a portion of its ability to destroy buildings and fences.

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The second important point that we must consider is the increased destruction of property and great violence exhibited on the right side of the centre of the revolving axis of the storm-cloud, and a corresponding diminution of destructive power on the left side. The movement of the whirl was undoubtedly from right to left; the fallen trees indicate it. The forward motion of the hurricane would create a great intruding of wind on the right side, and greater damage would result than upon the other side where the wind was returning to complete the rotary movement. While it is true the trees were overthrown to some extent in all directions, yet they mostly fell in the direction in which the wind struck them as it moved around in its whirling motion. The southern side of the track of desolation, however, presents evidence of the greatest power. The maple and other forest trees were frequently twisted entirely off, showing conclusively, that while they were first struck by the progressive motion, the rotary motion was sufficiently quick to locate the falling trunk. The great power of the storm-cloud was due to its revolution. In fact, this marks the difference between the high wind and the hurricane or tornado. The phenomena observed in connection with the storm of July first, are almost identical with those of similar character in the Southern States and West Indies.

The third subject presented for our consideration is the upward and downward currents which seemed to exist within the cloud. Objects were thrown upward to an immense distance, and the distance to which some objects were driven into the earth must convince us that there was a force downward of great power. It is true that a falling body, when influenced by gravity alone, will descend with great force, especially if started from a high point, but the deep excavations found in the track of the storm can only be accounted for by a downward current. The funnel-shaped cloud enlarging its circumference towards the top, would, with its centrifugal force resulting from its revolution, hurl bodies to a great distance, and we find the *debris* of this tornado hundreds of yards outside of its track, proving that when an object was carried up in the whirl, it was often thrown off, laterally for a great distance. A remarkable feature in connection with the tornado is the preservation of buildings in the track of the storm. Property on both sides of a house was sometimes destroyed, and yet the building itself was scarcely injured. This gap in the storm must have occurred from local causes, and from the gradual elevation and descent of the progressive movement of the cloud, thus carrying it over and beyond some of the objects in its track. Some cases of this character will be mentioned in the subsequent pages of this book.

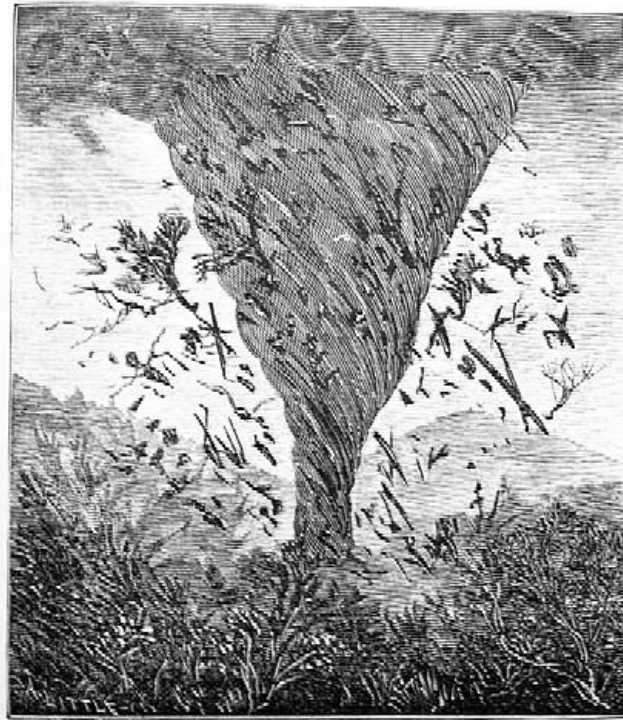
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The color and appearance of the storm cloud is worthy of consideration. By some who viewed it as it passed along, it is represented as being an immense balloon, extending to the height of several hundred feet, spreading out at the top, forming a funnel. It moved along at times with great rapidity, and at other times it seemed to halt, as if gathering strength for another effort. The color was variegated, the whole presenting rather a luminous appearance. Missiles of every kind could be distinctly seen in and through the body of the cloud. At first sight it seemed to be a barn on fire—the burning embers flying in every direction; but a closer inspection proved it not to be fire, but dirt and hay and timbers, intermingled with leaves and other light substances, giving it the appearance of an immense wind storm, which was the correct conclusion. Those who had a side view of the cloud state that it was quite light in appearance as it passed over grass fields and timber tracts, but when it reached a plowed field or a potato patch, it gathered up the dirt and loose material and became a very dark mass of matter, and presented a frightful appearance as it traveled forward with a velocity of a mile in four or five minutes. Such was its character as it approached the village of Ercildoun.

Jos. Brinton, who resides at Newlin's station, on the Penn'a and Delaware Rail Road, states that he observed the storm carefully as it came from the west. He was standing on his barn bridge at the time, and on looking over the high hill at the west of his residence his eyes were directed to a point just above the funnel of the cloud. He saw the clouds rise up at the circumference to a great height, and then pour over into the central cavity from all sides; this continued for some time. The funnel next appeared in full view, after the space of ten minutes. Then the body of a tree appeared above; it appeared motionless, and grew larger and larger as the cloud approached—the tree being carried with the storm; finally it disappeared. The body of the storm-cloud was now full of missiles, having the appearance of millions of birds sailing through the air, the whole moving mass being of a very dark color. As it moved forward these missiles were discharged in every direction. The conical column now became very tall, and was of a white color, in appearance not unlike the under cloud of a great rain storm. As clouds of smoke and dirt rolled up through the mass and were carried around by the rotary motion, the appearance was that of an

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immense building on fire. He pronounces the sight to have been awfully grand, and terrible beyond description.



**APPEARANCE OF THE STORM-CLOUD WHILE  
MOVING THROUGH JOSEPH BRINTON'S  
FIELD.**

With a view of having correct data of the tornado, and placing the same upon record, in company with my friend and schoolmate Edwin Walton, of Highland township, I passed along the route of the storm-cloud. The first point of observation was near the residence of Jos. D. Pownell, Lancaster Co., Pa. He gave us a short account of the cloud, and of the movement of the currents of air which formed it. As he sat upon the front porch of his residence, he saw a strong current of air blowing from the south-west. To the north a storm had just passed, and a powerful current set in from that direction and blew directly across, coming in conflict with the current from the south-west. The whirl commenced on their coming together, and was set in motion about half-a-mile from his house and one mile south-east of the Gap station. This rotary motion or "whirl" probably resulted from the resistance encountered by these opposing currents of air, in their attempt to ascend vertically, there being less resistance in a lateral than in a vertical direction. The first movements of the cloud thus formed were of a decided character. Some children that were playing in a field near by, saw the danger ahead and fled to a lime-kiln, thus saving their lives. The cloud now reached a stream of water, and Mr. Pownell says the water was taken up and carried into the funnel of the cloud, leaving the bed of the stream dry.

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It now approached his house with a continuous roaring sound, and he fled within. It passed along the north side of his house, overthrew his orchard, destroyed part of his corn crop, carried an apple tree fifty yards, and cut a track 150 yards wide and proceeded in the direction of Sadsbury Meeting House. His loss was about \$300. The first building struck was a tenement house on the property of Elwood Pownell. It was located on the top of a hill that overlooked the surrounding country; an old colored man named Robert Johnston occupied it. The building was leveled to the ground. He stated that he was coming up the hill as the cloud approached, and sought safety by leaning against the bank and holding firmly to the fence; he was not injured. He is now living in the *cellar* of the house and crawls out into daylight when it is necessary; no movement is being made towards rebuilding his dwelling. Loss, \$200. The storm-cloud next passed over Elwood Pownell's property. His wagon shed and carriage house are gone, and a large number of his apple trees was overthrown. His farming utensils were swept away, and the barn itself was moved fourteen inches from its foundation. The fences on the property were more or less demolished, but his whole loss was not very great. He states that his father-in-law was paying him a visit on that afternoon, but was unable to get home in the evening as his carriage was seized by the storm and carried away. Mr. Pownell further states that he saw the wind coming, and with the greatest difficulty reached the house, being unable to find the door-latch after he got there. He also experienced great difficulty in breathing. His loss was estimated at about \$200. The storm now passed in the direction of a property on which Thomas Bonsall, Jr., resides, distant about one mile from Christiana. Two-thirds of the roof of his barn was carried off, and the eastern gable end fell with a crash, as the wind struck it. His orchard was destroyed, and also many of the fences on his property. The loss sustained on this property was about \$300.

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About a mile distant from Mr. Bonsall's buildings was a barn, said to be owned by a Building Association of West Chester. The roof of this building was carried off, and about \$200 damage was sustained. The storm-cloud had now acquired rapid motion and passed with great violence over the property of Frank Paxson, who lives almost directly east from the other properties mentioned. Mr. Paxson is quite an old man, and told his story with considerable frankness. He was lying down on that Sabbath afternoon and had his attention suddenly called to a great roaring sound without. He had scarcely time to go to his front door and examine the situation, when his large stone structure encountered a tremendous blast of wind, and all was over in a moment. He then looked out upon the scene: his barn was entirely demolished, and also all his out-buildings. The trap door of his house was carried off, and all his carriages and farming utensils were gone. The trees near his dwelling, strange to say, were saved, while his orchard was uprooted from one end to the other. I observed one of his large apple trees, not only blown over, but carried about fifty feet from its proper place. Mr. Paxson evidently felt his loss deeply, but was cheerful. We asked him if he had received assistance from any source? He replied—"not any." He was slowly beginning the work of "reconstruction," but his place looked desolate indeed. His grain was stacked, and bore evidence of having been severely handled by the storm. His loss was estimated at about two thousand dollars. The next property in the track of the storm was that of Madison Irvin. Part of the roof of his barn was gone, and his wagon shed was overthrown; a few fences and trees also were swept away. One hundred dollars would probably cover his loss.

We were now beginning to advance up the North Valley Hill, and were about three miles from Parkesburg. This hill, on its north side, is heavily wooded, and a great number of small properties is located along that section. Some of these men are poor, but had succeeded in securing for themselves small homes and residences. Stables here and there dotted the hillside, and a long line of forest trees extended in a northeasterly direction as far as the eye could reach. The great storm-cloud, in its onward movement, traveled over several of these properties. Wayne Woodland owns a farm of about seventy acres as the rise of the hill was reached. He had a full force of mechanics at work on a new barn, the old one having been a victim of the storm. The roof had been carried off his house and fifty-one of his apple trees were prostrate. The spring house had lost its roof, and his carriages and wagons were not to be found; in fact, the work of destruction had been nearly complete. His house, it is true, was standing, but he informed us that sixty panes of glass had been swept out of it. Mr. Woodland was about one hundred yards from his residence when he saw the storm approaching; he ran for his life and barely saved it. He estimated his loss at fifteen hundred dollars, and the estimate did not appear unreasonable.

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Some small properties were now encountered, in the following order, viz: Robert Bradford, stable down, loss about fifty dollars. William Cephas, roof off his house and stable, loss one hundred dollars. Henry Miller, stable destroyed, loss about fifty dollars. Next came Michael M. McGuigan and John Murphy, whose losses were of a similar character, amounting, respectively, to about fifty and one hundred dollars.

We were now at the top of the North Valley Hill, and on looking over the broad expanse of country to the east and to the south, we could distinctly see the track of desolation, as it extended across fields, over dwellings and barns, and through forests. The line of its course was almost direct, and no obstacle seemed to sway it much from its direct track. We traveled slowly down the hill, and then along the road that leads to Parkesburg. The farm and residence of Ezekiel Young gave conclusive evidence that he had not been spared from the terrors of that July day. His land was made fenceless, his barn destroyed, (a good stone structure,) his slaughter house, wagon shed, and three tenement houses were unroofed, three stables were overthrown, his spring house was uncovered, and his carriages, wagons, and farming implements were wrecked. Part of the orchard was destroyed, and on looking over into the meadow, towards the south, a huge tree, about eight feet in diameter, was prostrate. Mr. Young is a good farmer, keeps his buildings in fine repair, and was thoroughly overmatched for once by this monster that traveled over his premises. He was cheerful, but was deeply impressed by the immense mischief it had done him. His buildings were all being repaired. His loss may safely be put down at two thousand dollars.

A remarkable incident occurred on the Strasburg road, near Mr. Young's buildings. A German by the name of Jacob Eisinberger, was leisurely walking along the road; he was almost unconscious of the approach of the storm; on looking around he saw the fence blow away, and immediately found himself in the whirl. He was carried along for about two hundred yards in an unconscious state, and was then left in an adjoining field, his jaw being broken, his shoulder blade fractured, and various minor injuries were experienced. He was taken to the hospital at Lancaster, and remained there for a time under treatment. This was probably the only instance in which the tornado carried a human being along with it. In all other instances personal safety was sought within dwellings, and in most cases with good success.

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The track of the storm now extended through the southern part of the borough of

Parkesburg; only the extreme south-western portion of the village, however, was destroyed. First came the new residence of Mr. Geo. Paxson, Superintendent of the Penn'a and Delaware R. R. This was a building of rather modest pretensions, long and narrow, and constructed of frame. It had been finished, and his family were preparing to move in on the following day. The dwelling was said to have been erected by contract, the cost to be about fifteen hundred dollars. The cloud on encountering the building, entirely demolished it; a pump stood on the north or kitchen end, solitary and alone, and it was evident that the structure had been near the centre of the storm track. Several dwellings were now encountered towards the east in the following order: First, was Mrs. Fulton's; her house was so badly injured that it will probably have to be built again from the foundation. The loss, which it is said falls partly upon the Parkesburg Building Association, cannot fall much below eight hundred dollars. Next was Charles Hennings's residence; the east end of it was destroyed, with the loss of between one and two hundred dollars. Vincent Rice, who came next in order, and had a house in course of erection, sustained a loss of probably two hundred dollars. This includes, I believe, most, if not all the destruction within the immediate limits of Parkesburg.

We now saw ahead of us, and a little to the south of the main road, the residence of Samuel Jackson. His barn was gone, his house unroofed and otherwise injured; his orchard was overthrown, and all his out-buildings, some of which contained a large amount of grain, were entirely missing; his fences were nowhere to be seen, and there was the usual story of the destruction of farming implements, carriages, etc. The injury done to Mr. Jackson's property was very great indeed. He informed us that he was standing next to the door in one of the front rooms, and the great blast of wind blew the door off its hinges, striking him a blow which fractured several of his ribs, and left him entirely senseless. For several hours he remained in that condition, finding himself, eventually, in one of the neighbor's houses, and under medical treatment. Mr. Jackson's buildings were again in course of erection, though he stated that he hesitated considerably when he came to consider the question, whether or not he should re-erect them. He seemed very much surprised that *he* should have received such an unfortunate overthrow, while his neighbors, of some of whom he spoke very highly, were passed by entirely. His loss will amount in the aggregate, to about two thousand dollars, which will fall upon himself, as no assistance, up to the time of his repairing, had been rendered him.

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The track of the storm-cloud now extended along the southern side of Buck Run Valley, mounting the hill as it approached Stottsville, and cutting a road through the forest trees south of the buildings on the property of Mr. Thomas Hoffman. It then came down squarely into the valley, which turns abruptly to the right south of Stottsville, and struck the track of the Pomeroy and Delaware City Rail Road, removing the rails for a considerable distance; the substantial bridge that crosses Buck Run, near the same point, was then demolished, the water in the bed of the stream being raised up *en masse* by the whirl. The loss to the Rail Road Company is probably six hundred dollars. The storm, on its northern border, had caught the barn, orchard, etc., of a property owned by Dr. Murphy, of Parkesburg; it ran through a portion of his farm and did damage to the amount of six or seven hundred dollars.

The next property that felt the fury of the hurricane as it proceeded in its course towards Ercildoun, is owned and managed by William Hamill, and is within the limits of East Fallowfield township. Here the storm-cloud widened to about three hundred yards, extending across the valley, running east and west through his farm, reaching his barn, and on its northern border, unroofing it and destroying the gable ends, inflicting a damage to the extent of three hundred dollars on the barn, and on the property itself of about twice that amount.

We now approach the locality known as Newlin's Mills. These were not quite reached by the southern border of the storm track, but the timber tract of E. Phipps, a quarter of a mile north, was absolutely destroyed, and as the cloud poured into the valley that divides the properties of Mr. Phipps and Thos. Shields, a destruction of timber occurred that absolutely beggars description. Forest trees by the thousand were overthrown, many of which were broken off about half-way down the trunk, and others were uprooted; others again were twisted and interwoven in every conceivable shape. This mighty mass of material lies there to-day untouched, and thousands of people have visited the spot, amazed at the immense power which wind exerts when under the influence of rotary and progressive motion. Such a sight was never before seen in this latitude. In the valley that divides these tracts of timber, was a humble frame dwelling two stories high, occupied by a family of colored people named Hopkins. They heard the roaring of the storm as it approached from the west; the mother of the family, Mary Hopkins, rushed up stairs to close the windows, and as her hand was upon the sash, the house was overturned and the joists of the upper floor fell upon her, and she was found dead, having been crushed to death between the joists of the upper story and the rafters. The children below, or rather above her, as was the case at this time, were uninjured. This was the only person whose life was taken by the tornado, though a great number of narrow escapes was made. The loss sustained by Messrs. Phipps and Shields would amount to about twelve hundred

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dollars each. The entire amount of timber destroyed on these two properties, and also on the property of Joseph Brinton, south east of them, is about thirty acres.

From some cause not fully explainable, the cloud of wind, after striking this forest tract, changed its course about eight deg. to the north, proceeding in a line south 83 deg. east, or nearly due east. This change brought the storm directly into the southern half of the village of Ercildoun, one mile distant. Before reaching that point, however, the property of Joseph Brinton had to be traveled over. His loss was heavy. His barn, carriage-house, and the north porch of his dwelling were destroyed; the house, from some cause, was not much injured. This was rather a strange circumstance, as the large trees on both sides of it were overthrown, and also the fences. There appeared to be two storm tracks at this point, but it was probably the same cloud that had divided for a few moments from some local cause. The hurricane also went through the orchard and wheat field on this property, destroying the trees, the whole of the wheat crop, and the fences in every direction. Mr. Brinton estimated his loss at twenty-five hundred dollars, and his estimate was not an extravagant one.

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I now come to that locality over which my own observation extended, and concerning which—"Haud ignota loquor"—I can speak with a good degree of accuracy. The southern half of the village of Ercildoun came next in the track of the storm-cloud. As this is the only village over which the tornado traveled, a brief description would not be inappropriate.

This village contains about twenty dwellings. Twenty-five years ago it had considerable reputation as a manufacturing locality—large quantities of agricultural implements being made every year, and in addition a foundry was kept in full operation. It had at that time a daily mail, a valuable library, and many other attractions not then found in many villages of like size. Two Friends' Meeting Houses are located here, one in the centre and the other at the western extremity of the place. In the days when the anti-slavery agitation was beginning to rouse the people to a sense of the great evil of our country, and when it required something akin to heroism to feed and protect the fugitive slave on his road to the north, this little settlement of Friends did its whole duty in the cause of humanity, and was pretty widely known as a safe place for those fleeing from bondage. A public hall was erected in 1847, and dedicated to free discussion. The motto, "Let Truth and Error Grapple," was emblazoned on its front in bold letters, and the lecturers and leading reformers of the day often held discussions there which would have been a credit to towns and villages of much greater pretensions. In 1851 "Ercildoun Seminary for Young Men and Boys," was established, with Smedley Darlington as Principal. It was a four-story structure, of good dimensions, and could accommodate about fifty pupils. As such, it was conducted for about three years, when the proprietor changed it to a boarding school for girls, and continued it thus for seven years, when it passed into the hands of its present proprietor, and afterwards was known as "Ercildoun Seminary for Young Ladies," and was kept in full operation to the present time. This Institution was remodeled in 1870, and additional wings were added to it. Nearly two thousand pupils have received instruction here, and its patronage extended over a wide extent of country, including all the adjoining States, and many others. Almost unvarying success attended the school in its efforts to promote the cause of education. With this brief description of the place and of its leading features, it will now fall to my lot to tell the story of the terrible damage inflicted upon it by the great tornado of July 1st.

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**SEMINARY BUILDINGS OF RICHARD DARLINGTON, Jr., AT  
ERCILDOUN, AFTER THE TORNADO.**

My school had been vacated three days before, and all the pupils, together with their baggage, had gone. We felt, on that Sabbath afternoon, a full sense of relief from responsibility and care. About 3 o'clock in the afternoon, while engaged in reading, I was informed by my wife that an unusual rumbling and loud noise could be heard in



the west. I remarked that it must be a thunderstorm and nothing more. The loud roar, however, continued, and became clearer and more distinct. I arose hastily, took a position and listened to the sound. In a few moments my mother-in-law, who resides with us, called to me in a loud voice to come to the west window on the main hall of the second story. I hurried thither, and on looking toward the west saw the great storm-cloud approaching, distant at that time perhaps half a mile, and coming over the level plain of the intervening fields. It was a novel and terrible sight to behold. The great conical mass seemed to be carrying along with it the timbers and burning embers of a barn on fire; vast masses of dirt and other dark objects appeared to be also in motion and coming directly towards my school buildings. No time must be lost; the whole establishment *might* blow away, but in any event the safest place seemed to be the basement story. Thither I asked my family to go immediately; they did so. On reaching the story immediately above the basement I halted, passed to the front porch, and took a position for observation, thinking that possibly our plans for safety would have to be modified. In a few moments the cloud struck the building; it came apparently with the force of two or three batteries of artillery, and the question was about to be decided whether the brick walls could stand the shock; if they could not, our lives must be sacrificed. It was all over in less than one minute. I had withdrawn to a front room on the first heavy fall of brick through the porch roof, for the upper story seemed to be coming down bodily upon the lower floors. After it was over I stepped to the east end of that part of the porch which was remaining, and viewed the situation; it was enough to sadden the stoutest heart. Not a solitary building without was standing; the fourth story of the Seminary was completely gone. Our new dwelling house was in course of erection and was nearly completed. Although it was a large structure, thirty-six by fifty feet, not a vestige of it remained above the cellar walls; even these were partially overthrown. My barn, carriage-house and stable, together with every other out-building, were nowhere to be seen. Such a sight was never witnessed in this part of the country. The horses were still alive, though one of them, which had been in the barn, was gasping for life more than fifty yards from the building, and was badly mutilated; the other appeared unhurt, having kept just outside of the storm track. The cow, which had been grazing in the pasture field adjoining, had been lifted up bodily by the revolving mass and was thrown over a hedge twenty feet high, and was dead—the fall having probably killed her. The three hogs upon the premises looked as though they had crawled out of the earth, for they were covered with dirt; they seemed to breathe with the greatest difficulty and one of them soon died. About fifty chickens were lying around dead. The beautiful lawn in front of the Seminary, containing thirty varieties of trees and ornamental shrubbery, was badly damaged, more than half of the trees being either twisted off or uprooted. Not a fence could be seen anywhere. I turned away from the sad and sickening scene. The storm had broken nearly everything; the ground in all directions was covered with timber and with the *debris* of buildings and of trees.

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Some strange incidents occurred in connection with the destruction of property. Three carriages within the same building had their wheels deposited at different points of the compass, more than one hundred yards distant from the building and from each other. The spokes and axles were mostly gone. The buildings had been covered with tin, and this tin roof was found in every direction at an almost equal radius from its former location. In several instances the roofing material was interwoven with the branches of trees, and was wound around the same two or three times. A large apple tree had been carried more than one hundred yards. A chestnut tree of huge dimensions in the front lawn had been stripped of nearly all its foliage, but had not been overthrown. Over a hundred quilts and blankets from the Seminary were lodged in the neighboring forests, torn into shreds. The upper section of a pump at the new dwelling had been lifted bodily into the air and deposited without the building. The grain in the barn, used for feeding the horses, was sown by the storm over more than half an acre of ground, and asserted its presence by a new and rapid growth. Most of the evergreen trees on the lawn were broken off and the tops carried away. The apple trees in every case, however, were uprooted. The growing potatoes in one of my fields lost their green tops, the bare ground alone remaining. Five hundred dollars' worth of school furniture in the upper story of the Seminary, was carried away and entirely destroyed. An immense quantity of letters that had been stored, immediately under the roof of the building, were blown away, many of which were read by persons living ten miles distant. A hedge along the northern side of the Seminary property, nearly twenty feet high, had the appearance, after the storm, of having been overrun by an immense flood. About a hundred loads of material of every character and description, were strewn around the premises, and were gathered up after the storm. Several tons of hay that had been stored away in the barn, were blown away, and not a vestige of it could be seen anywhere. The timbers of the new dwelling were not only scattered around, but were shattered so effectually that an entire piece of lumber could with difficulty be found. Pillars of brick weighing several tons were rolled out of their places near the top of the Seminary, and were buried in the earth to a considerable depth. Some of the school books were carried away for four miles or more, and were safely deposited near the farm houses in the surrounding country.

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Other incidents might be given of the effects of the storm on this property. But it is unnecessary. The damage was immense. The loss in real and personal property, and every kind of damage inflicted upon the Ercildoun Seminary property, cannot fall much below ten thousand dollars.

Let us now consider the injury done to the remaining part of the village. Cyrus Coates resides immediately to the north of the school buildings. He owns a small farm, and a very fine orchard is located on the southern side of it. The northern part of the storm track passed over a portion of his property. His barn was demolished. A good wagon house was carried away, and all his carriages and wagons went with it. The greater part of his farming utensils were either missing or destroyed. Two-thirds of his orchard, including about fifty trees, were overthrown. The fences in the track were carried away, and a large quantity of old grain that had been stored in his barn, was missing. Mr. Coates estimates his loss at over two thousand dollars. A house and barn, and a small lot of land immediately to the east of the Seminary, are owned by Elizabeth Meredith, an aged woman, who resides there most of the time in company with her grand-daughter—a little girl of eight years. With some difficulty this young girl induced her aged grand-parent to descend from her room to the lower floor, as the storm was approaching. She accomplished her purpose and the lives of both of them were thus saved. The house was a stone and frame one, one-half being built of each. The storm-cloud passed almost directly over this dwelling and completely dismantled it. The slate roof was carried off, and the upper story went with it—the eastern part of the frame structure being blown forward into the adjoining road. The barn was completely blown away, and the fences shared the same fate. Her loss, including house, barn and fences, cannot fall below eight hundred dollars.

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A row of houses, owned and occupied by several families of colored people next encountered the fury of the storm. Lewis Miller, who resides at the southern extremity, sustained a loss of about one hundred dollars. James Richardson, who is next in order, had his house badly damaged, and was himself struck by missiles, and disabled for several weeks. His property was damaged to the extent of about two hundred dollars. A double building belonging to James and William Long, shared a similar fate. It was unroofed and nearly torn to pieces. Their loss will be near three hundred dollars. The last building, at the north end of the row, belongs to Wm. Harvey, a blacksmith. It encountered the full force of the northern track of the storm, and was unroofed, and fearfully injured. The shed adjoining was nowhere to be found. His whole loss was about four hundred dollars. The Fallowfield Meeting House property was now reached. A beautiful grove of trees in the western part was nearly destroyed, the trees lying in every direction. Some of the oaks were very large, but were completely twisted off by the furious blast. The sheds for the protection of horses were all overthrown, and the upper part of the grave-yard wall was blown away, roof and all. The damage sustained by this property was not less than three hundred dollars. George Walton, who owns a farm to the south of the Meeting House, sustained some loss in the destruction of a portion of his oats crop, and of his fences. He estimates the damage inflicted upon him at near three hundred dollars. Another property located on the south side of the road, passing through the place from east to west, was that of Priscilla Walton. Her buildings were untouched, but nearly every tree of a thriving young apple orchard on the premises, was destroyed beyond reparation. Her fences in the track of the storm were overthrown, and her loss cannot fall short of three hundred dollars. On leaving the village the tempest of wind made a complete wreck of all the buildings on the property of Jacob Carter, a colored man residing thereon. He was absent from home at the time of the storm, and on returning found that his new house, erected of gravel and cement, was nowhere to be seen. He loses by the storm about seven hundred dollars. We now leave the village of Ercildoun, the damage to which I have enumerated with considerable care. We are also reaching a point at which the storm-cloud arose to a higher elevation, and passed above the farms and buildings, extending from Susan Pierce's property to a point near Broad Run, one mile west of Marshallton. Mrs. Pierce was also a loser by the tornado. The east gable end of her barn, and also part of one side, though built of stone, fell to the ground when the cloud struck it. Her loss, including fences and growing crops, amounts to about two hundred dollars.

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We now find that the storm-cloud passes to a higher elevation, or disappears, and for eight miles no buildings are touched. It descended in a modified form near Broad Run, and overturned and destroyed the barn of Richard Bailey, and leveled his fruit trees, inflicting a damage of about twelve hundred dollars. Only one more property was encountered. The buildings of Jos. Marshall to the north of the Strasburg road, were struck. His barn was destroyed and a portion of his house was demolished. He sustained a loss of near eighteen hundred dollars.

The end of the track of desolation is now reached. The storm is at an end. The cloud has disappeared, and the story is nearly finished. The loss of property sustained by the persons living along the route of the storm-cloud is put in tabular form at the end of this work. It amounts to over thirty-five thousand dollars.

Edwin Walton, of Highland township, who had a good lateral view of the movement

and appearance of the tornado, gives the following account of it:

As the cyclone or tornado is a phenomenon of such rare occurrence in this part of the country, and having an excellent opportunity of witnessing the one which commenced in the eastern border of Lancaster county, and passed through portions of Sadsbury, Highland, and East Fallowfield townships, in Chester County, Pennsylvania, on the afternoon of July 1st, 1877, I will endeavor to give as correct a description of it as possible, as it appeared to me. About two o'clock on the afternoon above mentioned, after arousing from a nap, I observed that clouds were gathering and distant thunder was muttering to the north-west. The day was warm, the thermometer indicating a temperature of about 90 deg. Fahrenheit, though no heated term (as it is sometimes called) had been experienced; the weather for several days previous having been rather cool and moist for the season. A strong wind was blowing from the south-west, producing (as I have been accustomed to term it) an active condition of the atmosphere, when storms quickly gather, move rapidly, and are apt to be severe, though not of long duration.

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I walked out into one of the fields and occupied an elevated position that afforded a good opportunity of witnessing what was, unexpectedly, soon to take place. I had been there from a half to three-quarters of an hour, when the gust, which had been gathering to the north-west presented a threatening appearance, a heavy rain apparently passing round to the northward. Suddenly, a dark cloud made its appearance to the south-west, forming rapidly from the atmosphere, and moving with the lower current of air, to the northward. As soon as it reached the vicinity of the gust, the usual play of electricity commenced, which is frequently observed when clouds of unequal temperature meet. My attention was soon directed to a constant roaring or boiling noise that suddenly commenced at a point in the heavens to the north-west of me, and near the western extremity of the two clouds, a noise not quite resembling thunder, which, however, I supposed it to be, and said to myself, "can it be that the main body of the storm is in that direction when it looks so much darker and more threatening farther to the north?" for the clouds in the immediate vicinity of the noise were of a light appearance. The constant roaring, however, continued for probably five to eight minutes, when I first observed in the direction whence it proceeded, a dark cloud of smoky appearance rising from the earth and whirling in a terrible manner, with streams of lightning darting in quick succession from different directions into it, and a whitish, funnel-shaped cloud suspended over it. I was considerably startled, remarked that a cyclone was coming, halted a moment to ascertain the direction in which it was traveling, which appeared to be towards me, and started in haste to the house. I soon found that it would pass a little to the north, and would not strike us, though the air was thick with objects nearly overhead, many of which, to an observer at a considerable distance, closely resembled buzzards sailing round. I immediately took my stand on the upper porch at the east end of the house, when an almost uninterrupted view could be had all the way to the village of Ercildoun, and here the grandest and most terrible sight that I ever beheld, suddenly burst into view, as the tornado passed from behind the hill north of the house, and crossed the narrow-wooded valley near Brinton's Mill, on the road leading to Coatesville. This spot was heavily set with white-oak timber of good growth, but the moment it was struck by the whirlwind, the sturdy oaks, which had been standing for probably a century, were instantly thrown to the ground, many of them raising tons of earth and stones upon their roots, while others, not willing to leave the soil that had nourished them so long, were broken off at different heights and scattered around in confusion, or carried up in the winding funnel to be dashed from the earth far from where they grew. It is needless to attempt a description of the power exerted by the storm at this point, as many visitors who have been there declare that no description they had of it previously, conveyed any clear idea of the reality, and the mind is utterly powerless to conceive how any force can be generated to move an element so light and soft as the atmosphere we breathe, with such tremendous velocity as that required to produce the effect seen here, and many other places along its line of travel. As it passed from this valley over the hill, in the direction of Ercildoun, at a distance of about three-eighths of a mile from where I stood, I could distinctly see the branches of trees flying rapidly as they were thrown off by the centrifugal force of the whirl, the center being so densely filled with dust, leaves, etc., and the motion so rapid, that in it nothing could be recognized. It now moved across a cornfield but lately cultivated, belonging to Joseph Brinton, and here the most terrible-looking sight yet beheld presented itself, for the astonishing quantities of dust rolling upward, together with the dreadful roaring, and the sun almost shining, presented the appearance of a great moving fire, and such many supposed it to be. Our nearest neighbors left their house terror-stricken, and came towards ours, believing, the world was on fire and the Judgment Day had surely come, a belief maintained by others as well as by them, while the horses ran as far as they could get from the frightful object.

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It could now be distinctly seen that Ercildoun lay directly in its pathway, and I was almost horrified to think of such a destructive power moving through a village, for it seemed to a beholder as though no structure erected by human hands could, for a moment, stand before it, and it seems marvellous, considering the destruction done

at this place, that not a single human life was lost, and only one in its whole line of about 20 miles travel. The new dwelling house being erected by Richard Darlington, was about the first in the vicinity to share the fate of destruction, and the moment it was struck the timbers could be seen flying high in the air and scattering in all directions. The next instant the school building was obscured from view, but in a moment reappeared again, showing it to be on the outside of the center, and not in the full force of the storm.

After passing through the town and completely destroying many of the buildings, the cone or funnel, which had accompanied the Tornado like a dreaded omen, disappeared, showing that the whirling motion of the air had ceased, and the storm for the time being was spent. The rotary movement was to the left, which may be shown by standing upon one heel and turning around in that direction. This was evident from the fact that being on the south side, objects flying off from the center were thrown forward, while to a beholder on the north side, as the storm moved eastward, they were thrown backward. The cone appeared to be a cloud of vapor, nearly white, connecting at the base or upper end with a smooth surface of cloud somewhat darker, and tapering in a slightly concave manner for about two-thirds of its whole length, terminating in a tail of nearly equal thickness, about one-third of the whole length and at a height varying, probably, from 100 to 200 feet from the ground. The upper portion of the cone appeared to move nearly in a straight line, and at a uniform rate of speed, while the tail or lower end was frequently seen to bend considerably in different directions, showing that the storm was somewhat swayed from its true course in passing around the hills or crossing valleys at oblique angles, a fact verified by observation. Sometimes it would seem to stop entirely for a few minutes, and then move on faster than before, and was quite as destructive on low ground and in narrow valleys as elsewhere. The appearance of fire frequently spoken of, especially by those toward whom the storm was approaching, I am satisfied was produced by the sunlight against the constantly rising dust, the light being partly transmitted and partly reflected. No rain fell in the track of the storm, but hail stones of large size and in considerably quantity fell in some localities on the north side of it.

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One remarkable feature observed by those near its passage, was the difference between the wind then blowing and that of ordinary winds, the tornado acting with a drawing or sucking force, trees and other objects seemed to give way more readily than if acted upon by the pushing force of the wind behind them. The size of the central portion, or that in which the power of the storm seemed to be generated, did not appear to be more than 50 to 75 feet in width. One person towards whom it was approaching, and but a short distance off, thought it about the size of a large balloon, though trees, buildings, and other objects, were prostrated for the width of 150 to 300 feet.

The tornado of July 1st has assumed so much importance because of its novelty, and of the scientific points involved in its movements, that its history would be incomplete without some reference to the events which followed it, and which had direct connection with it. The suffering among the poorer classes in the village of Ercildoun was of so decided a character, that a meeting was organized and a committee of relief was appointed, composed of the following persons, viz: Abraham Gibbons, Margaretta Walton, R. B. Ramsey, David Young, William Webster, Charles Huston, Jr., and B. Fredd. This committee undertook the task of raising a sum of money to repair and rebuild the houses of those unable of themselves to do so. After considerable effort, in which the people of the borough of Coatesville, and also of West Chester and other places, made generous contributions, the sum of nearly two thousand dollars was raised for that purpose. This amount of money was generously distributed among the sufferers in sums varying from one to four hundred dollars, and most of the dwellings of the class referred to have been repaired, or are in course of erection, and ere long the desolate appearance of the place will not exist, and these people will be placed in a position as favorable as they were in before the storm. No relief has been rendered to any of the sufferers from Insurance Companies, or from any public corporation.

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After the storm had passed through the village of Ercildoun on that Sabbath afternoon, a tide of visitors set in, entirely unprecedented in this part of the country. The sun shone out beautifully; a terrible scene of desolation was spread out in every direction, buildings on every hand having been either blown away or overthrown; fences nowhere; the grass apparently parched and destroyed; trees filling all the roads and pathways; the *debris* of dwellings spread over all the fields; animals gasping for breath or dying; crops shorn to a level with the ground, and human beings running in every direction. Before evening had come, upwards of a thousand people were gazing with astonishment at the scene; carriages and vehicles of all descriptions were to be seen. On the following day, in fact, during the whole of the next three weeks, the number of visitors did not seem to diminish. On July 8th, the Sabbath after the storm, it is estimated that the number was swelled to five thousand. All the roads leading to Ercildoun were absolutely obstructed with vehicles. Reporters for the press, artists for the illustrated papers, and

photographers, were busily attending to their duties. Some of these visitors came in the interest of science, others to extend sympathy and aid to the sufferers, but the great mass of them came with no such purpose. They gazed upon the scene as they would upon a great natural curiosity, and gave the subject little profound thought. They regarded it as a grand "show," and were certainly well repaid for their many miles of travel thither. The citizens of the village kept watch for a few days to prevent pilfering, but were not entirely successful, as many valuables were stolen.

It is estimated that about fifteen thousand people visited the ruins in and around Ercildoun. The damage done to the Seminary property at Ercildoun—amounting to one-fourth of the injury along the whole track of the storm—was so great, and the general outlook upon the lawn—in which most of the trees were either overthrown, broken off, or otherwise injured—was of so unfavorable a character, that it was deemed best by the proprietor to change its location. He purchased a valuable property containing twenty-six acres of land and very fine improvements, in the vicinity of the borough of West Chester, twelve miles east of its former location. Additional buildings of the most approved character were erected thereon, and its capacity for a Young Ladies' Seminary or Boarding School, is greater than it was at Ercildoun, and it is believed that some advantages of a decided character will accrue to it in consequence of it being more easy of access, and of its close proximity to one of the most beautiful towns in the State of Pennsylvania.

The story of the great storm seems now to be fully told. It is one of the phenomena of the century. It has no rival or parallel in this latitude. Its track was extremely narrow, not more than two hundred yards in width, yet it destroyed nearly forty thousand dollars worth of property, principally in buildings. We may never see the like again, but those of us that endured its terrors and suffered its losses, will never forget it. The storm-cloud, in its long journey of twenty-two miles, killed but one person and severely injured three others, but it imperiled the lives of several hundred, who are justly thankful for their narrow escape from death. We have not been accustomed to fear much the thunder, the lightning and the storms of heaven. That calm Sabbath July afternoon has, however, reminded us that a passing cloud may be lashed into the wildest fury and deal out death and destruction on every hand. Whilst we cannot foolishly regard this storm as a dispensation of Providence, as some have said, but rather the wild fury of the elements, acting according to fixed laws, we are, nevertheless, impressed with the dangers to human life on every hand, and with the power of God as he carries out his laws, irrespective of man's wishes or expectations.

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## ESTIMATED LOSS FROM THE TORNADO.

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Jos. D. Pownell,	\$ 300 00
Elwood Pownell,	200 00
Robert Johnston,	200 00
Thos. Bonsall, Jr.,	300 00
Building Association of W. C.,	200 00
Frank Paxson,	2000 00
Madison Irvin,	100 00
Wayne Woodland,	1500 00
Robert Bradford,	50 00
William Cephas,	100 00
Henry Miller,	50 00
Michael McGuigan,	50 00
John Murphy,	50 00
Ezekiel Young,	2000 00
Geo. Paxson,	1200 00
Mrs. Fulton,	800 00
Chas. Hennings,	100 00
Vincent Rice,	200 00
Samuel Jackson,	2000 00
Dr. Murphy,	600 00
Penn'a & Del. R. R.,	600 00
William Hamill,	700 00
Joseph Brinton,	2500 00
Elisha Phipps,	1000 00
Thomas Shields,	1200 00
Richard Darlington, Jr.,	9500 00

Cyrus Coates,	2200 00
Elizabeth Meredith,	800 00
Lewis Miller,	100 00
Junius Richardson,	200 00
Jas. & Wm. Long,	300 00
William Harvey,	400 00
Fallowfield Meeting House,	300 00
Geo. Walton,	200 00
Priscilla Walton,	300 00
Jacob Carter,	700 00
Susan Pierce,	200 00
Richard Bailey,	1200 00
Joseph Marshall,	1600 00
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	\$36000 00

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\*\*\* END OF THE PROJECT GUTENBERG EBOOK A FULL DESCRIPTION OF THE  
GREAT TORNADO IN CHESTER COUNTY, PA \*\*\*

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