

# The **P**ALIMPSEST

APRIL 1933

## CONTENTS

The Camanche Tornado 137

DOROTHY WAGNER

Caught in a Blizzard 149

HAZEL EVANS HOUSER

Earthquakes in Iowa 160

WILLIAM J. PETERSEN

Comment 175

THE EDITOR

PUBLISHED MONTHLY AT IOWA CITY BY  
THE STATE HISTORICAL SOCIETY OF IOWA



### THE PURPOSE OF THIS MAGAZINE

THE PALIMPSEST, issued monthly by the State Historical Society of Iowa, is devoted to the dissemination of Iowa History. Supplementing the other publications of this Society, it aims to present the materials of Iowa History in a form that is attractive and a style that is popular in the best sense—to the end that the story of our Commonwealth may be more widely read and cherished.

BENJ. F. SHAMBAUGH

*Superintendent*

### THE MEANING OF PALIMPSESTS

In early times palimpsests were parchments or other materials from which one or more writings had been erased to give room for later records. But the erasures were not always complete; and so it became the fascinating task of scholars not only to translate the later records but also to reconstruct the original writings by deciphering the dim fragments of letters partly erased and partly covered by subsequent texts.

The history of Iowa may be likened to a palimpsest which holds the records of successive generations. To decipher these records of the past, reconstruct them, and tell the stories which they contain is the task of those who write history.

PRICE—10c per copy: \$1 per year: free to members of Society  
ADDRESS—The State Historical Society Iowa City Iowa



# THE PALIMPSEST

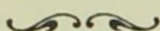
EDITED BY JOHN ELY BRIGGS

VOL. XIV

ISSUED IN APRIL 1933

NO. 4

COPYRIGHT 1933 BY THE STATE HISTORICAL SOCIETY OF IOWA



## The Camanche Tornado

It was sultry for the third of June. In the brick church of the Methodists, men dozed peacefully, while their Baptist brethren, in a "neat frame building", were equally soothed by the warm air and the voice of their minister. Even Reverend George D. Young, the Presbyterian pastor, found it hard to hold the attention of his flock.

Outside, the whole town of Camanche lay steeped in Sunday torpor. The brick schoolhouse seemed strangely quiet and empty after its winter's activity; the fine three-story brick Millard House, run by H. G. Sessions, was almost deserted; and Joseph W. Waldorf's large brick block, which he had built in 1858, showed no signs of the week-day bustle and stir that had characterized its two years of occupancy. No traders, with grain and pork, enlivened the market place; no land speculators proclaimed the virtues of the little



town as a location for business and an ideal place for homes, beautifully situated on the level west bank of the Mississippi where the majestic stream sweeps around Beaver Island to the southwest.

The calm and peace continued throughout the long, hot afternoon. Neighbors came to call; men talked of the prospect of a railroad bridge being built across the Mississippi at Camanche instead of at Clinton some six miles upstream. The women spoke of the prices paid for flour and sugar at Westphall's grocery store, or commented on the latest fashions. The darkening sky about 6:30, and the clouds along the southwestern horizon, occasioned no great apprehension. "A shower will cool us off," they said with relief.

And then, almost before any one realized it, the storm was upon them. The violent shower of rain, vivid flashes of lightning, and heavy peals of thunder sent people scurrying for shelter. It was nearly seven o'clock when out of the west came a menacing rumble and roar as of a heavy train passing over a bridge.

On his farm, three miles west of Camanche, Mr. Ralston saw approaching from the vicinity of DeWitt, a huge, black, funnel-shaped cloud, twisting and writhing with terrific velocity. "Quick!" he yelled at his family. "To the grove! A tornado is coming!"



In desperation they all ran to the locust grove, fearful lest the tornado should arrive before they could reach that doubtful shelter. Suddenly the whirlwind was upon them.

"Lie down on the ground and cling to a tree for dear life!" shouted Ralston above the deafening tumult. Automatically, too frightened to question his command, the family obeyed.

The tornado swept across the yard. The barn and sheds were demolished at once, but the house was picked up bodily and carried about twenty rods west, then brought whirling back to within a few feet of its original location, and finally, with one last vent of fury, "rubbed out as you would rub a snowball between your hands". Not a fragment remained.

On to Camanche rushed the diabolical fury! To a citizen who saw it coming, the tornado then appeared "not larger than a tree", a funnel-shaped "cloud of murky blackness, with the appearance of a thin white vapor revolving around it." Everything in the path of this phantom shape was obliterated. Even the grass was torn up by the roots, leaving the ground bare and black, as if a fire had passed along. The air was full of dust and rain and flying debris. Thus the tornado blasted its way straight through the heart of the town.



Pandemonium reigned! Buildings were sucked up violently by the whirlpool of wind and then dashed to the ground — nothing could stand before the savage onslaught. Through the crash of falling buildings and the frenzy of the storm could be heard the anguished cries of the wounded, the frantic screams of the terror-stricken people, the moans of the dying — and always, above it all, the relentless bellow of the wind.

Flashes of lightning revealed the air “filled with fragments of lumber, furniture and trees flying in every direction with the force of cannon balls”. Everything was in chaos and confusion — a jumble of shattered buildings, dead animals, and wreckage of all kinds. Bewildered and frightened, the residents of Camanche knew not how to escape the terror which had descended upon them.

But in less than three minutes the tornado had left Camanche and passed over the river to Albany, Illinois. “Darkness immediately closed over the scene.” Soon, out of the general gloom, came the glimmer of lanterns as some of the survivors extricated themselves from the wreckage and tried to help those pinned under the ruins. Messengers were dispatched at top speed to Clinton and Lyons to secure aid.

The storm was over at Clinton, and the air was soft and balmy, with a few stars peeping through



the clouds, when up the street dashed a rider from Camanche. Scarcely drawing rein, he called out: "Camanche is destroyed by a tornado, and half the inhabitants are buried in the ruins! Send down all your doctors and materials to dress the wounded!" Then he hurried on, repeating the message wherever he saw a group of people.

In an instant, all Clinton was agog with the news and every one was eager to render every assistance possible. Superintendent Milo Smith immediately "despatched all the hand-cars at hand, and gave orders for a train to at once be prepared to carry to the spot all who desired to go." The steamboat *Queen City*, loaded with sympathetic helpers, came from Lyons and stopped at Clinton to pick up additional passengers. Meanwhile, every available vehicle had been pressed into service and an advance force of nearly a hundred people were speeding along as fast as they could to aid the distressed town. By this time, the moon was out bright and clear, the sandy road was washed hard and firm, and it seemed difficult to realize that death and destruction could be so near. But when they reached Camanche quite a different scene met their eyes.

"God save us from ever seeing again such a sight as that village presented", was the fervent prayer of one man. "To describe it would be im-



possible. No conception could be formed of the scene except by seeing it, and once seeing it would haunt the memory forever." Although nearly as familiar with Camanche as the streets of Clinton, he could not recognize "a particular quarter of the town".

With great difficulty the host of volunteer workers picked their way "over fragments of buildings, fences and loose materials of all kinds to the few shattered fragments of houses that still remained upon First Street. Here were chiefly gathered together the dead that were found and the wounded who still lived. Parents were weeping for their children and children for their parents. Here a husband bent sobbing over his dying wife, and here a mother, with frantic joy, pressed to her bosom the child she thought was lost and found to be alive. Many seemed blessed with a calmness from on high; many were beside themselves and many were bewildered and overcome with stupor."

Seeing that they could be of no service there, the men from Clinton and Lyons "rushed on as a relief to join the eager souls who were toiling like giants, removing the rubbish in search of other victims". Hour after hour they worked frantically. "The ruins strewed around, the hideous distortions of the dead, the mangled bodies of the



living, the multitudes of eager, grimy workmen, the peaceful summer night and the clear moonlight overhead", formed a scene "never to be erased from the minds of any who were present".

All night they toiled and by morning it was possible to take account of the devastation. The entire length of Front Street was in ruins. Every business building was destroyed, including Waldorf's new brick block, the three story dwelling and grocery store of Gottfried C. Westphall, and the Millard House. Churches, schoolhouse, and most of the dwellings were demolished, and the streets looked "as if a heavy flood had swept over them", strewing timbers, boards, shingles, cord wood, and trees all over the town.

"At about half past ten a rude platform was erected" in the street, upon which were laid nineteen dead bodies that had been recovered and placed in rough pine coffins. These "bodies were so mutilated and mangled that it was utterly impossible for their friends to recognize them except by the placard that had been placed upon the coffins by the persons who laid them out."

Later that day, the list of the dead, as announced by Judge William E. Leffingwell of the coroner's jury, included twenty-eight persons. Eighty-one were estimated to have been injured. Hundreds were homeless and without food or



clothing, but the good people of Lyons and Clinton and other cities of Iowa were prodigal in their donations and in their willingness to help the victims in every way possible.

Public funeral services were held on Tuesday and by ten o'clock in the morning some of the people had begun to gather, although the procession did not move to the cemetery until one P. M. The services were opened by the whole assembly of two or three thousand people joining in singing a hymn, after which "remarks were made by the several clergymen present, Rev. A. J. Kynett, of Lyons, taking the principal part." The simple ceremony over, "the coffins were loaded upon wagons and the procession formed, in which was nearly 200 teams. It reached from the place where the dead were deposited on Front Street to the grave yard" one mile distant.

An observer noted that "besides this, large numbers went to the graveyard on foot. It was an imposing spectacle, and certainly speaks well for the people in the vicinity of the catastrophe." All business was suspended in Lyons and about half the population attended the funeral, many of them having been at Camanche most of Sunday night and Monday as well.

Probably the great majority of those who visited Camanche were impelled by the humanitarian



urge to help fellow humans in distress, but there was the usual influx of sight-seers also, and these persons found many strange phenomena to satisfy their curiosity. Among the exhibits was a cedar shingle of ordinary size and thickness which had been driven through Waldorf's store in the very opposite direction from the course of the tornado, and which was "forced through the clapboards, lathes and plastering without a fracture or a bruise."

The chimney of Mr. Anthony's house, "weighing nearly a ton", was blown off and deposited in a perfectly upright position in a garden about ten feet away, "without a single crack". One of the most singular effects of the storm occurred when the lower story of a building on First Street was blown into the river and the upper story simply dropped down into its place, almost uninjured. It was intriguing also to observe that "upon some roofs the shingles were stripped off in fanciful shapes, a bare spot upon one roof exactly resembling the figure eight".

But if a visitor to Camanche exhausted the visible evidences of the storm's caprice, he could always be regaled by the stories of eye-witnesses. One citizen related that "his first realization of the power of the storm was in seeing a horse come flying through the air at about twenty feet from



the ground, followed by a cow at about the same height and which must have been carried over three hundred feet". Or Mr. Butler would tell how his stable was carried away over the tree-tops, and the horses left standing on the earth floor, attached to their rack.

Some of the tales, however, must have taxed the credulity of even the most gullible listener. For example, it was reported that "a child was blown from fifteen miles west of Camanche to that place and landed uninjured". Also that "a man was furiously borne some distance, caught in a tree and held fast desperately while the furious wind stretched straightly out his body and stripped him utterly of his boots and all his clothes".

Probably the most amazing story of all, in some respects, was not revealed until some time after the tornado. It seems that the Tiler's jewel of the Masonic Lodge at Camanche had been blown to Ogle County, Illinois, "where it was picked up by a lady and worn as her breast-pin for some time, before its identity was discovered by the skillful eye of one of the craft".

However exaggerated these stories of the storm may be, there is no doubt that the tornado which struck Camanche on the evening of June 3, 1860, was one of the most tremendous on record, "rivalling the cyclones of the Indian ocean, the



hurricanes of the West Indies and the typhoons of the China seas, in the distance that it swept, from central Iowa to the interior of Michigan, and surpassing most tropical storms in the force of the wind".

The first appearance of the tornado in Iowa was noted about fifteen miles beyond Cedar Rapids, where it consisted of two wings. To the south an enormous waterspout was seen "bellying and surging down from the clouds, and twisting and writhing like a huge worm till it finally reached the earth and became an hour-glass-shaped column rushing wildly onward with the gale". Overhead the clouds were of a "purple hue bordered on the van by pitchy black, and the rear by gray and lurid white, constantly illuminated by flashes of lightning". To the north loomed "a mountain mass of heavy, inky colored clouds crashing along the surface of the ground". Somewhere beyond Marion and Lisbon, the two cyclones united and moved eastward together.

The form of the tornado varied at different places. "At times it appeared as an inverted cone, with a revolving motion, which seemed to hang down from the heavens, and sweeping along, drew up everything in its course. At times it would rise and bound over spaces of half a mile or more, and then settle down again. In some



parts of its path, its diameter was from eighty rods to a half mile; in others its main force was contracted to twenty or thirty rods." Once or twice the whirlwind seemed to divide and reunite. "At times it moved in straight lines, and at other times its course was zigzag. Its speed varied — at times moving for miles with the velocity of a train of cars; then stopping and revolving for several moments in one place; then shooting forward a mile or two in a single moment."

Although the storm wreaked the greatest damage at Camanche, it collected a toll of death and destruction all along its path. "The most reliable authorities estimate the total number of killed" in Iowa "at 134" and "over 2500 people must have been rendered homeless". Everywhere the newspapers proclaimed the "Great Tornado" as a national calamity.

DOROTHY WAGNER



## Caught in a Blizzard

The bleak Iowa prairie was covered with a two-foot blanket of snow. Cold weather had come early in the fall of 1872, beginning in November with unusual severity and tightening its grip on the grim pioneers, who struggled for existence as the winter months closed in upon them. Finally January arrived, and the mercury fell as low as thirty degrees below zero.

On Thursday, January 2, 1873, a heavy snow began to fall and continued steadily, with scarcely an interruption, for three long days. By Saturday the supply seemed to have been exhausted and the prairie came slowly to life. Farmers ventured out, well-bundled, to break new roads over the forbidding expanse of white prairie, which was broken only at rare intervals by lines of fence. Hunters plodded heavily across the fields, sometimes floundering through great drifts into the frozen woods, and occasionally pausing to pound their arms against their heavily wrapped bodies. But as the days passed, the temperature rose and the sun shone a little more cheerfully.

Among other new settlers in northeastern Iowa were the country minister, his wife, and their six



children. They had traded their Wisconsin farm for a half section of the flowery unbroken prairie land of Howard County about seven miles northwest of Cresco. Ministers were sorely needed and on Sundays, Reverend John J. Evans held meetings among the Welsh pioneers. During the week, he labored on his new farm.

It had been necessary to build the barn first, and the family used the central portion of it as a temporary abode. In this way both family and stock could be sheltered. The house had progressed more slowly than they had wished, and January found them still quartered in the barn.

Tuesday, January 7th, dawned very pleasantly. Reverend Evans felt the call of the bright weather, and as he stamped his snowy feet on the floor, he called to his wife, "Eleanor, I believe I'll drive over to Owen Thomas's this afternoon. It's moderated quite a bit — must be about eight below. You'd better bundle up Elizabeth and the baby and ride along. We won't be gone long and can be back by the time the children get home from school."

Reverend Evans was a tall man with a large, aquiline nose. Contrary to the custom of the time, he was clean-shaven except for a short white mustache. The hair that was not hidden under his fur cap was thick and prematurely gray. The



eyes that he turned toward his wife were deep set and of a penetrating dark blue color.

In the center of the room was a heavy, wooden table. Eleanor had her sewing spread upon it and was busily cutting out what appeared to be a woman's coat. She worked deftly, pinning and cutting and matching carefully. At her husband's words she looked up from her sewing. She stroked up the brown scolding locks that curled softly at the back of her neck.

"Elizabeth, shall we go with father?" she questioned. From the corner of the room a little girl about four years of age scrambled to her feet and ran toward her father. He sat down and drew her gently between his knees, putting one arm about her. She said not a word but her brown eyes sparkled with lively expectation.

"I wish I had Mrs. Thomas's coat done so I could take it to her." Eleanor held up a part of the front with a caressing glance. "It's the new 'Ladies Cloth' that Owen bought her at the store. I'm afraid it will outshine even my new homespun." Before her marriage, Eleanor had been a tailoress in Milwaukee and she still spent her spare time sewing.

The sun shone in through one small window that had been put in only temporarily. As soon as the family moved into the new house the window



would be used there and a door fitted into its place in the barn. The floor was rough and uneven. Although the room was only a temporary dwelling, it had an atmosphere of coziness.

The low wail of a baby interrupted the conversation. Eleanor laid down her scissors.

"Baby wants to go too, I guess," she said as she went to push back the curtains which partitioned off one corner of the room. Behind them was a cord bed covered with a light-gray blanket of wool. She picked up the child and carried it in one arm as she replenished the fire with wood. "The first thing we must have after we get into the house is a new box-stove," she remarked. "We'll use my sewing money for that."

She passed from the stove to the bench which held a pail of water, and back to the stove again as she put the water on to heat. Then she went to the cupboard and took out a large pan. Evidently the baby was going to have a bath.

Beyond the cupboard, the wall was lined with a row of nails from which hung all of the family wardrobe except that which was kept in an oak chest at the foot of the bed. Eleanor worked busily, humming a low tune as she moved about. She dressed the baby and Elizabeth and then put on a dress of brown homespun just the color of her soft hair.



A half hour later found them packed in a clumsy old cutter, creaking slowly over the snow. The minister's friendly eyes shone under his black fur cap as he urged the horses into a trot. Eleanor's lips parted to show teeth which were strong and white, as she spoke a few words to the squirming bundle of brown shawl on her lap. Only Elizabeth's bright eyes were visible. Even the tip of her tiny nose was securely buried in a heavy knitted scarf, which was tied in a huge knot at the back of her head.

"The Thomases are good neighbors," Eleanor said as they drove up to the house. "We are fortunate to have them less than a mile from us."

As they stopped, Owen threw open the door and greeted them with a cordial, "Hello, neighbor!" and then called back to his wife, "It's the preacher and his woman." Mrs. Thomas ushered them cheerily in and bustled about unwrapping Elizabeth and exclaiming over the baby.

"Here, we'll put the baby right here in the old black rocker," Mrs. Thomas planned, as she fluffed up a pillow and laid the baby on it. "Eleanor, you take this chair by the fire. Did you get very cold?"

"No, only my feet," replied Eleanor as she took the chair. "I suppose your feet never get cold any more. John told me you had some new shoes to



wear over your leather ones." She rubbed Elizabeth's hands which were red with cold.

"Oh yes!" Mrs. Thomas disappeared for a moment, returning with a pair of sturdy one-buckled overshoes. "Arctics, they call them," she explained. "They keep a person's shoes dry and clean and are real warm, too." She stirred up the fire and settled down for a good visit. Owen and the preacher were putting up the horses. As they came toward the house, Owen led his visitor into a little side woodshed.

"Look here what I bagged this morning," he said, holding up four plump quail. They sat down on the wood while Owen picked his game and the preacher whittled and talked.

When they entered the house some time later, they found Eleanor busily knitting red mittens and Mrs. Thomas carding wool. She cordially set out chairs for the men.

"Hope Owen didn't freeze you to death out there with his quail. I'll get them right on and we'll have an early supper."

Near her mother's chair, Elizabeth was happily stringing buttons of all sizes and colors on a black cord. Sometimes she became so deeply engrossed in her play that she whispered snatches of conversation to herself.

Her supper started, Mrs. Thomas resumed her



carding. "Last week's cold spell made me get at my quilts again," she explained. "I'll be having a 'Bee' next week and I want you to come."

At about four o'clock, dark clouds began to overcast the sky and the wind started to blow. Eleanor glanced anxiously out of the window. "We must be getting home, John. The fires will be low and the boys will wonder what has become of us," she said.

"Yes, it looks as if we might get a storm before long," said Mrs. Thomas after surveying the leaden skies from the window. "But you must have a bite to eat before your cold ride. I'll steep a little tea and we'll have some bread and butter." She had a lunch set for them very soon. They ate rather hurriedly. The men had ceased to joke and Eleanor kept glancing out at the dark sky.

When they had finished, Mrs. Thomas warmed Elizabeth's small coat and little red mittens, Eleanor wrapped the baby warmly and as Owen tucked them all snugly into the cutter, he remarked, "Guess we're in for another spell of weather. It's a good thing you don't have far to go." The air had become filled with fine whirling snow that cut into their faces.

Unwillingly the horses turned into the wind. A gust of it made the air dense with snow. They started off. After a moment Eleanor glanced back



to wave a last good-bye, but to her surprise the house was almost indiscernible through the snow. John urged the horses to a trot. They increased their speed grudgingly and covered the first quarter mile at a slow trot. Snow was fast wiping out all signs of the road. The wind was piling up drifts. John urged the horses on again. They lowered their heads and trotted uncertainly for a few yards and then were forced to a walk. At times they lurched and floundered through great banks of snow. Snow began to cling to the long winter hair on their legs and bellies. Their cheeks were crusted with snow and frost, their nostrils were dilated and their sides heaved from the great exertion. The cold was becoming more intense, accentuated by the terrific gale they faced. John reached down and packed the robes more tightly around their feet, and pounded first one mittened hand and then the other. Eleanor tried to shelter her face near his shoulder. She felt of the baby's little hands. They were cold! She pressed the child closer to her and drew the covers up higher.

"It's bitter cold, John. I wish that I had not brought the children out."

After a moment's pause John replied, "If we had known it was going to get as bad as this we would have stayed at Owen's till morning. We're half way home now. There is nothing to do but go



on." Little Elizabeth began to cry softly. The tears froze instantly on her white cheeks. Her father lowered his face to hers, holding up his great mittened hand to shield her from the beating snow. A flash of pain stabbed his deep blue eyes.

"Eleanor, the child's face is freezing!" he gasped. "Here, little one, put your face in my lap and we'll soon be safe home with the boys." The child stiffly lowered her head and her body shook with sobs.

The horses were reluctant to face the wind. Twice they came to a complete stop and the minister could scarcely get them to move again.

"We ought to be to the willow trees." Eleanor's voice came despairingly. "Are you sure, John, that you know where we are?"

The minister's voice came back through the darkness and tearing wind. "We can't be far from the house now. I am going to get out and see what the horses have come up against."

They were half-buried in the seething snow, motionless except for the heaving of their sides. He disappeared from sight and Eleanor screamed, "John, where are you?"

His voice came muffled, "Here. Keep talking to me. I think I see trees a little ways on."

She kept calling to him. Sometimes the demon wind brought back a faint reply, at other times no



sound came but the roar and the rush of the storm. Eleanor tried to shield both children from it. After endless minutes John reappeared suddenly, floundering through the snow about him.

"We are near the house. I think I can make it on foot. I'll unhitch the horses and then take Elizabeth first. Here, child", he said after a moment. She had ceased to cry. Her face had a deathly pallor and her eyes were dull. One word escaped the man's lips. "God", he implored. Eleanor sat as if stunned, clasping the snow-covered, motionless, brown-shawled bundle to her cold breast.

John disappeared in the storm. His burden was dead weight. At times progress seemed impossible, but he floundered on. Then he stumbled and his shoulder struck something that was not snow. The tree by the house! Again the prayer escaped his lips, "Oh, God!" He stumbled to the door and struck it with a numb foot.

Two frightened boys ran toward him. "Take care of Elizabeth," he ordered as he laid the child on the bed. "She's badly frozen. Your mother and the baby are out there freezing. I am going back after them."

Back into the storm he went. The wind whipped and cut and lashed. Slowly he fought back to the sleigh. "Are you all right, Eleanor?" he



called. She did not move, but as he lifted the baby from her breast he felt the gentle movement of her breathing.

"Oh, God, give me strength," he sobbed. The wind tore the covers from him as he tried to tuck them more firmly about his wife. She moved and murmured his name. "I'll be back soon, Eleanor", he gasped and again was lost in the darkness and snow and wind. His feet were leaden. He could not feel the weight in his arms. The snow seemed to grasp him from all sides. The wind beat him back. The tree — oh, where was it? Slowly he sank down. He made a futile effort to move. He would rest just a moment. . . .

The next day the storm abated somewhat. The oldest son set out early for Thomas's thinking his parents had returned there. Then began the search. The horses were found seeking shelter near a clump of bushes and farther on, the cutter, half-drifted over with snow. On the floor of the sleigh, where she had slipped to her knees, was the mother's frozen body.

A day later the minister was found but a short distance from his house. He still held the child fast in his arms.

HAZEL EVANS HOUSER



## Earthquakes in Iowa

The evening of December 15, 1811, was clear and quiet when the inhabitants retired in the little frontier community of New Madrid, Missouri. At two o'clock in the morning they were suddenly awakened by the "groaning, creaking, and cracking of timbers" and the "crash of falling chimneys." Trembling with fear, they groped their way frantically from their homes to escape the falling debris. They were forced to spend the night shivering in the cold as intermittent shocks continued to weaken their tottering dwellings.

The New Madrid disturbance was one of the three major earthquakes in the United States. The shock was felt from Canada to New Orleans and from the headwaters of the Missouri River to Boston. This is said to exceed the extent of any other known earthquake in this continent. If the earthquakes at Charleston in 1886 and at San Francisco in 1906 are better known, it is only because of the destruction of life and property in more densely populated regions.

Only roving bands of Indians inhabited Iowa-land at the time of the New Madrid catastrophe, which explains the absence of any record of the



shock in this section of the country. Since the intensity and scope of earthquakes may be measured by effects, the testimony of witnesses is particularly valuable in determining the character of the phenomenon. N. H. Heck in his *Earthquake History of the United States* has adopted the Rossi-Forel scale of classifying earthquakes in ten fairly distinct groups.

The weakest tremor in the Rossi-Forel scale is the *microseismic*, which is recorded by a single seismograph or by seismographs of the same model, but not by several seismographs of different kinds. Next comes the *extremely feeble shock* which is recorded by several seismographs of different kinds and may be felt by a small number of persons at rest. The third type, a *very feeble shock*, appreciable to people at rest, is strong enough to determine the direction or duration. A *feeble shock* of the "force of 4" may be felt by persons in motion and is capable of disturbing movable objects, rattling windows, and cracking ceilings. The fifth class is a *shock of moderate intensity* which is felt generally by every one. It is marked by the ringing of bells and the disturbance of furniture and beds. Next came a *fairly strong shock* which awakens sleepers and is attended by the ringing of bells, the oscillation of chandeliers, and the stopping of clocks. Some startled per-



sons may even leave their dwellings. The seventh intensity is indicated by a *strong shock* capable of overthrowing movable objects and ringing bells, by falling plaster, and by general panic without seriously damaging buildings. Falling chimneys and cracked walls rank eighth in the Rossi-Forel scale with the rating of a *very strong shock*. The ninth, or *extremely strong shock*, involves the partial or total destruction of buildings; and a shock of *extreme intensity* with the "force of 10" results in great disaster, ruins, disturbance of the strata, fissures in the ground, and the fall of rocks from mountains.

Since the available evidence is adapted to this classification, the divisions of the Rossi-Forel scale will be used to indicate the nature of Iowa earthquakes. The first earthquake recorded by Heck in this region occurred ten years after permanent settlement began in eastern Iowa. On January 4, 1843, a severe shock at Memphis, Tennessee, caused walls to crack, chimneys to fall, and windows to break. No mention is made of the Territory of Iowa in the government report, but the Fort Madison *Democrat* contained the following item, recording the first known earthquake in Iowa: "The shock of an earthquake was sensibly felt" in Burlington on Wednesday evening "at about five minutes before nine o'clock.



Several buildings were perceptibly affected by the shock, and in some parts of the city loose articles were moved four inches from their place. Some of our citizens were considerably alarmed, but no injury done."

The next earthquake known to have visited Iowa was in 1858. The *Sioux City Eagle* recorded a shock "accompanied by heavy rumbling" on the third of July. The movement was from west to east, and the tremors were of sufficient force to shake "pictures and crockery" from their places, indicating approximately a fourth class shock.

The states of Kansas, Nebraska, Missouri, Illinois, Indiana, and possibly Ohio were visited by a quake on April 24, 1867. Although Iowa is not mentioned in Heck's report, it was probably the motion of this tremor which the editor of the *Wapello Republican* described as "not violent, but easy and swinging, giving one a sensation something like the first effects of a dram of whiskey". The *Dubuque Times* of April 25th declared that several shocks were "distinctly experienced". In the composing room of that paper the "cases shook agueishly and the gas burners vibrated like pendulums", while inmates of the *Herald* building "rushed out" into the street. People in Bishop's Block felt the "walls were sinking from a defective foundation" and fled outside in alarm. The



shock was felt "very sensibly" on the outer levee and the occupants of the Pilots' Association rooms "rushed out in dread of their lives" when the plaster commenced to fall from the ceiling.

Three years later, on October 20, 1870, a strong earthquake rocked the St. Lawrence Valley between Montreal and Quebec and the New England coast from Portland to New York. It was widely felt, being reported at Richmond, Virginia, and Sault Ste. Marie, Michigan. "A distinct shock of earthquake was felt" at Dubuque "about ten o'clock on Thursday morning by parties occupying the second and third stories of buildings and by not a few who were on terra firma. The motion continued several seconds and struck terror to nervous people occupying elevated positions but did no damage."

Western Iowa suffered a shock on October 9, 1872, when Sioux City and the adjoining territory in the Dakotas felt seismic tremors. Although the shock was not violent, the *Sioux City Journal* declared it to be of "sufficient force to set the ground a trembling and cause buildings to vibrate". The effect went unnoticed on the bluffs but was distinctly felt on low ground. Some attributed the "unusual thrill" to a "slight dizziness or nervous attack". Men, women, and children fled from the Hubbard House and teachers attending the insti-



tute at the high school "scattered in undignified haste, fearful that the structure was about to collapse". Several gentlemen in the third story of the First National Bank declared the building "swayed fully two feet" and the "pell-mell manner in which they came down the stairs indicated that they felt the necessity for sudden exit very imperative." Since an earthquake was not "dreamed of", some thought it due to the strong gusts of wind, others believed the buildings were settling, while still others imagined the floors were giving way. The jokers declared it was merely "Greeley's tidal wave sweeping the country" while supporters of Grant assured their Liberal friends that it was nothing but "the Republican thunder in honor of the result of Tuesday's elections."

Five years later, on November 15, 1877, another earthquake was felt throughout Iowa, eastern Nebraska, northwestern Missouri, Kansas, the Dakotas, Wisconsin, and Minnesota. The area was elliptical in form, 600 miles by 300 miles, though the vibration was strongest in the Missouri Valley. Numerous citizens in Council Bluffs "experienced a severe shock, sudden and terrible, as though the earth was being shaken to its center". High school teachers and students were "struck with terror" as desks "swayed to



and fro for an instant and the entire building trembled". It was only by "coolness and presence of mind" that teachers were able to maintain an orderly exit so that no panic was created and no one injured. At one point west of Omaha the quake was said to have "caused a worse shock to citizens than could have been experienced by the combined cases of ague all over the United States had they centered in one man".

Accompanied by a "peculiar rumble like that of a railroad train", the same quake, of the "force of 7", caused Sioux Citians to suffer three-quarters of a minute of horror. As the *Sioux City Journal* records: "Buildings rocked, articles were displaced in homes and buildings, clocks stopped, doors opened as if by unseen hands, windows rattled, dishes and tinware tumbled from their accustomed places. The manifestation consisted of a shock and a recoil, both of which were the most vigorous ever felt in these parts. The streets filled very suddenly, district court was in session and a stampede took place from the Court House. Panic was averted at the Catholic Church, where confirmation services were taking place, by the presence of mind displayed by cool-headed men. Schools were emptied quickly and accident averted by prompt action of the teachers. There were no fatalities but damage to several buildings in



the way of large cracks in their walls was the result of the shake-up."

It was about ten o'clock on the evening of August 31, 1886, when a low rumbling sound was heard by residents of Charleston, South Carolina. The rumble rapidly deepened into a mighty roar, and the mild trembling of the earth soon became violently destructive. More than a score of lives were lost as buildings fell, railroad tracks twisted, fissures and craters formed, and water, mud, and sand spouted from the earth. The earthquake at Charleston was felt over an area with a diameter of a thousand miles, from Boston to Cuba and from Bermuda to Iowa.

Several towns in eastern Iowa "distinctly felt" the tremors but no damage was done. A number of people in Keokuk noticed the ground tremble and occupants of high buildings in Burlington "beat a hasty retreat" to the streets when they became suddenly aware of the effects of the first shock. At Dubuque the printers in the fourth story of the *Herald* building "ran for their lives down the stairway" and the audience in the opera house was "very much frightened". Iowa was one of the farthest points affected by the Charleston earthquake.

An earthquake of varying degrees of intensity was reported throughout Iowa shortly before



eleven o'clock on Saturday night, September 26, 1891. At Amana a number of persons distinctly felt a "shaking", at Tipton a "rumbling" was heard which sounded like the passing of a train, while at Cedar Rapids the shock was of "considerable violence", the vibrations being strong enough to cause windows and doors to rattle and to awaken people from a sound sleep. Dr. J. M. Shaffer felt a "distinct shock" at Keokuk and recorded it in his journal: "I was wide awake, and the house seemed to vibrate or move back and forth; sensation was very singular; listened for some movable trifle to fall, but heard none and observed none. Motion lasted perhaps half a minute." Mild as it was, the editor of the *Keokuk Gate City* deemed it "considerable of a luxury" and believed many residents would "deplore the fact that they were not awake to enjoy it."

Lest the good citizens of Keokuk should feel slighted, apparently, mother earth had a "Fit of Ague" at about 5:30 on the morning of October 31, 1895. It was declared to be the most pronounced quake experienced there in the history of Iowa. This is not altogether surprising, for Heck describes it as "the hardest shock in the entire region since the New Madrid earthquake." Twenty-three States reported the shock.

The *Keokuk Gate City* was quite voluble over



the advent of such a "luxury". "Many of the less soundly sleeping citizens", it declared, "were aroused" by the "unusual trembling of their houses or the elbows of their better halves. The early awakening was heralded by the glimmering of lights in bed chambers and the hasty exit from their homes of women and children. There were two distinct shocks (some say three) lasting about twenty-five seconds each with a short intermission. The rattling of windows, shaking of beds and in one or two instances the falling of brick from toppling chimneys" were all experienced at Keokuk. Apparently the vibrations were of the eighth intensity. E. T. Bartruff, in his excitement, declared that "several gallons of cream were churned into fine butter" on his farm near Moar. Walter Brinkman was delighted to note that the "ashes were shaken out of the furnace", but B. F. Hagerman was somewhat chagrined to find the "buttons were missing from his trousers" and, not to be excelled in imagination, insisted that "the shock shook them off."

The earthquake of 1895 was probably felt throughout Iowa, particularly in the southeastern half of the State. It was reported by many towns from Lansing to Sidney and southward. The houses at Keosauqua were shaken so violently that dishes rattled on the shelves and people



sleeping in the upper stories were "considerably alarmed". Two shocks were felt in Dubuque. Buildings trembled, dishes rattled, and people were awakened from their sleep, but no serious damage was done.

An earthquake occurred in Nebraska, South Dakota, and western Iowa on July 28, 1902. A despatch from Omaha stated that the "seismic disturbances were felt at a large number of towns in the three states and lasted ten to fifteen seconds." No damage was reported, although the shock was "sufficient to rattle dishes and shake bell towers" at various points. On the same date heavy shocks were registered in California.

Three years later, on April 13, 1905, Heck records several shocks of the "force of 5" at Keokuk. Buildings were shaken but no serious damage was done. Burlington was inclined to believe it "inopportune" to report an earthquake at that time. "A seismic disturbance", declared the Burlington *Hawk-Eye*, "would shatter the best dam that could be constructed. If enterprising correspondents in the Gate City must have or see things, they ought to describe the symptoms in a different manner." The shock was apparently local in character but important enough to be located on a government map showing the historic earthquakes of the United States.



Three earthquakes were recorded in Iowa in 1909. An intensity of 8 in the first of these was noted in portions of northern Illinois and southern Wisconsin, and the shock was felt over an area eight hundred miles in diameter from Missouri to Michigan and from Minnesota to Indiana. The disturbance caused widespread alarm throughout eastern Iowa — several towns reporting tremors of varying intensities.

In Dubuque the effect was particularly noticeable in the higher buildings. The overall factories were "jarred" so sharply that the girls fled from their machines to the street in terror. Occupants of the Bank and Insurance Building thought a heavy body had fallen down the elevator shaft, and hurried from their offices apprehensively. A workman on a forty-foot scaffolding at the Presentation Convent became terrified and jumped, alighting fortunately on a pile of sand. "Pictures were left topsy turvy on walls", observed the *Telegraph-Herald* of May 26, 1909, "vases were overturned, crockery 'sang' out when it came in contact with other crockery, glasses on sideboards and on bars tinkled". The dishes at Althausen's and Becker-Hazelton's "danced blithely about, developing a code of their own. The festivities were brief but furious and in the excitement several platters jumped to the floor."



On July 18, 1909, another earthquake with the epicenter a little north of Springfield, Illinois, rocked eastern Iowa. Beds and tables were shaken and dishes rattled at Iowa City. Chimneys were reported down at Davenport. A number of people telephoned the Davenport *Times* that they had been awakened from their sleep by the shock. Others said that pictures on the walls moved and dishes in the pantry rattled perceptibly. Some described it as a hard shock followed by two lesser tremors. Many people rushed out of their homes and congregated with neighbors in the street to await another shock which failed to come.

The third 1909 earthquake in Iowa occurred on September 27th. It was strongest in Indiana, though recorded in Kentucky, Illinois, Missouri, Arkansas, Kansas, and southwestern Iowa.

Western Iowa experienced a mild quake on June 2, 1911. The shock, which was felt over an area estimated at 40,000 square miles, affected chiefly South Dakota and Nebraska. Two slight tremors were noted but no damage was done. The first report in Sioux City came from the Farmers Loan & Trust Building and similar accounts were quickly received from other buildings. A little later, descriptions of the phenomenon came from the residence district where dishes in the



china closet and pictures on the wall quivered. Persons seated in office buildings were given the sensation of dizziness.

On January 2, 1912, an earthquake of the force of 5 and 6 was felt in northern Illinois and southern Wisconsin. Three distinct tremors were observed in Dubuque at 10:22 A. M., the most perceptible being in the residence districts. Everything was "nice and quiet", according to the *Telegraph-Herald*, when "suddenly 'Crash!' down comes all your nice China and musses up the dining room floor you have just swept. Immediately a thousand housekeepers all over the city ran to the telephone and called up the weather man just as if he was to blame".

The last earthquake known to have visited Iowa was felt throughout the southeastern section of the State on the afternoon of April 9, 1917. The direction of the shock was northwest by southeast, covering an area of 200,000 square miles from Kansas to Ohio and from Wisconsin to Mississippi. The maximum force was 6 and the epicenter was in the New Madrid region, according to the seismograph at Saint Louis University. At Iowa City the offices in the Johnson County Bank Building were jarred, tables and desks moved, and books were shaken out of place. Considerable vibration was felt in private residences



throughout the city. Residents on the third floor of the Y. W. C. A. at Burlington found the sensation "decidedly unpleasant". Similar effects were reported at Bellevue, Cedar Rapids, Clinton, Davenport, Keokuk, Lineville, Mount Vernon, Muscatine, and Ottumwa.

Ninety years have elapsed since the first earthquake was chronicled in Iowa. During this time, seventeen shocks have been recorded and a number of milder disturbances may have occurred but remain unknown. An average of one quake every six years might cause some alarm, but close analysis of the facts should remove all apprehension. During this period, although the shocks have ranged from 3 to 8 in intensity, not a single life has been lost and the damage to property has been negligible. The heavy glacial drift, which covers Iowa like a huge mantle, has served as a shock absorber for any seismic disturbances that have yet occurred.

WILLIAM J. PETERSEN



## Comment by the Editor

### *TERRESTRIAL INSTABILITY*

The crust of the earth, though made of rock, is not perfectly rigid. It is elastic, like the shell of a chestnut. Ordinary incidents such as explosions, heavy traffic, the force of waves, and even the tread of animals cause the surface to vibrate. Indeed, the land is always trembling, though for the most part too slightly to be noticed.

Natural internal concussions cause the earth to quake most violently. A tremor strong enough to be sensible may be caused by the slipping of strata or indurated masses along some great crack or fault in the bed rock miles beneath the surface. Sometimes earthquakes result from the displacement of rock by deep-seated lava movements during volcanic action. The generation or cooling of steam in underground caverns could cause surface disturbances. And earthquakes have been attributed to the collapse of the roofs of subterranean caves.

Where geologic changes are in rapid progress — along young mountain ranges, at the mouths of large delta-forming rivers, in volcanic regions, and on great submarine slopes — there the adjust-



ment of the inequalities of stress are likely to produce frequent and occasionally violent earthquakes. Japan averages about three shocks a day.

In relation to seismic activity, Iowa is fortunately situated. None of the conditions favorable to severe earthquakes is found in the region between the Mississippi and Missouri rivers. No doubt there are faults beneath the glacial drift and sedimentary rocks, but the stresses are apparently in equilibrium. The nearest active centers, as indicated on a government map, are in the vicinity of the Illinois River Valley, near Vincennes, Indiana, at Saint Louis and New Madrid, Missouri, and along a line from Huron, South Dakota, to Topeka, Kansas.

During almost a century of observation, not a single earthquake has had its focus in Iowa. The seventeen which have been felt originated elsewhere, and none of these shocks has been disastrous. No buildings have been destroyed or lives lost. The tremors have been so faint and infrequent that the history of earthquakes in Iowa is more comic than tragic.

J. E. B.



# THE STATE HISTORICAL SOCIETY OF IOWA

Established by the Pioneers in 1857  
Located at Iowa City Iowa

---

## PUBLICATIONS OF THE SOCIETY

The Quarterly Journal of History  
The Palimpsest—A monthly magazine  
The Public Archives Series  
The Iowa Biographical Series  
The Iowa Economic History Series  
The Iowa Social History Series  
The Iowa Applied History Series  
The Iowa Chronicles of the World War  
The Miscellaneous Publications  
The Bulletins of Information

---

## MEMBERSHIP

Membership in the State Historical Society may be secured through election by the Board of Curators. The annual dues are \$3.00. Members may be enrolled as Life Members upon the payment of \$50.00.

*Address all Communications to*

THE STATE HISTORICAL SOCIETY  
Iowa City Iowa