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Pioneer Aeronaut

WILLIAM MARKOE and His BALLOON

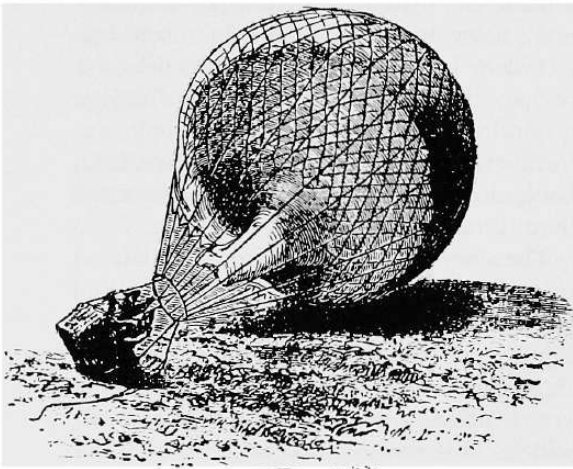
RHODA R. GILMAN

THE FIRST aerial view of Minnesota was achieved on a clear day in September, 1857, when two men in a wicker basket suspended from a balloon gazed down on the frontier town of St. Paul. It struck them as curious that the surrounding country, which to earthbound travelers seemed substantial enough, appeared from the air "like one vast marsh." The city they had just left and the expanse of lakes and ponds around it looked as though they lay in the bottom of a huge bowl whose sides sloped gradually up to the distant horizon. Delighted and a little awed by the view thus spread for the first time before human eyes, the balloonists were able as they rose higher to identify the

waters of the St. Croix River to the east and the town of Shakopee to the southwest. They could see "as on a map" the sweeping curve of the Mississippi, with St. Anthony, Fort Snelling, "and every settlement and point for a circle of 25 or 30 miles around."¹

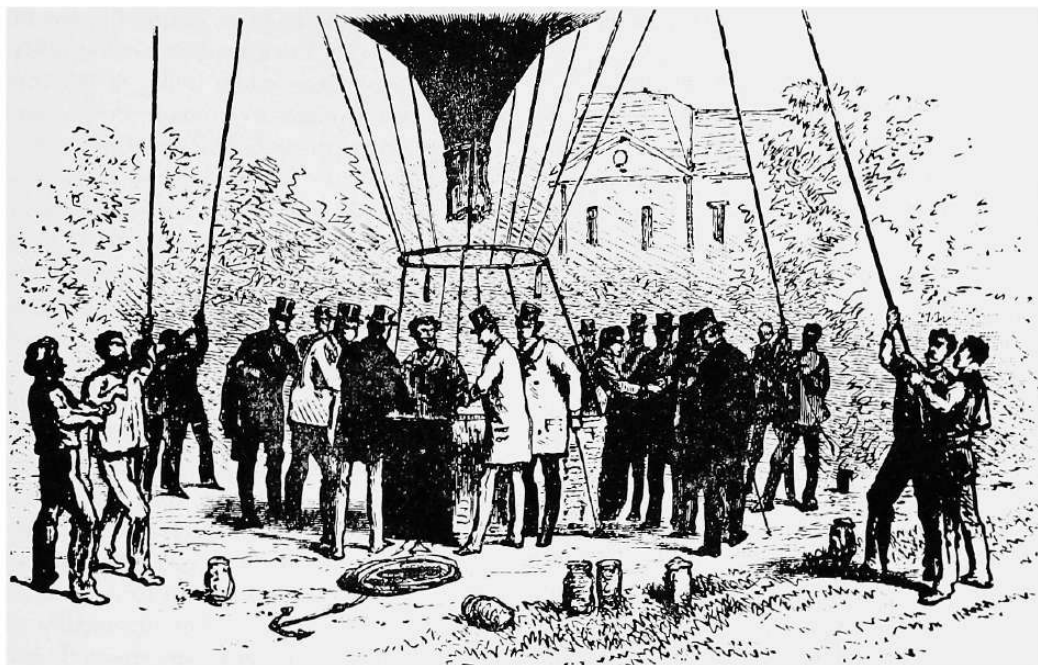
Though the two adventurers were carried by the first balloon to rise over Minnesota, they were scarcely pioneers in the science of aerostation. By 1857 ballooning had become a well-known curiosity of the budding scientific age. The design and navigation of balloons had been perfected within a surprisingly short time after the first flights were made in 1783, and though experiments both weird and sensible were tried from time to time, no real improvements had been hit upon. Napoleon had employed the unwieldy craft for reconnaissance in 1794, and in the decades that followed they had achieved a certain limited military value. Beyond this, no one had thought of a practical use for them.²

The popular imagination, however, was easily caught by the soaring spheres, and professional aeronauts did a brisk business throughout Europe and the United States



¹ *Daily Minnesotian* (St. Paul), September 24, 1857.

² J. M. Bacon, *The Dominion of the Air: The Story of Aerial Navigation*, 42 (Philadelphia, 1903); Charles H. Gibbs-Smith, *Ballooning*, 19 (London, 1948).



NINETEENTH-century aeronauts making ready to ascend

with their public exhibitions of daring and skill. Some of these navigators were simply showmen; others were seriously interested in developing the balloon as an instrument of flight. Few of either type found their way to the frontier, for the risks of flying in sparsely populated areas were great and the financial returns were small.³

Thus Minnesota's first balloonists, instead of being professional aeronauts or traveling performers, were substantial St. Paul citizens, and their craft was a local product, having been designed, built, and financed in the city itself. Its owner and pilot was William Markoe, a former Episcopal clergyman and an amateur scientist.

MARKOE was an unusual man from almost any point of view. Born into a comfortably

prosperous Philadelphia family, he decided to enter the ministry and was ordained in 1849. Accompanied by his bride of a few weeks, he took up the duties of a parish in Delafield, Wisconsin. Five years later the couple abruptly returned to the East, where, within a few months, they announced their conversion to Catholicism.⁴

Finding himself with a wife, two small sons, and no profession, Markoe went to Wisconsin, sold his property, and then looked toward Minnesota Territory, where the land boom of the 1850s was in full swing and paper fortunes were made overnight. There he saw opportunities that promised "a rich increase of my means." Accordingly, in the month of June, 1856, the family moved to St. Paul.⁵

A palsied right arm prevented Markoe from engaging in regular business, but real estate investments and the management of rental property yielded an income, while in his leisure time he turned his attention to a long-suppressed interest in aeronautics. For despite his earnest, rather retiring disposition and the manner of a "high-toned,

³ Gibbs-Smith, *Ballooning*, 20-26.

⁴ Markoe Letter Book, September 26, 1856. This is included in a collection of Markoe family papers owned by Mr. James Markoe of St. Paul, a grandson of the aeronaut. The present article owes much to his kindness and co-operation. Copies of all material cited are in the Minnesota Historical Society.

⁵ Markoe Letter Book, July 25, 1856.

elegant gentleman," William Markoe nursed soaring and unconventional dreams.⁶

As a boy of seventeen he had become acquainted with William Paullin, a well-known Philadelphia balloonist, and had made one ascension from Camden, New Jersey. Writing to Paullin years later he could recall "with what zeal I used to hold the cords during inflation and with what a gratifying boyish sense of self-importance I used to take part in the management of your ascensions and order about the gaping boobies who wanted to help but were rather afraid of the big thing; and when I recollect our ascent together and the whacking bump and the upset we got when we struck, I feel quite like a boy again."⁷ At the same time, however, a deeper emotion had taken hold of him. The "exquisite delight and happiness" of sailing through the air — of fulfilling man's age-old dream of flight — awakened in him a passion for aerial navigation and the conviction that in some way he would play a part in introducing it.⁸

No doubt the hand of destiny seemed present when a few years later in New York he witnessed an exhibition by a peripatetic inventor named Rufus Porter. It consisted of a model airship, or "aeropot," which its originator claimed would carry as many as a hundred passengers from New York to California in three days. Designed on somewhat the same lines as later dirigibles, it was to be driven by a steam-powered propeller and guided by a rudder. In the course of a fantastically varied career Porter had edited several magazines, and he possessed nearly as much flair for words as for mechanical devices. He anticipated that "within a few months these aerial machines may be seen soaring in various directions and at different elevations, some apparently among or above the clouds, and others, like swallows, sailing leisurly [*sic*] just above the surface of the earth."⁹

Although Markoe was intrigued, he was in no position to pursue the subject. He did, however, examine the plans carefully and take one of Porter's pamphlets, which he

reread from time to time, gradually becoming convinced of the invention's workability. Several years later, while living in Wisconsin, he determined to contact Porter and find out what progress had been made.¹⁰

The inventor's response was cordial — bubbling with confidence and enthusiasm. His machine was almost ready to launch, but, he revealed to Markoe, "his great difficulty was want of funds." The young minister at once sent him a thousand dollars and soon persuaded several of his relatives to invest also. A more experienced man might have been prepared for what followed: "Again and again I received accounts from him of the progress of the work; again and again he wrote me that everything was *almost* ready; that he was getting ready to inflate; that in about a month or a week he expected to be afloat; but invariably it would follow that some unexpected 'adverse circumstance' had knocked the whole concern on the head until the next season, when very much the same series of events would be gone through again." Finally Porter became seized with the conviction that the Second Advent was at hand, and gave up work completely.¹¹

Markoe was philosophical about the money lost but bitterly disappointed at the

⁶ Thomas M. Newson, *Pen Pictures of St. Paul and Biographical Sketches of Old Settlers*, 592 (St. Paul, 1886).

⁷ Markoe Letter Book, December 16, 1856. Paullin's aerial career began in 1833. He is probably best remembered for six years spent in making ascensions throughout South America, Mexico, and the Caribbean. During the Civil War he served as a balloonist with the Union Army, making his last ascension under General Joseph Hooker. *Appleton's Cyclopaedia of American Biography*, 4:682 (New York, 1888).

⁸ Markoe Letter Book, September 26, 1856; July 15, 1857.

⁹ Rufus Porter, *Aerial Navigation: The Practicality of Traveling Pleasantly and Safely from New York to California in Three Days, Fully Demonstrated*, 16 (New York, 1849). For biographical information on Porter see *Appleton's Cyclopaedia of American Biography*, 5:79 (New York, 1888). His most lasting achievement was founding the *Scientific American* in 1845. He edited the periodical for six months, then sold his interest in it.

¹⁰ Markoe Letter Book, September 26, 1856.

¹¹ Markoe Letter Book, September 26, 1856.

*A portrait of William
Markoe, probably
taken in August, 1857*



abandonment of the aeroport. He still felt the project was feasible, and soon after his arrival in St. Paul he wrote once more to Porter, suggesting, with touching patience, that the inventor go to Minnesota, where the two men could work together on the flying machine. By that time, however, Porter's fertile brain was occupied in producing a whole new crop of marvelous and infallible gadgets.¹²

DISCOURAGED, Markoe wrote to his old friend, Paullin, telling him the story and hinting that he intended to go ahead with

¹² Markoe Letter Book, July 25, 1856; Porter to Markoe, November 15, 1857, in the Markoe family papers.

¹³ Markoe Letter Book, December 16, 1856.

¹⁴ Markoe Letter Book, July 15, 1857. For information on Wise, see his autobiographical account, *Through the Air, A Narrative of Forty Years' Experience as an Aeronaut* (Philadelphia, 1873). Milestones of his career included the invention of the ripping panel (1839) and a flight from St. Louis, Missouri, to Henderson, New York, in 1859.

aerial experiments on his own. Paullin was obviously skeptical of Porter's scheme, and he cannily suggested that Markoe gain some experience in a conventional balloon before launching anything more ambitious.¹³

Markoe quickly saw the wisdom of this advice and set about planning for the construction of a balloon. It proved to be a complicated and difficult project. There were few experts in the field and they frequently disagreed or were reluctant to share information with potential rivals. One who showed no such narrow attitude was John Wise of Lancaster, Pennsylvania — probably the best known American balloonist of the time. Markoe wrote Wise requesting a copy of his book, *A System of Aeronautics*, and the correspondence which followed resulted in a warm friendship between the two men. To Wise Markoe confessed that when he revealed to other friends his enthusiasm for flying "they smile as if they tho't I might be a little cracked."¹⁴ His fam-

ily also showed a lack of sympathy, for at one point his mother tartly informed him that his devotion to ballooning indicated "a deterioration of character in one who has held the dignified position of a minister of the Gospel."¹⁵

Nevertheless Markoe persevered. In January and February, 1857, while Minnesota's commerce with the world was frozen along with the waters of the Mississippi, he started to buy hardware for his balloon's fittings and found a local basket maker with sufficient skill to construct a wicker car six feet in diameter. Locating a workman willing to make the outsize wooden hoop for its rim was more difficult and required "all kinds of expostulations, entreaties, and blandishments." At last, however, the car was ready for the final touch: twelve yards of turkey red and ten yards of green calico, along with twelve large green tassels.¹⁶

In March Markoe built a shed behind his house to accommodate the balloon operations and then began to manufacture the giant bag. Nineteenth-century balloons were commonly made of silk or linen, the material being treated with varnish to render it airtight. Preparation of the varnish was a critical step, for the compound had to remain soft and pliable after drying and could not contain ingredients that would rot the cloth. Paullin generously contributed his formula, which included, according to the inquiring reporter of the *St. Paul Pioneer and Democrat*. "About one and a half barrels of linseed oil, a half barrel of other material as costly, and some thirty or more lbs. of an ingredient rarely found here in larger quantities at a time than five or six lbs."¹⁷

Before the brew could be applied, however, some 750 yards of Irish linen were painstakingly cut into gores of the proper shape and size, Markoe having worked out the pattern first on lengths of wallpaper. He also devised a machine for speedily putting on the varnish and an ingenious set of racks for drying the material. All went well, and he regarded his own inventiveness "with most complacent self-satisfaction" until he

found that the varnish would not dry indoors. In the weeks that followed he was forced to take the gores out one by one on sunny days and spread them along his garden fence.¹⁸

Sewing the pieces together presented a sticky problem. Wise reported little luck in the use of sewing machines, but Markoe was convinced that a satisfactory one could be found. After trying a number of them, he ordered a model manufactured by the Singer company. But when he put it to work, he found that the glue-like varnish prevented the material from feeding properly. The result, time after time, was shattered needles and torn linen.¹⁹ At last he sold the machine, wrote an indignant letter to the company, and hired a brigade of seamstresses — "four women for the first day, six for the second, fourteen for the whole of the following week; eleven for another day, eight for the next three days, and two for one and a half more." A final coat of varnish, applied by hand over the seams, occupied three boys for a full day.²⁰

WHEN COMPLETED, early in August, the balloon measured 126 feet in circumference and 50 feet in height.²¹ Markoe called it the "Minnesota." As the time for its launching drew near, its owner and would-be pilot began to have second thoughts. He had purposely designed it on a large enough scale to carry several people, hoping to share the

¹⁵ Markoe Letter Book, January 21, 1858.

¹⁶ *Daily Pioneer and Democrat* (St. Paul), August 28, 1857; Markoe Day-Book, January 10, 22, 24, 26, 27, 29, 31; February 5, 6, 12, 13, 14, 23, 25; March 25; April 1, 2, 6, 11, 1857, in the Markoe family papers.

¹⁷ *Pioneer and Democrat*, August 28, 1857. The Markoe home stood at what later became the corner of St. Peter and Iglehart, approximately the spot now occupied by the Veterans Service Building. (Interview with Mr. Markoe, June 1, 1961.) Entries in the Day-Book reveal some of the unnamed ingredients in the varnish. They included camphene, litharge, and acetate of lead.

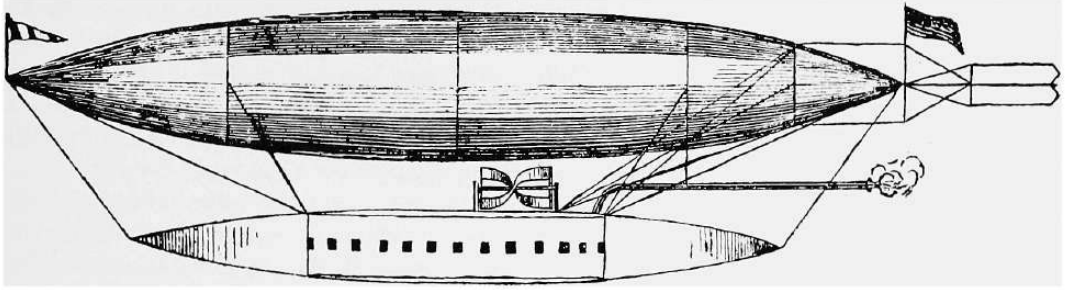
¹⁸ Markoe Letter Book, June 6, 1857.

¹⁹ Markoe Letter Book, June 6, July 5, 1857; April 23, 1858.

²⁰ *Pioneer and Democrat*, August 28, 1857.

²¹ *Pioneer and Democrat*, August 28, 1857.

BEST ROUTE TO CALIFORNIA.



A sketch of Rufus Porter's proposed "Aerial Transport"

cost of ascensions with some of his more adventurous friends. Now it occurred to him that additional money might be made by staging public ascensions and charging admission. In such a venture the name and reputation of Wise would be a great advantage, and he proposed that the Pennsylvanian make the first several flights with him and share the profits. "The expense of my operations has been very heavy on me," he wrote, "and I must do something to remunerate myself; and yet I do not much fancy undertaking the burden and responsibilities of a public ascension the first time. Your presence and experience would be a great relief to me."²² Apparently Wise toyed with the idea but in the end decided against it.

Nevertheless Markoe felt compelled to go ahead with the plan for a public ascension. His out-of-pocket expenses had come to almost a thousand dollars, and each inflation would cost him over a hundred more. He

proposed to sell tickets at a dollar each until a sum of five hundred dollars had been subscribed. The proceeds would be held by a disinterested party pending a successful ascension, in order to assure St. Paul citizens that he had "no disposition to secure the funds, and then fail in his undertaking."²³

Ticket sales fell far short of the goal, but this apparently did not deter Markoe. What did keep him waiting nearly a month was the construction of St. Paul's first plant for producing illuminating gas. Work had been proceeding on it all summer, but not until September 19 did the gas works go into operation. With the problem of inflating his craft thus seemingly solved, the balloonist scheduled his ascension for September 22.²⁴

THE DAY dawned clear and there was scarcely a breath of wind when at 8:00 A.M. the crowd began to gather in the yard of the gas works at the corner of Rosabel and Fifth streets. Inflation proceeded slowly, for the capacity of the giant bag strained the output of the new plant, and by 10:30 it was apparent that the balloon could not be more than half filled.²⁵

Four men were scheduled to make the flight: Markoe, William S. Crawford, a dry goods merchant, Samuel S. Eaton, an insurance and real estate agent, and H. H. Brown, a young Philadelphian who, according to Eaton, had been "in the Indian trade."²⁶ The shortage of gas eliminated Eaton and Brown, and it was further necessary to dispose of all excess weight in the car, which

²² Markoe Letter Book, July 15, 1857.

²³ *Pioneer and Democrat*, August 28, 1857.

²⁴ Christopher C. Andrews, ed., *History of St. Paul*, 74 (Syracuse, 1890). Before 1821 balloons were generally inflated with either hot air or hydrogen. In that year the use of coal gas (or illuminating gas) was introduced. Though less efficient than pure hydrogen, it was cheaper and more easily available. Gibbs-Smith, *Ballooning*, 22, 33.

²⁵ *Minnesotian*, September 22, 1857; *Pioneer and Democrat*, September 23, 1857; Jeremiah C. Donahower, "First Balloon Ascension in St. Paul," Donahower Papers, in the Possession of the Minnesota Historical Society.

²⁶ *Minnesotian*, September 24, 1857; Donahower, "First Balloon Ascension." Eaton's recollections are in the *St. Paul Daily Globe*, August 12, 1893.

one reporter noticed was "well supplied with provisions and necessities for a long journey." Out went ballast, groceries, blankets — even overcoats. Then, at about 11:00 A.M. Markoe and Crawford gave the word to cast off.²⁷

The yard of the gas works was thronged with ticket holders who had paid the dollar admission fee, and a crowd estimated at three or four thousand lined the bluff above. A band had been recruited for the occasion, and it struck up a "stirring air" as the balloon rose slowly and gracefully into the sky, followed by the cheers of those who witnessed the territory's first aeronautical expedition.²⁸

Not far above the city the balloon became stationary, and its occupants had to jettison even more items to lighten it. A three-hundred-foot coil of rope and the remaining ballast were thrown over, and the town was showered with "water, some liquor, and other refreshment." At last the aeronauts were rewarded by once more seeing the earth sink away below them; a northerly current of air caught the balloon, and they drifted off across the Mississippi in the direction of Hastings.²⁹

The day continued fine, and the two men had no cause to regret the overcoats they had left behind. They experienced the "delicious sensation" of calm that is peculiar to balloon travel: an illusion of hanging motionless in a silent sea of air, while a changing panorama of farms, lakes, and forests slipped past beneath them.³⁰

Noon found them above Hastings, from which a freshening breeze carried them westward over the valley of the Cannon River. As their speed seemed to be increasing and the area of continuous settlement did not extend far in that direction, Markoe decided to bring their craft down and end the voyage. He pulled the valve rope while his companion prepared for lunch, taking out a large pan of chicken pie thoughtfully provided by Mrs. Markoe. This proved a mistake, for the descent was rapid and they had scarcely begun to eat when Markoe, glancing over the side, saw the shadow of

their balloon, looming huge and round on the field below them. He threw over the grapnel, but a puff of wind caught the sagging gas bag and pulled it rapidly across the stubble. At the end of the field the car hit a fence with a bump that emptied the chicken pie over Crawford's head.³¹

Markoe, meanwhile, was calling to a curious but fearful group of farmhands, asking them to catch the rope and secure the balloon. These Norwegian-speaking immigrants failed to understand, and one of them started for a gun. His employer, who had seen a balloon before, stopped him. Thus reassured, the men quickly secured the ropes and helped the two aeronauts subdue the flapping monster and fold up the billowing yards of linen.³²

They found that they had landed on the farm of William Greaves in Goodhue County about five miles from Cannon Falls. The balloon was undamaged, and, in fact, the only casualty of the trip was Crawford's gravy-soaked Prince Albert suit. Their host at once hitched up his team, loaded aeronauts, car, and balloon into his wagon, and drove them to Hastings, where they were

²⁷ *Pioneer and Democrat*, September 23, 1857.

²⁸ *Minnesotian*, September 24, 1857; *Pioneer and Democrat*, September 23, 1857. Markoe's Day-Book includes an entry listing "Music for ascension at gas works — \$45.00."

²⁹ *Minnesotian*, September 24, 1857. The coil of rope had probably been intended for use as a "drag line" — a device frequently employed by early balloonists when traveling at low altitudes. Trailing from the car to the ground, it helped to keep the balloon at a steady height, for should the craft descend, more of the rope would rest on the ground, lessening the weight and allowing the balloon to rise again. Equilibrium was thus maintained without constantly discharging small amounts of ballast and gas. Gibbs-Smith, *Ballooning*, 34, 37.

³⁰ *Minnesotian*, September 24, 1857.

³¹ *Minnesotian*, September 24, 1857; Donahower, "First Balloon Ascension." On later reflection Markoe felt that the difficulties of this landing were increased by the fact that he had attached the grapnel rope to the "concentrating hoop" or load ring, thus giving a jerking, twisting motion to the car. Writing to Wise, he confessed that "For some moments I was bewildered, blinded, stunned." Letter Book, April 23, 1858.

³² *Minnesotian*, September 24, 1857; *Pioneer and Democrat*, September 24, 1857.

just in time to catch the steamer "Frank Steele" on its way up the river to St. Paul.³³

THE FLIGHT had covered a distance of forty-five miles and lasted an hour and a half. "Thirty miles an hour!" marveled the editor of St. Paul's *Daily Minnesotian*. "Commend us to the balloon for fast traveling, after all."³⁴ As to the altitude reached, there was considerable speculation and disagreement. With no instruments whatever, the aeronauts could only guess at their distance aloft, and they placed their highest point at about three miles. A correspondent of the *Minnesotian* took issue sharply, noting that "A view from a point three-fourths of a mile high, in a country like ours, unbroken by mountains, should have a radius of about fifty miles, which is quite as much as the passengers in the 'Minnesota' claim, and of course as much as they enjoyed."³⁵ He also argued that at a height of three miles the travelers would have needed their overcoats—and more modern scientists might add that they would have begun to need oxygen.

Perhaps it was because of this discussion that Markoe carried a "mountain barometer" when he made his second flight. The instrument had been the property of the explorer

Joseph N. Nicollet and was loaned to the balloonist by the Minnesota Historical Society.³⁶ The ascension it was to measure took place on October 8, 1857, from the grounds of the Third Annual Territorial Fair in the square before the Capitol.

For its second voyage the "Minnesota" was inflated at the gas works and towed to the fair grounds. The gas problem must have been at least partially solved, for this time there was sufficient lift to carry three passengers. Markoe took with him the two men who had been forced to stay behind on the first ascension. Weather conditions were not the best, for a steady southwest breeze promised to carry the balloon quickly outside the line of settlement and over the wilderness to the northeast. Therefore Markoe planned only a brief flight, and the supplies were limited to "a hamper of provisions and a case of Beaumont & Gordon's best."³⁷

At 10:30 A.M., before the governor and an assemblage of distinguished citizens, the aeronauts "received the adieus of their friends without emotion" and stepped into the car. The ropes were let go and the balloon rose majestically into the air, disappearing in the direction of White Bear Lake.³⁸

AFTER about half an hour Markoe, according to plan, opened the valve, and they started to descend. The landing was complicated, however, by the wooded nature of the country. A clear space was finally spotted, and the pilot tried to bring his craft down within it by valving more gas. He was defeated by the wind, which threatened to drive the balloon into the trees on the edge of the opening. All ballast was frantically dumped overboard, and the balloon rose quickly.³⁹

On the second try, in another clearing, the same trouble occurred, but having no ballast left, the crew were powerless to raise the balloon. The car settled momentarily in the top of an oak tree, tangling the net and tearing loose the valve ropes. It then bounced upward and descended again, this time in a marshy pond.⁴⁰

³³ *Minnesotian*, September 24, 1857; Donahower, "First Balloon Ascension."

³⁴ *Minnesotian*, September 24, 1857.

³⁵ *Minnesotian*, September 25, 1857.

³⁶ *Minnesotian*, October 9, 1857. The society has no record of making this early loan in the cause of science, but the barometer is still in its possession.

³⁷ *Globe*, August 12, 1893. According to an advertisement in the *Pioneer and Democrat* for October 9, 1857, Beaumont and Gordon dealt in "Groceries & Provisions, Wines, Liquors & Cigars."

³⁸ *Globe*, August 12, 1893; *Minnesotian*, October 9, 1857.

³⁹ *Minnesotian*, October 10, 1857. The "Minnesota" had one six-inch valve and one twelve-inch valve, the larger one being intended for rapid deflation upon landing. Obviously it was inadequate. Markoe later added a second twelve-inch valve, which he apparently preferred to the idea of a "ripping panel," whereby a whole section of the balloon could be torn away for immediate deflation. Letter Book, July 5, 1857; April 23, 1858.

⁴⁰ *Pioneer and Democrat*, October 9, 10, 1857; *Minnesotian*, October 10, 1857.



A wind-blown descent in wooded country

Here the accounts of the balloonists become confused and contradictory. It is only too evident that they were excited and that things happened quickly. Grappling irons were thrown over, but either there was difficulty in securing them or the ropes broke. They reached the edge of the water, and Eaton (possibly at Markoe's request, but most probably not) committed the cardinal error in balloon navigation: he jumped out of the car to tie the rope. Relieved of 160 pounds, the balloon shot upward like an arrow. Eaton himself seems to have been uncertain whether the rope broke or tore through his hands. In either case, he clung to it long enough to hear Markoe's shouted order that he stay with them — a command he found "quite impracticable to follow" as he sat in the tall grass watching his companions disappear over the treetops.⁴¹

Concluding that the others were well on their way to "the British Possessions," Eaton picked himself up and set out to discover where he was. The spot at which he had been dropped proved to be near Forest Lake, and he was forced to trudge wearily all the way to White Bear Lake before finding a horse to carry him to St. Paul. His re-

port upon arrival there produced some anxiety over the other two balloonists.⁴²

This was not altogether unfounded, for soaring upward, Markoe and Brown discovered that because of the broken valve ropes they were powerless to release more gas and come down again. Meanwhile the wind was taking them ever farther into the wilderness. It was a distinctly unpleasant situation.

Looking upward, they could see the end of one rope dangling from the neck of the balloon, some fifteen feet over their heads. Brown, being the younger of the two, volunteered to try and reach it. He took the end of the broken section in his teeth and climbed up the ropes as far as the wooden hoop, or load ring, which gathered in the lines below the balloon. Hoisting himself through the hoop, he secured a foothold on it, and standing up, dizzily suspended in mid-air, succeeded in knotting the two ends of the valve cord together.⁴³

⁴¹ *Minnesotian*, October 9, 10, 1857; *Pioneer and Democrat*, October 9, 10, 1857.

⁴² *Minnesotian*, October 9, 10, 1857.

⁴³ *Minnesotian*, October 10, 1857; *Pioneer and Democrat*, October 10, 1857.

By then they had reached a considerable height. Markoe guessed it at two or three miles but admitted that he had been too busy to take readings. With the valve cord repaired, the aeronauts descended quickly and landed unceremoniously in a dense wood. The car caught in the branches of a tree, to which they tied it securely and remained until all the gas had escaped and the balloon had collapsed. Their shouts for help were soon answered by a nearby farmer, who had seen the balloon descend and was trying to locate it. Getting down themselves was no problem, but disentangling the balloon from the branches proved a long chore. Before they finished, two or three trees had been cut down and the linen bag was somewhat torn.⁴⁴

They found themselves in eastern Anoka County, four or five miles from the spot where Eaton had been left. After spending

⁴⁴ *Minnesotian*, October 10, 1857; *Pioneer and Democrat*, October 10, 1857.

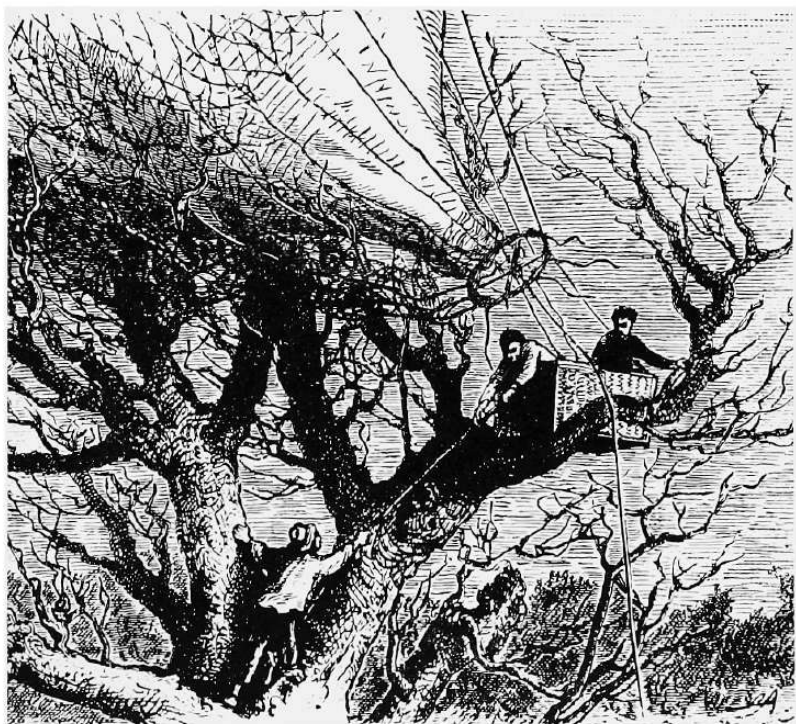
⁴⁵ *Minnesotian*, October 10, 1857; *Pioneer and Democrat*, October 10, 1857.

several hours in a fruitless search for him, they loaded the remains of the precious balloon in a farmer's wagon and set out for St. Paul. There they arrived shortly after their footsore companion.⁴⁵

THE SECOND ASCENSION with its perilous mishaps proved a fitting climax for the territorial fair. In a longer view it also climaxed the feverish boom years of the 1850s during which St. Paul grew from a backwoods village to an aspiring metropolis, whose dreams reached to the sky and whose feet were mired in the ankle-deep mud of its sidewalks. With the economic crash which swept the country in the autumn of 1857, these dreams collapsed as completely as any punctured balloon.

Like most other St. Paulites, Markoe suffered financially from the effects of the panic, but he clung to the hope of making further aerial experiments and during the winter succeeded in reconditioning and enlarging the "Minnesota." In May, 1858, he petitioned the city council for permission to

A common
predicament of
early
aeronauts



erect a wooden enclosure for his balloon work and to charge admission in order to defray part of the cost, "Although the intention in this plan is not, strictly understood, to hold a mere exhibition."⁴⁶

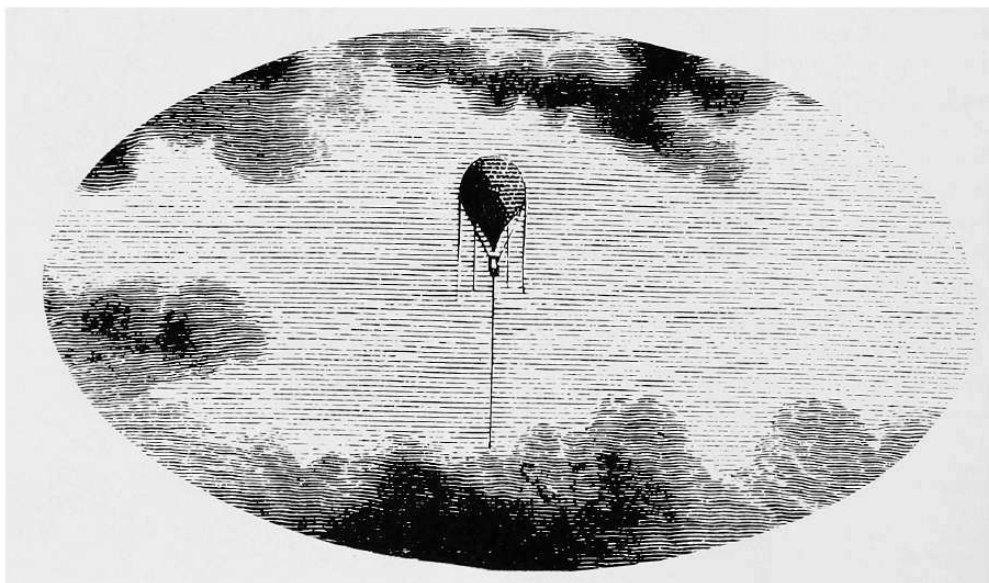
Permission was granted, and a board fence was put up near the Fuller House on the northeast corner of Jackson and Seventh streets. The first ascension of the new season was postponed several times because of unfavorable weather, but finally, on a Saturday morning in early June, Markoe decided that the conditions were right. As the huge bag slowly swelled with gas, the wind began to rise, and by the time the inflation was completed a near gale was blowing. Unwilling to disappoint his audience and lose his large investment in gas, Markoe persisted, but before the car could be attached, a fierce gust caught the balloon. In the words of the *Daily Minnesotian* for June 7, 1858: "The leviathan flopped and struggled, and swayed down to the ground . . . but so firmly was it held at a hundred points, it could not yield to the blast, and a monstrous rent was torn top to bottom in the linen, letting out the gas in a moment, and the folds of the material fell like a cloud on the spectators, while the escaping gas nearly suffocated those nearest it."

Thus ended the "Minnesota." Either Markoe's energy or his resources failed, for he never tried again. He had nevertheless achieved for a brief time the substance of his dream—more, perhaps, than is granted to most men with such lofty visions. As he had written to his friend, Paullin, on September 26, 1856: "neither money nor the glory of the thing is my object; it is simply the delight of the thing itself."

Minnesota, like other areas, saw many balloon ascensions for entertainment and sport through the rest of the nineteenth century, but it was nearly a hundred years before an increased interest in the upper atmosphere aided by the introduction of plastic brought real scientific importance to man's oldest means of flight. When, at that time, the state for which Markoe named his craft gained world prominence as a center of balloon manufacturing and flying, it had good reason to recall its earliest aerial pioneer.

⁴⁶ Markoe Letter Book, May 17, 1858.

THE PORTRAIT on page 169 is used through the courtesy of Mr. James Markoe. The sketch on page 171 is from the back cover of Porter's pamphlet, cited elsewhere, and all other pictures are from James Glaisher, ed., *Travels in the Air* (Philadelphia, 1871).





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