MAKERS OF OUR HISTORY

BY

JOHN T. FARIS

AUTHOR OF "REAL STORIES FROM OUR HISTORY,"
"WINNING THEIR WAY," "MEN WHO MADE GOOD," ETC.

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PREFACE

Boys and girls are hero worshipers. They like to read of those who, when young, conquered difficulties and paved the way for the achievements of later life. Their own lives may be shaped by the lives of the heroes of whom they read, for knowledge of how others have overcome great obstacles often gives the reader faith in himself, and acquaintance with exalted characters often helps in the formation of high ideals.

The plea of teachers has been for stories of the lives of great men so told as to make clear how the foundation of future greatness was often laid in boyhood. It is this plea that the author has kept in mind in telling these stories.

"Makers of Our History" sketches briefly the lives of twenty-eight men, each of whom has had a large part in shaping the course of the American people. Of these twentyeight great Americans the work of some lay in government, in war, or in industry, while others did their part as naturalists or as poets, or enriched and broadened our life in other fields.

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JOHN T. FARIS

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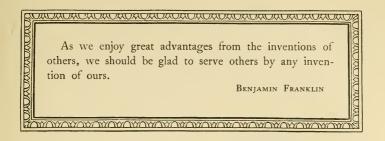
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MAKERS OF OUR HISTORY





CHAPTER I

BENJAMIN FRANKLIN, THE MANY-SIDED

(Born in Boston, January 17, 1706; died in Philadelphia, April 17, 1790)

It has been pointed out as a curious fact that the English ancestors of Franklin and Washington lived within a few miles of each other. Franklin's father's home was in Eaton, sixty miles from London, while Sulgrave Manor, the estate of the Washington family, was close by.

Josiah Franklin came to Boston in 1685, when the city had about five thousand inhabitants. Here Benjamin was born, the thirteenth child in a family of seventeen, and the tenth and youngest son.

At first Mr. Franklin intended to make a minister of his son, and, at the age of eight, sent him to school. When the boy was ten years old his father needed him in the Franklin tallow chandler's shop, and kept him there for two years.

Benjamin was a real boy. He found plenty of

opportunities for sport of all kinds. He was at home on or in the water. His first invention was a contrivance which enabled him to swim faster. Later he tried his first experiment with a kite. By its aid he was drawn along the surface of the



BENJAMIN FRANKLIN

water, sometimes at a rate too rapid for comfort.

After he was twelve years old opportunities for sport were not so plentiful, for he was then apprenticed to his brother James, to learn the printer's trade. For a period of nine years, or until he was twenty-one, he bound himself to serve

his master faithfully, to keep his master's secrets, and to do his lawful commands.

Experience in the printing office made the apprentice wish to increase his meager knowledge. There were difficulties in the way, however; time for reading was scarce, and it was not always easy to secure books. So he arranged with his brother that he should be allowed for his board half the

amount spent on the other apprentices, and he managed to live on half of this reduced amount. The small sum saved in this way helped him to pay for books, while the time saved from his meals gave him more leisure for his reading.



AN EARLY VIEW OF INDEPENDENCE HALL

When he was seventeen, a disagreement with his brother led him to leave the printing office. Unable to secure work at other Boston printing offices because of the tales his brother told about him, he sailed for New York, paying his fare by the sale of some of his books.

Learning that no work could be secured from the one printer in New York, he made up his mind to go to Philadelphia. The first stage of the journey, to Amboy, was made by boat. From there he trudged along the road to Burlington, where he took passage in another boat for his destination.

The picture given in his Autobiography of his arrival in Philadelphia is famous:

I was in my working dress, my best clothes being to come by sea. I was covered with dirt; my pockets were filled with shirts and stockings; I was unacquainted with a single soul in the place, and knew not where to seek for a lodging. Fatigued with walking, rowing, and having passed the night without sleep, I was extremely hungry, and all my money consisted of a Dutch dollar, and about a shilling's worth of copper, which I gave to the boatman for my passage....

I walked towards the top of the street, looking eagerly on both sides, till I came to Market Street, when I met a child with a loaf of bread. Often had I made my dinner on dry bread. I inquired where he had bought it, and went straight to the baker's shop, which he pointed out to me. . . .

I desired him to let me have three penny-worth of bread of some kind or other. He gave me three large rolls. I was surprised at receiving so much. I took them, however, and having no room in my pockets, I walked on with a roll under each arm, eating the third. In this manner I went through Market Street to Fourth Street, and passed the home of Mr. Read, the father of my future wife. She was standing at the door, observed me, and thought with reason, that I made a very singular and grotesque appearance.

Franklin soon found that the two printers in Philadelphia were not good workmen. He worked, however, for one of these until Sir William Keith, governor of the province, became interested in him, and urged him to set up a printing office of his own, promising his patronage. Franklin went to Boston and asked for his father's assistance, but this was refused. Thereupon Mr. Keith offered to advance the money needed, since, as he said, he was resolved to have a good printer in Philadelphia.

Acting on his suggestion, Franklin sailed for London, trusting in the governor's promise that letters of introduction and funds for the voyage and for the purchase of printing material would be sent on board the vessel. Not until he arrived in the English Channel did he learn that Mr. Keith had failed to keep his promise. He landed in London with little money and no friends.

With James Ralph, who had accompanied him, he took the best lodgings he could afford. Then he secured employment from a printer with whom he remained nearly a year, spending most of his savings on Ralph, who did not seem to be able to take care of himself.

His next situation was in a large office where about fifty men were employed. These men looked

on him as a curiosity. He told the reason in his Autobiography:

I drank nothing but water. The other workmen were great drinkers of beer. I carried occasionally a large form of letters in each hand, up and down stairs, while the rest employed both hands to carry one. They were surprised to see, by this and many other examples, that the American Aquatic, as they used to call me, was stronger than those who drank porter. . . . My fellow pressman drank every day a pint of beer before breakfast, a pint with bread and cheese for breakfast, one between breakfast and dinner, one again about six o'clock in the afternoon, and another after he had finished his day's work. The custom appeared to me abominable, but he had need, he said, of all this beer, in order to acquire strength to work.

Franklin failed to convince the man that there was more nourishment in a penny loaf of bread than in a quart of beer. But he made no change in his own habits, and in turn he persuaded some of his companions to adopt his diet.

After eighteen months in London he returned to America with a merchant who asked him to be his assistant, and he remained with the merchant until the latter died, the following year.

During a season of employment with his old master in the printing business he made type and ink, learned to be an engraver, and built the first copperplate press made in America. On this press he helped engrave a quantity of paper money for the Province of New Jersey.

In the intervals of work he made many friends among the young men of Philadelphia. Instead, however, of leading them into amusements that would not help them, he persuaded them to organize a debating society which he called the Junto. Out of this club grew the American Philosophical Society and the Library Company of Philadelphia.

In partnership with one of his friends, whom he had helped in time of difficulty, he opened a printing office of his own. The work he turned out was so good that he did not lack for employment. In this office, in 1729, he began the publication of *The Pennsylvania Gazette*, which became the leading paper of the colony. In 1732 he issued the first number of his famous Almanac. Almanacs issued by hundreds of other printers were almost worthless, but Franklin's "Poor Richard's Almanack" became famous because of the quaint sayings and maxims of Poor Richard.

By this time the young printer was looked on in Philadelphia as one of the first citizens, publicspirited and eager to advance the interests of his city. By economy and attention to business, and by the assistance of his careful wife, he had come to a place where he could give the time he longed to devote to those about him. The founding of the first public library in America was but the beginning of his general activities. He was responsible for the substitution of paid constables for the inefficient "town watch"; he led in establishing the first volunteer fire company in the city; he aroused





TWO PAGES FROM "POOR RICHARD'S ALMANACK"

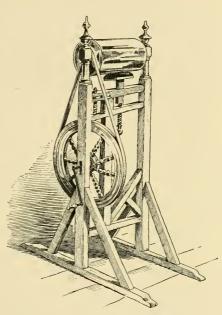
the people of Philadelphia to the necessity of forming a volunteer company for defense against possible enemies; he persisted in talking of the need for schools until, in 1749, the Philadelphia Academy, which became the University of Pennsylvania, was organized; he urged the founding of a hospital, and in 1755 succeeded in laying the corner stone of the

Pennsylvania Hospital; and he led the way in the paving of the city streets with stone.

In the midst of these public activities he found time for making experiments in electricity, and

for continuing his reading and other studies. In his Autobiography he told of one way he compelled himself to improve his mind:

I had begun in 1733 to study languages; I soon made myself as much a master of the French as to be able to read the books with ease. I then undertook the Italian. An acquaintance who was also learning it, used often to tempt me to play



FRANKLIN'S ELECTRICAL MACHINE Now in possession of the Library Company of Philadelphia

chess with him. Finding this took up too much of the time I had to spare for study, I at length refused to play any more, unless on the condition that the victor in every game should have a right to enforce a task, either in parts of the grammar to be got by heart, or in translation, et cetera,

which tasks the vanquished was to perform upon honor, before our next meeting. As we played equally, we thus beat one another into that language.

His habits of study and investigation led to the invention of the Franklin stove. When the governor of the province offered him a patent, he refused it, giving as his reason "that as we enjoy great advantages from the inventions of others we should be glad of an opportunity to serve others by any invention of ours."

His interest in electricity, which had led him to make a number of minor experiments, was increased by a glass tube for the generation of electricity by rubbing which was brought from London to the library he had founded. He had similar tubes made for many of his friends. Finally he succeeded in making the first electrical battery. This he improved later by the use of the Leyden jar.

His first great discovery was that electricity is not created by friction, but that it is "really an element diffused among, and attracted by, other matter, particularly by water and metals." This discovery opened the way for the serious development of electrical knowledge. His suggestion that electricity and lightning are the same caused a sensation, but he proved his point by drawing electricity from the clouds by means of his famous kite. The invention

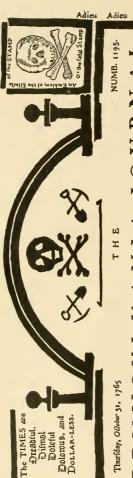
of the lightning rod was one result; another result was his election as a member of famous societies of scientists in Europe.

In 1753 Franklin was made Postmaster-General for the colonies, and he succeeded in making great improvements in the method of transporting mails. During his term of office he went to western Pennsylvania to advise with General Braddock, who was conducting his campaign against the French and Indians. There he first met George Washington.

More than twenty years before the beginning of the Revolutionary War, he saw signs of the coming break with England. In 1756 he was sent to England on a mission for the colony of Pennsylvania, and managed to secure the correction of certain just grievances. Later he was instrumental in forcing the repeal of the Stamp Act.

Sometimes his activities were misunderstood by the colonists, who felt that he was too friendly with England. But he went on with his work, undisturbed, and in time it was evident to all that he was a thorough patriot.

On his return from England, in 1775, he was received with eagerness and was made a member of the Continental Congress. He was one of those who drafted the Declaration of Independence, and was one of the signers of the document.



PENNSYLVANIA JOURNAL,

WEEKLY ADVERTISER.

the LIB

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EXPIRING: In Hopes of a Refurrection to LIFE again.

row) the Publisher of this Paper unable to ligatory upon us after the First of November cn. fuing, (the fatal To mor. to acquaint my Readers, that as The STAMP-Acr, isfear'd to be ob-

AM forry to be obliged bear the Burthen, has thought it expedient I must earnefily Request every Individual rostop a while, in order to deliberate, whether any Methods can be found to elude the Chains forged for us, and eleape the infupportable Slavery, which it is hoped, from the last Representations now made against that A.d., may be effected Mean while,

that I may be able, not only to appears, which I hope will be WILLIAM BRADFORD. of my Subscribers many of whom have apport myfelf during the Interval, but mniediately. Discharge their respective Ar be better prepared to proceed again with this Paper, whenever an opening for that been long behind Hand, that they would

HEAD OF PENNSYLVANIA JOURNAL ON STAMP ACT

His most important and delicate service to the colonies was given while he was diplomatic agent in France, from 1776 to 1785. Just before leaving Philadelphia for Paris he lent Congress about twenty thousand dollars, and during the early years of his long stay abroad, he persuaded first individuals and then the government of France to follow his example in supplying funds toward the expense of the war. His success was a pleasant surprise to the friends of freedom.

Everywhere he went he received a hearty welcome, for, as John Adams said later, "his name was familiar to government and people, to kings, courtiers, nobility, clergy, and philosophers, as well as plebeians, to such a degree that there was scarcely a peasant or a citizen, a *valet-de-chambre*, a coachman, a footman, a lady's chambermaid, or a scullion in a kitchen, who was not familiar with it, and who did not consider him a friend to human kind."

In less than three months after his arrival in Paris he succeeded in overcoming the objection of the government to the making of a secret loan to the United States, and he sent on the first installment of the two million francs promised. Other loans followed until twenty-six million francs had been forwarded.

In May, 1777, he said good-by to the Marquis de Lafayette, who sailed for America in a vessel fitted out at his own expense. Next Franklin persuaded the government to recognize the independence of the United States and to promise to



A Philadelphia house where Franklin was frequently a guest

assist in maintaining this independence against the enemies of the country. Other envoys were associated with him in these negotiations, but their presence proved more of a hindrance than a help.

Soon afterward a fleet of French war vessels sailed for America. These vessels were followed

by French troops who were of incalculable value in winning independence for the colonies. This timely assistance was due largely to Franklin's personality, tact, and personal charm. He had, moreover, roused an enthusiasm for personal and national liberty that was in some measure responsible not only for the expression of French sympathy but for the French Revolution itself.

From 1781 to 1783 he was one of those who conducted the peace negotiations with Great Britain that led to the treaty of 1783. Two years later, when he left Paris for America, all classes united in honoring him as the most popular foreigner who had ever been the guest of the nation. Thomas Jefferson, who was appointed to follow Franklin, said that he was merely *succeeding* him. "No one can *replace* him," he insisted. And the French people agreed.

After Franklin's return to America he was president of the Pennsylvania Supreme Council (governor), serving from 1785 to 1788. His final service to the country was as a member of the council which drafted the Constitution.

During the closing days of his life he wrote a portion of his Autobiography, though he was never able to complete this book. In the quiet of his own home, with his children and grandchildren about

him, he lived peacefully and contentedly. To a friend he told of his feelings at this time:

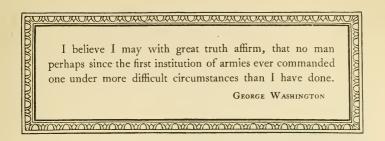
Let us sit till the evening of life is spent. The last hours are always the most joyful. When we can stay no longer, it is time enough then to bid each other good-night, separate, and go quietly to bed.

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CHAPTER II

GEORGE WASHINGTON, "FATHER OF HIS COUNTRY"

(Born at Wakefield, Virginia, February 22, 1732; died at Mt. Vernon, Virginia, December 14, 1799)

Ι

A schoolmaster named Hobby once made the claim that he was responsible for the best of George Washington's education. It is true that Hobby kept a little school near Washington's early home, and that Washington was for a time one of his pupils, but it is not likely that the boy learned more than the merest rudiments from this teacher, for Hobby was one of the many men who had been sent from England to America as a penalty for wrongdoing.

When George was eleven years old his father, Augustine Washington, died, and the boy's later education was directed by his mother and by his half brother, Major Lawrence Washington, at whose estate, Mount Vernon, he spent much of his time.

It was due to the advice of Lawrence Washington that George, when he was fourteen, decided that he



GEORGE WASHINGTON

wished to go to sea as a midship-man. He asked his mother's permission. At first she seemed willing, but later she longed to with-draw her consent. A letter written by a friend, in September, 1746, said:

She seems to intimate a dislike to George's going to Sea and says several

Persons have told her it's a very bad Scheme. She offers several trifling objections such as a fond and unthinking Mother naturally suggests, and I find that one word against his going has more weight than ten for it.

When Mrs. Washington finally decided against the step, she sent her son to a clergyman in Fredericksburg, and by him the boy was taught for some time. At the age of sixteen George

could write well, he knew enough about arithmetic for practical purposes, and he understood how to survey land, an invaluable accomplishment in those days.

In the Department of State at Washington, there is still preserved a plot made by him of the region about Mount Vernon. When he was sixteen he made a plot of Major Washington's turnip field.

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PLOT OF THE REGION ABOUT MT. VERNON MADE BY GEORGE WASHINGTON

From the original in the Department of State at Washington

A neighbor, Lord Thomas Fairfax, gave him a commission to assist in making surveys at some distance from home, and soon after his sixteenth birthday he set out to the appointed place, accompanied by

several old surveyors. While on this trip he kept a journal. In this may be read an account of a night's entertainment in a settler's cabin:

We got our Suppers and were Lighted into a Room and I not being so good a Woodsman as ye rest of my Company striped myself very early and went to ye Bed as they called it when to my surprize I found it to be nothing but a Little Straw — matted together without Sheets or any thing else but only one thread-Bear blanket with double its weight of Vermin. . . . I was glad to get up (as soon as ye Light was carried from us). I put on my Cloths and Layd as my Companions. . . . I made a promise not to sleep so from that time forward Chusing rather to sleep in ye open Air before a fire.

George was better as a surveyor than he was as a speller.

Soon after his return from this trip, when he was seventeen, he was asked to act as surveyor for the College of William and Mary. He had found what he thought was to be the occupation by which he was to make his living and care for his mother and his younger brothers and sisters.

Three busy years he spent as a surveyor. He did his work well; it has been said that no one has ever found an error in it. Many land records in Virginia make mention of his surveys.

During these early days he laid the foundation for his future wealth, for as he traveled he made note of lands he thought it would be worth while to own. As he was able to do so, he bought some of these.

Before he was twenty-one, however, another plan for his future was made by Major Washington. He was interested in the Ohio Company, which had

been organized to colonize the western portion of Virginia and to secure the trade of the West. It was feared that the French would lay claim to the lands in which the Company wished to operate. Major Washington re-



WASHINGTON AS A SURVEYOR

signed from the Colonial Army that he might devote himself to the project. Eager for the help of his brother, Major Washington secured for him an appointment with the Company.

The serious illness of the major interfered with these plans. He went to Bermuda for his health, and his brother went with him. While in Bermuda the younger brother was attacked by smallpox. Not long after his return home Major Washington died, and George Washington was made the owner of Mount Vernon and the guardian of his niece. When he added to his burdens the care of his mother's estate, his responsibilities were large.

This peaceful employment was interrupted when Governor Dinwiddie asked him to go on a dangerous errand. It had been learned that the French were building a fort somewhere in the region in which the Ohio Company was interested. Captain Trent had been sent to learn the location of this fort, but he had returned in fright because, long before reaching the vicinity of the fort, he had been told of the dreadful things the French proposed to do to any Englishman found in that section. The governor had had such good reports of Washington that he felt safe in asking him to do what the older and more experienced man had been afraid to do.

Carrying a message to the French commander on the Ohio, the young leader set out in the early winter of 1753. For a week he and his party pushed through the wilderness before they reached the Ohio, and many weeks more were required to complete the journey to the French fort. The fort was reached safely because of Washington's tactful

dealings with the Indians, who promised him that they would help the English instead of the French.

Finally the letter was given to the French commander. It told him that he and his men would be treated as trespassers, that their fort would be taken, and that they would be driven from the country.

Only a brave man could have delivered such a message, and only a brave man could have endured the perils of the return journey, in the midst of enemies, in the depth of winter, over roads that were all but impassable. Some ten weeks after setting out from home, Washington handed to the governor the French commander's defiance.

Three months later, at the age of twenty-two, Washington was promoted to the rank of lieutenant colonel, as a recognition of a task well done.

Soon he was again on the way to the Ohio country, this time in charge of one hundred and fifty men enlisted to go to the relief of Captain Trent, who had been commissioned to build a fort on the Ohio. In his first brush with the French, he was successful, but he was later forced to surrender the hastily erected Fort Necessity, in which he tried to oppose the enemy when they confronted him in far superior numbers.

But he was to have another opportunity. When General Braddock was sent out from England to drive the French from the Ohio, Washington was asked to serve as aid-de-camp with the rank of colonel. Soon the colonial adviser saw that the English officer was making serious mistakes in his advance, but pleas and protests were in vain. Braddock insisted that English regulars could



THE OCTAGON BARN AT MT. VERNON Designed by Washington

march through any country and could withstand any enemy; but when his fifteen hundred men were surprised at the Monongahela by half as many French and Indians, and badly defeated, it was evident that Wash-

ington's advice was good. Yet Braddock could not profit by the lesson; he did not survive the destruction of his troops.

Although the campaign was a failure, Washington was given high praise for his part in it. The Reverend Samuel Davies soon after spoke of him in a sermon which he preached to a regiment of Virginia soldiers:

I may point out to the public that heroic youth, Colonel Washington, whom I cannot but hope Providence has hitherto preserved in so singular a manner for some important service to his country.

In response to urgent pleas that he do what he could to atone for the failure of Braddock, Washington declared that he was always ready and willing to render his country any service of which he was capable.

To his mother, who told him she wished he would remain at home, he wrote:

If it is in my power to avoid going to the Ohio again, I shall; but if the command is pressed upon me, by the general voice of the country, and offered upon such terms as cannot be objected against, it would reflect dishonor upon me to refuse; and that, I am sure, must or ought to give you greater uneasiness than my going on an honorable command, for upon no other terms will I accept it.

The honorable command was offered to him on August 14, 1755, when he was made commander in chief of the Virginia forces. The campaign on which he entered soon after lasted four years. During this time he saw hard service, he learned to keep himself under good control when less efficient British officers insisted that they were his superiors, and he did what he could to make their blunders harmless. Finally, on

November 25, 1758, he was at the head of the troops which were in the lead when Fort Duquesne, on the site of what is now Pittsburgh, was taken from the French.

Some months later an address of thanks was made to him by the Virginia House of Burgesses. He was so overcome that he was unable to reply. The speaker, noting his confusion, said to him, warmly: "Sit down, Mr. Washington. Your modesty equals your valor, and that surpasses the power of any language I possess."

The modest man thought his military life was at an end. Soon after his return from the West he married Mrs. Martha Custis, and with her he spent six years at Mount Vernon. But this peaceful life was interrupted by a new call from his country.

II

"I will raise a thousand men, enlist them at my own expense, and march myself at the head for the relief of Boston." Thus George Washington spoke when word came to him that the English Government was about to send troops to Boston. No wonder one who heard it called this "the most eloquent speech that was ever made," for Washington was slow to speak, and he was known to be a friend of Governor Dinwiddie of Virginia, who was furious because of the colonists' opposition to Great Britain.

In company with Patrick Henry and five others from Virginia, Washington was sent to the first

Continental Congress at Philadelphia to decide what should be done. A demand was made on the king and the Parliament for fair treatment, but soon after the return of the delegates to their homes they had to make up their minds that England would pay no attention to pro-



PATRICK HENRY'S ADDRESS, 1775 "Give me liberty, or give me death"

tests, and that preparations for war must be made.

The second Continental Congress met in the State House, now Independence Hall, in Philadelphia in May, 1775. At the convention which elected Washington as a delegate to this Congress he heard the impassioned words of Patrick Henry:

Is life so dear or peace so sweet as to be purchased at the price of chains and slavery? Forbid it, Almighty God! I know not what course others may take; but as for me, give me liberty, or give me death!

These words were ringing in Washington's ears when he rode away from Mount Vernon on the



CLIVEDEN, PHILADELPHIA
Where Washington was frequently entertained

morning of May 3, 1775, prepared to serve his country throughout the struggle he knew was coming. It was eight years before he saw his home again.

Massachusetts favored the selection of John Hancock as commander in chief of the army that all agreed must be organized, but Virginia urged that Washington be chosen, in view of his long experience as a soldier. His election was unanimous.

In accepting the appointment, he said:

Lest some unhappy event should happen unfavorable to my reputation, I beg it may be remembered by every gentleman in the room that I this day declare, with the utmost sincerity, I do not think myself equal to the command I am favored with. As to pay, I beg leave to assure the Congress that as no pecuniary compensation could have tempted me to accept this arduous employment, I do not wish to make any profit from it. I will keep an exact account of my expenses. These, I doubt not, they will discharge, and that is all I desire.

Eight days later he was on his way to Boston, where the battle of Bunker Hill had just been fought. In Boston he was received with cheers, yet many of those who cheered did not know who he was, or what he had done.

When he finally stood at the head of his troops, he issued as his first general order a call for unity of effort:

The Continental Congress, having now taken all the troops of the several Colonies, which have been raised for the support and defense of America, into the Payed Service: They are now the troops of the United Provinces of North America; and it is hoped that all Distinction of Colonies will be laid aside, so that one and the same spirit

may animate the whole, and the only contest be who shall render, on this great and trying occasion, the most essential service to the great and common cause in which we are all engaged.

But it was not so easy to persuade the troops to do as he suggested. Petty jealousies among the colonies and even among the officers made it very hard to weld the troops into one army.

This was not Washington's only difficulty. Incompetent and sometimes cowardly officers, poor equipment, lack of funds, short enlistments, the unreadiness of the colonies to respond to appeals for more men and a larger quantity of supplies, and other annoyances by the score combined to make his difficulties almost unbearable.

Once he wrote to his brother:

I believe I may with great truth affirm, that no man perhaps since the first institution of armies ever commanded one under more difficult circumstances than I have done.

In another personal letter, he wrote:

Such is my situation that if I were to wish the bitterest curse to an enemy on this side of the grave, I should put him in my stead.

On one occasion he said to Congress:

An army of good officers moves like clockwork; but there is no situation on earth less enviable, nor more distressing,

than that person's who is at the head of troops which are regardless of order and discipline, and who are unprovided with almost every necessity.

Yet he did not falter. He had devoted himself to the cause of the colonies, and he was prepared to be true to his trust in spite of all discouragements.

A stroke of genius like the surprise of the Hessians at Trenton was necessary to inspire the people with confidence. Washington realized that the attempt was desperate, but he resolved to take his chance. "Necessity, dire necessity, will, nay must, justify any attempt," he said. The success of the attempt lightened many of his burdens. For the time, his trouble with Congress was at an end; he was asked to enlist as many men as he desired and to conduct the war as he thought best.

The events of the next few weeks justified the confidence of the people. When Cornwallis tried to defeat the American army in New Jersey, Washington's conduct of the campaign was brilliant. Indeed, an authority has called it "a campaign which for skill and daring has no parallel in military history and which practically saved the American Revolution at a time when the bravest hearts despaired."

Through five years more of alternating despair and hope, Washington led the American forces until the day of victory came. Then he was summoned to Princeton, where the President of Congress gave him a message which, if not altogether true so far as the past attitude of his fellow citizens was concerned, was at least complimentary:

It has been the particular happiness of the United States that, during a war so long, so dangerous, and so important, Providence has been graciously pleased to preserve the life of a general who has united and preserved the uninterrupted confidence and affection of his fellow citizens. In other nations, many have performed eminent services, for which they have deserved the thanks of the public. But to you, Sir, peculiar praise is due. Your services have been essential in acquiring and establishing the freedom and independence of your country. They deserve the grateful acknowledgments of a free and independent nation.

When Washington returned to Mount Vernon, he wrote to his friend Lafayette, telling of his desire for well-earned rest:

I have not only retired from all public employments, but I am resting within myself, and shall be able to view the solitary walk, and tread the paths of private life, with heartfelt satisfaction.

Not yet was his country willing to get along without him. He was recalled from his retirement that he might guide the United States through the first attempts to walk alone.

After serving as President for eight years, he thought he had a right to rest. Accordingly, the last years of his life were spent at Mount Vernon.

When, in 1799, word of his death was sent out from his home, the whole country mourned.



THE PROCESSION IN COMMEMORATION OF THE DEATH OF GEORGE WASHINGTON, PHILADELPHIA, DECEMBER 26, 1799
From Birch's "Views of Philadelphia," 1800

Worthington Chauncey Ford, in his story of the life of the Father of his Country, writes:

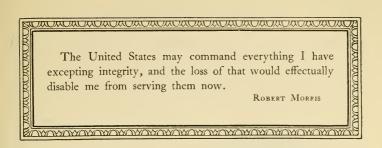
The sight of a nation in mourning is impressive; and it has rarely been presented more impressively than at Washington's death. For the moment abuse and noisy clamor of party ceased; and in civilized Europe, as in

America, homage was paid to the memory of a man, but lately accounted a rebel against his king, and a dangerous leader of faction against the interests of the people. No royal ruler has commanded the same profound respect which was then shown, and to few has it been granted to maintain so strong a hold upon the admiration and even the veneration of men.

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CHAPTER III

ROBERT MORRIS, FINANCIER OF THE REVOLUTION

(Born in Liverpool, England, in January, 1734; died in Philadelphia, May 8, 1806)

One day in 1747 a trading ship from Liverpool landed its passengers at Oxford, Maryland. Among the most eager of those put on shore was an English lad of thirteen, Robert Morris, who was met by his father, an American buyer of tobacco for the owner of the vessel.

For a time Robert went to school in Oxford; but his progress was so slow that Mr. Morris was glad to take advantage of the offer made by a Philadelphia merchant to look after the boy's education and set him to work. The time given to school life, however, was brief, and Robert became an employee of the large mercantile house of Charles and Thomas Willing. His employers soon realized that he had in him the making of a good merchant. He knew how to act on his own responsibility. On one occasion, during the absence of his superior, he learned that word had just come from England of a sharp increase in the price of flour. At once he bought for the firm all the flour he could secure. Of course, local prices advanced as soon as the stock of others was exhausted, and some of the merchants complained of what they called unfairness. But Mr. Willing commended his clerk for his business ability.

When Robert was seventeen years old, the death of his father by accident left him alone in the world, except for relatives in England whom he did not know. Although a little of his father's small estate came to him, he was chiefly thrown on his own resources.

So well did he attend to business that, at the age of twenty-one, he was admitted to partnership. The son of Charles Willing was admitted at the same time. The new firm, Willing and Morris, became in time one of the chief business houses in the city.

Sometimes Mr. Morris accompanied a captain of one of the trading ships used by the firm. A biographer tells of a trying experience on one of these trips. When the vessel was captured by the French, who were at war with England, he was set

ashore in French territory, without means to return home. But by repairing a watch for a Frenchman, he earned his passage money to the nearest port where a ship could be taken for America.

In 1765, when England attempted to enforce the Stamp Act, he was one of a committee appointed to learn from the shopkeeper who had been asked to sell the stamped paper whether he intended to offer it to the citizens. After some persuasion, the man replied that he would not do the work



ROBERT MORRIS

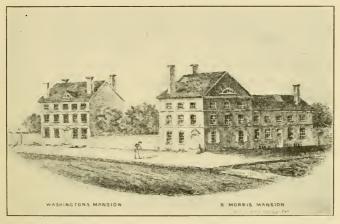
until the people asked him to do so. Later, Mr. Morris had a prominent part in securing the repeal of the unpopular act.

During the early months of the Revolutionary War he urged that peace be made with England. There were many who insisted that he was not a true patriot, but, on April 23, 1775, he pledged himself to serve the colonies to the end. As member of Congress and as vice president of the Committee of Safety, of which Benjamin Franklin was president, he showed his readiness to do what he had promised. He did not vote for the Declaration of Independence, but his later acts showed that he was honest in the statement that his negative vote was due to his feeling that the colonies might find a better way out of their difficulties. On August 2, 1776, his name appeared among the signers of the Declaration.

In April, 1776, Congress appointed him to suggest methods of procuring money for war purposes. This was the beginning of the task which occupied him to the close of the war. If some wondered at his serving those who were not doing as he thought best, there was an answer for them in his own words:

I think that the individual who declines the service of his country because its Councils are not conformable to his ideas, makes but a bad subject; a good one can follow, if he cannot lead.

The issue of Continental currency was opposed by Mr. Morris; he prophesied the evil results that followed. But when his advice was not heeded, he did not refuse to give further help. His first efforts were for the infant navy of the colonists, but the time soon came when he made an appeal to his few friends for the army. On December 31, 1776, Washington asked for a large sum for immediate use; he feared that his soldiers would leave him at a time when every man was



HOUSES OCCUPIED BY WASHINGTON AND MORRIS AT PHILADELPHIA

needed. Mr. Morris sent fifty thousand dollars, which he raised on his own promise to repay the loan. The money was received by Washington in time to make the movement on Trenton which enabled him to close with success a disastrous winter.

The charge was made against Morris that he was using his official position to increase his private fortune, while the truth was that he was buying goods

for the government under his own name only to save money to the colonies, and that his fortune was suffering by his attention to government business and drained by his payments for government purposes. On November 11, 1777, he felt obliged to ask for a leave of absence from Congress, that he might attend to his private business, which for three years he had almost entirely neglected.

Even when he retired from Congress, in 1778, because he was not eligible to another term, he was always ready to serve the country. Learning, on one occasion, that Washington was pleading for cartridges, and that all the available lead spouting on the houses, lead pipe, and other similar material had been used, he placed at the disposition of the government ninety tons of lead that had just been brought to Philadelphia by one of his vessels. Immediately he set one hundred men to work making cartridges, and the next day ammunition was forwarded to General Washington.

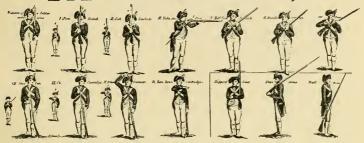
At that time Continental currency was so cheap that Christopher Marshall paid eighty dollars for two hundred handkerchiefs, while Samuel Adams gave four hundred dollars for a hat. Shoes cost one hundred and twenty-five dollars a pair, and even a fishhook cost half a dollar. The king of England felt encouraged by this state of affairs;

TO ALL BRAVE, HEALTHY, ABLE BODIED, AND WELL DISPOSED YOUNG MEN.

IN THIS NEIGHBOURHOOD, WHO HAVE ANY INCLINATION TO JOIN THE TROOPS, NOW RAISING UNDER RAISING

GENERAL WASHINGTON,
FOR THE DEFENCE OF THE
LIBERTIES AND INDEPENDENCE
OF THE UNITED STATES,
Again the holid sleigns of forego memies,

TAKE NOTICE,



THAT Tuesday, Wednesday, Thursday, Friday and Saturday at Spotswood in Middlesex county, attendance will be given by Lieutenant Reatting with his music and recruiting party of company in Major Shute's Battalion of the 11th regiment of infantry, commanded by Lieutenant Colonel Aaron Ogden, for the purpose of receiving the enrollment of such youth of spirit, as may be willing to enter into this HONOURABLE service.

The ENCOURAGEMENT at this time, to enlist, is truly liberal and generous, namely, a bounty of TWELVE dollars, an annual and fully sufficient supply of good and handsome cloathing, a daily allowance of a large and ample ration of provisions, together with SIXTY dollars a year in GOLD and SILVER money on account of pay, the whole of which the soldier may lay up for himself and friends, as all articles proper for his subsistance and comfort are provided by law, without any expence to him.

Those who may favour this recruiting party with their attendance as above, will have an opportunity of hearing and seeing in a more particular manner, the great advantages which these brave men will have, who shall embrace this opportunity of spending a few happy years in viewing the different parts of this beautiful continent, in the honourable and truly respectable character of a soldier, after which, he may, if he pleases return home to his friends, with his pockets FULL of money and his head COVERED with laurels.

GOD SAVE THE UNITED STATES

(1799.)

A CALL FOR VOLUNTEERS TO SERVE UNDER GENERAL WASHINGTON
A reproduction of this broadside was used in the campaign of 1917 for
volunteers to serve in the Great War in Europe

he thought that the poor financing of the colonies would win the war for him.

Money for war purposes had been coming from France, but it became known that no more would be sent unless better plans were devised.

An effort was made to raise funds by means of a lottery, but this plan was a failure. Again Congress turned to Morris in the emergency. He was asked to serve as Superintendent of Finance, in place of the old Treasury Board, and he was assured that matters would be entirely in his hands. On May 16, 1781, he wrote, in reply to the invitation, "The United States may command everything I have excepting integrity, and the loss of that would effectually disable me from serving them now."

One of the first demands made on the new official was for money, provisions, and means of transportation for Washington's men from Dobbs Ferry, New York, to Yorktown, Virginia. How serious Morris thought the emergency is shown by the appeal for help made to the governor of Virginia, the state which would be most benefited by the new campaign:

Those who may be justly chargeable with neglect will have to answer for it to the country, to their allies, to the present generation, and to posterity. I hope, entreat, expect, the utmost possible efforts on the part of your state.

Imperative calls from the army for money followed rapidly. "I wish it to come on the wings of the wind," was one message. Morris must have been driven almost wild by the clamor, but somehow he managed to send funds as needed. He borrowed wherever he could, pledging his financial credit, asking his friends to help him, and advancing every dollar of his own on which he could lay his hand.

In the midst of his work as financier he was made Agent of Marine for the colonies. It was his task to see that the small navy was supported and increased. To this new work he gave much of his time and strength, although he was already overburdened.

The establishment of the Bank of North America was a part of Morris's financial plan on which everything depended. Capital could not be raised at home. He sent a cargo of flour to Cuba, the receipts for which were to go into the stock of the bank; but the vessel was captured by the British. Later he hoped for a shipment of gold from France, but the vessel, driven from its course, was compelled to put in at Boston. The casks and boxes of currency had to be transported across the country. Morris succeeded so well in planning for the hazardous trip that the money came safely

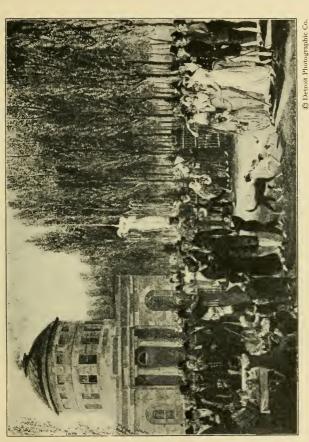
to Philadelphia, the bank was duly organized, and the French money in its vaults became security for the notes issued.

The payment of war taxes by the states was slow. Once, when \$2,000,000 were due, only \$5500 came, and this sum was from a single state. Not even apologies for nonpayment were made. In more than two years the total of taxes of all kinds received was but \$750,000, while the cost of the war for that period was close to \$30,000,000.

Some of the states insisted on paying their taxes in supplies, and it frequently became necessary for the financier to transport the goods to Europe for sale.

In desperation he issued his own notes, which were to be redeemed when taxes were paid. These were called by the people "Long Bobs" and "Short Bobs," according to the date of maturity. Each of these was signed by Morris himself. The bills circulated at par, and every bill was redeemed. The government's credit was almost worthless, but the credit of one honorable man saved the day.

It was hard for Morris to steel himself against the appeals of individual officers for back pay. On one occasion, when General St. Clair told of a starving family at home, for whom he had not a dollar, Morris gave him three hundred and twenty



A FOURTH OF JULY CELEBRATION IN OLD PHILADELPHIA

The building is a representation of the first water works, on the site of the present City Hall

dollars from his own pocket. Yet the day came when he could respond to no more such appeals; his private funds were exhausted.

By foreign loans, by borrowing and returning, by threats and pleas and even by tears, he managed to raise the necessary money to carry on the war to the end. Then came the demand for three months' pay for Washington's men. For this purpose there were issued notes for more than \$11,000,000, which bore the water mark "U.S. National Debt." These were payable six months after date.

It was November 1, 1784, before the financier was relieved of his burden. Later he was a member of the Constitutional Convention and a United States senator. Not until 1795 did he retire from public life.

Unfortunately, the man who made such a brilliant success of financing the war could not take care of his own fortune. During the later years of his life he invested his entire assets in lands in different parts of the Union. He was one of the chief investors in Washington when the city was yet on paper. He thought that the country would go forward by leaps and bounds, but he was too hopeful.

He began, but was unable to complete, an ambitious residence, "the grandest ever attempted in

Philadelphia for the purpose of private life." One wondering writer, in telling of the building, said:

Immense funds were expended ere it reached the surface of the ground. It was generally two and sometimes three stories under ground, and the arches, vaults and labyrinth



THE HOUSE ROBERT MORRIS WAS UNABLE TO COMPLETE From Birch's "Views of Philadelphia," 1800

were numerous. It was finally got up to its intended elevation of two stories, and temporarily roofed in, presenting four sides of entire marble surface, and much of the ornaments worked in expensive relief. . . . Mr. Morris . . . had provided, by importation and otherwise, the most costly furniture; all of which, in time, together with the marble mansion itself, had to be abandoned to his creditors.

A dishonest partner added to the burdens of the financier. Suits, executions, attachments, and imprisonment for debt followed.

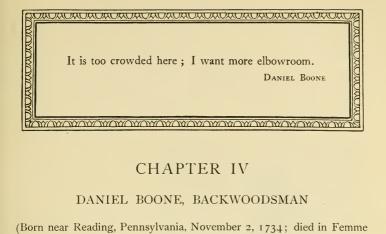
After more than three years and a half in prison, he was released on the passage of a new law by Congress which allowed a debtor who should be declared a bankrupt to be set free on petition of his creditors.

Five years later came the end of the life story that has been called one of the saddest chapters in our history.

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(Born near Reading, Pennsylvania, November 2, 1734; died in Femme Osage, Missouri, September 26, 1820)

Squire Boone, the father of Daniel Boone, came to Philadelphia from England early in the eighteenth century. After a few years of farm labor he saved enough to buy a farm near Reading, Pennsylvania. There his son Daniel was born.

As soon as Daniel was able to walk in the woods and the fields he was attracted by the squirrels and the chipmunks. He was twelve years old when his first rifle was given to him, and he was soon able to supply all the game needed for the household.

He had no opportunity to go to school, but his mother and the wife of an older brother taught him to read and write and to do enough figuring to make simple surveyors' calculations.

In addition to his work as a farmer, Squire Boone was a weaver and a blacksmith. Daniel was taught to handle the loom when the tough homespun cloth was made, as well as to assist in fashioning iron at his father's forge.



DANIEL BOONE READY FOR THE TRAIL

Every winter he wandered through the forests for many miles around his home, hunting and trapping, studying the friendly Indians, and dreaming of the day when he should be able to obey the impulse to push his way into the wilderness, far in advance of the settlers.

His first oppor-

tunity to visit a new country came when he was sixteen years old. Then his father sold his Pennsylvania farm and moved to the Yadkin Valley in North Carolina. The journey was made in a leisurely manner; more than a year was occupied in traveling the distance of five hundred miles.

A home had been made in the new country, and Daniel had become familiar with the wilderness about him, when word came of the defeat of George Washington by the French and Indians who had come down from Canada with the intention of taking possession of the Ohio Valley. North Carolina had an interest in preserving this back country for American settlers, so volunteers were soon sent to join Braddock's company, which was bound for the West to oppose the French. Daniel Boone, not yet twenty-one years old, was one of the company. The journey to Fort Cumberland was comparatively easy, but from there their way across the mountains, through forests and over rocky ridges, had to be blazed by a large corps of woodsmen. The path thus made was called Braddock's Road. This was just the sort of pioneer work Daniel Boone longed for; and he was disappointed by the command to act as mechanic with the wagon train.

One of his companions during the march was John Finley, a hunter who had traveled through Ohio and into a wild region to the south. His tales of Kentucky fired Boone's imagination, and the two men planned to go there just as soon as the trip to Fort Duquesne was at an end. Finley explained how easy it would be to travel

from North Carolina to Kentucky along an Indian trail that led to Cumberland Gap, and then into the desired land.

But the campaign ended suddenly when the French and Indians surprised and defeated the volunteers. Boone found his way back to his North Carolina home, where he married and went to housekeeping in a log cabin which he built on his father's farm.

A few years later came the raid of the Indians in the Yadkin Valley. Boone fled with his family to Virginia, where he made his living as a teamster, carrying loads of produce to the coast.

His hunger for adventure led him to go against the Indians when there was a further call for volunteers. He fought bravely until the Cherokee Treaty put an end to the Indian warfare. Then he took his family back to the Yadkin Valley, and plunged into the wilderness to make a living for them.

In 1760 he found his way into western Tennessee. Here, on the banks of what is to-day known as Boone's Creek, there stood, until a few years ago, a beech tree on whose bark was this inscription, evidently cut by the hunting knife of the pioneer, "D. Boon cilled a bar on this tree in the year 1760."



DANIEL BOONE AND HIS DOG

In 1764, when he was looking down from a Cumberland Mountain peak at a herd of buffaloes, he is said to have exclaimed, "I am richer than the man mentioned in Scripture, who owned the cattle on a thousand hills; I own the wild beasts of more than a thousand valleys."

Boone's longing to go still further from home led him to listen to the appeal of his old friend, John Finley, who appeared in the Yadkin Valley in 1769. The two men persuaded a company of four other frontiersmen to explore the new country under their leadership.

The journey to Kentucky was made in safety. Then one day the entire party were taken captive by Indians and their camp was plundered of a large store of furs, provisions, and ammunition. All their horses were taken. Before they were released, they were warned to keep away from the Indians' land, on pain of death.

Boone and his brother-in-law stole back into the Indians' camp and secured four horses, but they were pursued and captured. Seven days later the two men managed to escape while their captors were asleep. A little later they overtook their companions, who had turned homeward.

In the meantime Squire Boone, Daniel's brother, had come from Virginia, according to previous arrangement, with fresh horses, provisions, and ammunition. Daniel at once proposed to take this new equipment and return to Kentucky. Several of the company volunteered to go with him, but others decided to go back across the mountains.

Daniel and his companions continued their exploration and their hunting until one of the



DANIEL BOONE'S FIRST GLIMPSE OF KENTUCKY

four was killed by Indians, and another had left for North Carolina. When provisions were low, Squire Boone took the furs they had gathered and returned home, while Daniel pushed on as far as the Falls of the Ohio, at the present site of Louisville. He hoped to find a place to which he could bring his family.

But the site of the Kentucky home was not selected until after he had gone back to the Yadkin Valley and had made two further trips to Kentucky. On the second visit he found the spot he desired, and when he returned he was so enthusiastic in his description of the beauty of the place he had chosen that many of his neighbors and their friends from other parts of the state asked to accompany him when, on September 25, 1773, he left the Yadkin Valley with his family. Many additions were made to the party as it passed on to the mountains.

Indians surprised and killed a number of the company, including Daniel's seventeen-year-old son. This disaster led the immigrants to pause for a season on the way. Daniel chafed at this inaction, and he welcomed the call made by the governor of Virginia for two good woodsmen who would dash into Kentucky by the Cumberland Gap route, to warn several surveying parties to be on their guard against Indians who were rising to prevent the passage of settlers to the West. In company with Michael Stoner he reached the heart of Kentucky in July, 1774. Two months later they returned, having done their work.

Boone's next great opportunity came when the Transylvania Company was organized by Richard Henderson and others, to buy from the Cherokees their claim to Kentucky and the land needed for access to Kentucky. In spite of the opposition of the governors of Virginia and North Carolina, who declared that Henderson had no right to bargain with the Indians for these lands, they were bought for a ridiculously small sum, and

Daniel Boone was selected to make a road to them through the wilderness.

His selection was natural, for, according to the naturalist Audubon, who saw him in his wilderness life, he made a commanding figure:

The stature and general appearance



ON BOONE'S WILDERNESS ROAD

of this wanderer of Western forests approached the gigantic. His chest was broad and prominent; his muscular powers displayed themselves in every limb; his countenance gave indication of his great courage, enterprise, and perseverance, and when he spoke, the very motion of his lips brought the impression that whatever he uttered could not be otherwise than strictly true.

From the Wautauga settlements in Tennessee, for a distance of two hundred miles, the back-woodsman and his thirty hardy companions forced their way, cutting trees, burning the undergrowth, and fighting the Indians. At length they reached their goal, on the Kentucky River, and began the erection of a group of cabins for the accommodation of the settlers who were to come later under Henderson's leadership. This settlement was called Boonesborough.

Before long, representatives from three other settlements in the Transylvania territory gathered at Boonesborough and formed a House of Delegates for the government of the new colony. Laws were made, and the fortunes of the Transylvania Company looked bright. It was even thought that Transylvania might be admitted as the fourteenth colony in the Revolutionary Union. But the opposition of Virginia and North Carolina, which claimed the land sold by the Cherokees, the reluctance of Congress to sanction the enterprise, and dissensions among the immigrants, who found fault with what they called the avarice of Henderson and his associates, wrecked the Company. Virginia and North Carolina, however, gave to the Proprietors two hundred thousand acres of land as a recognition of the valuable work

they had done in building the Wilderness Road and opening the Kentucky settlements.

The importance of the new road was greater even than was thought at the time. By this route tens of thousands of settlers found their way to the West. Daniel Boone had shown them the way.

During the Revolutionary War Boone was a leader in the fight to save the Kentucky settlers from the Indians, who were encouraged in their attacks by the British, the holders of the forts at St. Louis, Kaskaskia, Vincennes, and Detroit. In 1777 the Indians attacked the fort at Boonesborough several times, but were repulsed.

In February, 1778, the defenders of the fort were deprived of their leader for a season. With thirty settlers Boone had gone to the lower Blue Lick to gather a supply of salt sufficient to last during a possible siege. The party was about to return to the fort when a war band of Shawnees appeared suddenly, pursued Boone, and finally captured him after a desperate chase.

His captors took him to their camp, where he found a large party of warriors. The demand was made that he lead them to his companions. Naturally he did not wish to do this, but when he learned that the party was on the way to attack Boonesborough, he decided to comply with the demand.

He understood savage natures well enough to foresee that if they had thirty captives, they would postpone their attack on the settlement until they could take their men in triumph to Detroit and secure the liberal reward offered by the British. Later he was tried by court-martial for this betrayal of his companions, but the court approved his defense that it was better that thirty men should go into captivity than that a settlement should be destroyed.

The journey to Detroit in the depths of winter proved difficult and dangerous. Intense cold and heavy snows interfered with game supplies. Finally some of the horses and dogs were killed for food. Later many of the Indians were eager to kill the prisoners. Fifty-nine Shawnees voted to burn the captives at the stake, but fortunately sixty-one voted to save them for the reward.

During the journey the Indians became so fond of Boone that they told him they wished to adopt him into the tribe. In vain Governor Hamilton, the British commander at Detroit, who wished to use Boone as a scout, offered one hundred pounds for his release. The prisoner was taken to the Shawnee village at Chillicothe, in Ohio, and there adopted by Chief Black Fish.

He pretended to like the life at the Indian camp, but he was only waiting for a chance to escape. The Shawnees, fearing that he might leave them, were determined that he should not secure a supply of powder and bullets; they knew that he would not dare to enter the trackless forest unarmed. Careful account was kept of the ammunition furnished him when he went on hunting expeditions, and he was

compelled to return all for which he could not give account. His cunning was greater than theirs, for he managed to cut bullets in half and use small charges of powder when after small game. In this manner he laid by a small store of lead and powder.



MONUMENT TO THE ROAD BUILDER, DANIEL BOONE, ON THE WILDERNESS ROAD

When he had been a prisoner for four months, his curiosity was aroused by the coming into camp of hundreds of savages in war paint. By this time he understood more of the Shawnee language than he was willing to own, so he had little difficulty in learning the purpose of the war party. They were planning an immediate attack on Boonesborough.

He did not hesitate an instant in making his decision. His people must be warned at once, and no one could take the warning but himself. •He knew that recapture was almost certain, yet he was willing to run the risk.

The story of the journey of one hundred and sixty miles to Boonesborough is one of the most thrilling tales of pioneer days. Early on the morning of June 16, 1778, he asked leave to spend a day in hunting. As soon as he was out of sight of camp, he turned toward Kentucky. All his woodcraft was called into play to deceive those whom he knew would soon be on his track. He did not dare to shoot game, lest he betray his whereabouts.

At last he reached the Ohio. Unfortunately the river was in flood, and he was not a good swimmer. Discovering an old canoe, he crossed the stream. But he was not yet out of danger. For five days longer his hardships continued. Finally, footsore and weary, half starved and eager for a good night's sleep, he reached his friends at Boonesborough.

Two months later he led in the defense of the fort against four hundred and fifty Indians. Thus he coöperated in the saving of Kentucky with George Rogers Clark, who led the successful expedition against Kaskaskia and Vincennes.

After the war he moved on further into the wilderness. Later he went to Maysville, where he opened a tavern and a store. Still later, when he moved to Point Pleasant, in western Virginia, he was elected to the Virginia Assembly for the third time, having previously been a member from Boonesborough and from Maysville.

In 1796, when the Kentucky legislature proposed to improve the Wilderness Road for wagon travel, Boone wrote to Governor Shelby:

Sir, after my best Respts to your Excelancy and famyly I wish to inform you that I have some ambition of undertaking this New Rode that is to be cut through the Wilderness and I think my Self intitled to the ofer of the Bisness as I first Marked out that Rode in March 1775 and Never rec'd anything for my trubel and Sepose I am no Statesman I am a Woodsman and think My Self as Capable of marking and Cutting the Rode as any other man. Sir if you think with Me I would thank you to wright me a Line by the post the first oportuneaty. . . . I am Dear Sir your very omble sarvent Daniel Boone.

But the contract went to others, to Boone's great disappointment.

In 1798 Boone, then a resident of Point Pleasant, said: "It is too crowded here; I want more elbowroom." Taking his family he went by flatboat to Missouri. A farm of eight hundred acres, forty-five

miles from St. Louis, was given to him by the Spanish authorities. Near this, but, unfortunately, not on it, he made his home, and rejoiced to serve as a magistrate. When the United States succeeded the Spaniards in possession of Missouri, he lost his farm, because he had not lived on it. Thus, at



DANIEL BOONE'S MISSOURI CABIN

seventy-eight, the pioneer was deprived of the last foot of land in the western country which he did so much to win. In 1813, by act of Congress, his farm was returned to him, after the presentation of a petition in his behalf in which he spoke of the history of the settlement of the western country as his history, and made an appeal that must have

been shaped for him by some friend better educated than himself:

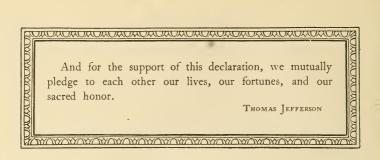
Your memorialist cannot but feel, so long as feeling remains, that he has a just claim upon his country for land to live on, and to transmit to his children after him. He cannot help on an occasion like this but to look toward Kentucky. From a small acorn she has become a mighty oak, furnishing shelter to upwards of four hundred thousand souls. Very different is her appearance now from the time when your memorialist, with his little band, began to fell the forest and construct the rude fortification at Boonesborough.

Boone died in 1820, and was buried by the side of his wife, in Femme Osage, Missouri. In 1845 the two bodies were removed to Frankfort, Kentucky.

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CHAPTER V

THOMAS JEFFERSON, STATESMAN

(Born in Albemarle County, Virginia, April 2, 1743; died at Monticello, Virginia, July 4, 1826)

Before Peter Jefferson died, in 1757, he asked that his eldest son, Thomas, should receive a thorough education. In his own early years he had been given only a very ordinary education, and he wanted his children to be more fortunate.

At this time the son was fourteen years old, and the father had guided the early years of his training, seeing to it that the boy not only got instruction from his schoolmaster but learned how to swim, to row, to ride horseback and to hunt.

In accordance with his father's wish, Jefferson was sent to William and Mary College at Williamsburg, the colonial capital of Virginia. During his first year he paid too much attention to social life, but in his second year he became a diligent student,



From the original picture by Gilbert Stuart in the Walker Art Building,
Bowdoin College

and made it a rule to study fifteen hours a day. When he graduated, at nineteen, he could read Latin, Greek, and French, and was skilled in mathematics and literature.

A passion for thoroughness led him to spend five years in the study of the law in a day when many would-be lawyers were content with a few months or a year for preparation.

During his first two years' experience as a lawyer, he won so many friends that he was able to secure election to the Virginia House of Burgesses. The address at the opening of the session, made by the English governor, was not pleasing to the patriotic members, and they asked Jefferson to draw up resolutions replying to it. In the resolutions which he prepared it was declared that taxation without representation is illegal, and that accused persons should not be sent out of the country for trial.

When the angry governor dissolved the House, the members met in the Raleigh Tavern and agreed to ask the people to buy no more goods which bore the iniquitous taxes of Great Britain. Among those who signed the agreement were Washington and Patrick Henry, as well as Jefferson. Some men refused to sign, but these were not reëlected to the House.

After this first experience in the House of Burgesses, Jefferson devoted himself to the practice of his profession. He was successful in office practice, but he did not make his mark as a pleader in court. He was six feet two and a half inches tall, but his voice was not strong, and the



OLD COURTHOUSE, WILLIAMSBURG, VIRGINIA

impression created on his hearers was not good. Perhaps he was thinking of his own oratorical gifts when, after hearing Patrick Henry make one of his great speeches, he wrote, "He appeared to me to speak as Homer wrote."

On Shadwell, the estate which was his legacy from his father, Jefferson dreamed of building a home on a beautiful hilltop, to be called Monticello. In 1770 Shadwell House was burned, his favorite violin being one of the few possessions saved. Then the completion of Monticello was hurried, under his own supervision. He was proud of the fact that most of the material used, even to the nails, was made by the labor of his slaves under his own guidance.

Jefferson's second appearance in the House of Burgesses came in 1773, when the colonies had been inflamed by many acts of oppression on the part of Great Britain. There was demand on the part of some that steps be taken at this session to show the mother country that the colonies were not to be trifled with, but they were unable to persuade more timid members of the House to join with them. Accordingly some of the young men met privately to talk over measures and make plans. At one of these meetings the famous Committee of Correspondence, which organized the Revolution, was proposed. To Jefferson was given the task of writing out the plan. When the resolution was adopted, on March 12, 1773, Governor Dunmore dissolved the House.

Again in 1774 the House was dissolved, because action had been taken which made a declaration of war almost unnecessary, so far as Virginia was

concerned. Soon afterwards Jefferson was appointed on a committee of thirteen to prepare Virginia for war.

When he took his seat in Congress, on June 21, 1775, he found that his reputation had preceded him, and that the patriots were ready to give him a respectful hearing. He was placed on a number of committees, and his ideas had a large part in shaping important action.

Soon after his return to Virginia, he found abundant opportunity for patriotic service. The British governor having fled, a Committee of Safety was named to rule the state. The Virginia convention met in May, 1776. Jefferson had prepared the way so well that a resolution was adopted on May 15, 1776, asking the Virginia delegates to urge Congress "to declare the United Colonies free and independent states." Then, by the adoption of a Declaration of Rights and a Constitution, Virginia announced her independence. This was on June 29, 1776.

The resolution of May 15 was presented in Congress on June 7, 1776. The vote was delayed, but Jefferson was named at the head of a committee to draw up the Declaration of Independence. At the first meeting of the committee, he was asked to prepare the paper. He wanted John

Adams to help him, but Adams argued that the work should be done by Jefferson alone, for many reasons, the chief reason being, in the words of Adams, "I had a great opinion of the elegance of his pen, and none at all of my own."



DRAFTING THE DECLARATION OF INDEPENDENCE

As we all know, it was on July 4 that the Declaration was adopted. It was adopted almost exactly as Jefferson had written it.

Though he was reëlected to Congress, Jefferson preferred to accept election to the Virginia House of Delegates, that he

might have a part in revising the laws of Virginia in accordance with his democratic ideals. The English system of the descent of landed estates to the eldest son and the support of the Episcopal Church by the state were displeasing to him, and he succeeded in having changes made in both of these matters. He even proposed a system of

state education, and his plan was indorsed by the delegates. But the people were not ready for the plan, and it was not carried out for many years. The founding of the University of Virginia was the statesman's last public work.

By his advocacy of these and other reforms, Jefferson made lifelong enemies. The proprietors



THE UNITED STATES CAPITOL IN 1814

of large estates, the clergy of the Established Church, and owners of property in Williamsburg, from which he planned to remove the capital to Richmond, could not say enough hard things about the man who had interfered with them.

Some of his most difficult work was done during his second term as governor of Virginia, which began in 1780. In response to the appeal of

Washington, he scoured the state for supplies of all kinds for the starving army. He stripped his own farm of everything that could be of use. He begged and demanded goods and provisions from the people, and when they were slow in responding, he compelled them to make contribution.

But this was as nothing to the problems he had to solve when Arnold led a British expedition up the James, landed at Westover, and marched on Richmond. The governor, after seeing to the removal of official papers and supplies from Richmond, looked on in helpless wrath as he saw the British plunder the city.

He did his best on this occasion, as he did a few months later when the invasion of Cornwallis caused further trouble. But there was a great clamor against him because he had not done all that some thought he might have done. At the close of his term as governor, he asked for election to the state legislature that he might answer his accusers. After a unanimous election, he replied to the charges. The legislature not only acquitted him of all blame, but thanked him for his "impartial, upright and attentive administration." Thereupon he retired to Monticello, saying that he would never again hold office.

Yet two years later he agreed to represent Virginia in Congress, and he did this with his old whole-hearted spirit. He proposed the dollar as the unit of value in the new currency; for this reason he has been called the father of the American dollar. Later he presented the deed by which Virginia gave up all claim to the Northwest Territory, won by George Rogers Clark and his brave company, and he made the plan for the temporary administration of the frontier country. He also made the proposition that after the year 1800 slavery should be abolished in the new territories. If this provision had carried, the country might have been saved from civil war; but it was defeated by a single vote, one of the members who had promised his support being absent.

Five years as representative of the United States at Paris preceded his term as Washington's Secretary of State, but in 1794 he retired to his Virginia estates, which had suffered during his absence. Here he began to enjoy life once more. He entertained freely and spent money lavishly, unconscious of the fact that he was living far beyond his means.

At the close of Washington's second term as President, Jefferson missed the choice as his successor by two electoral votes; accordingly he became the vice president with John Adams. Perhaps his greatest service during this time was his opposition to the proposition that North Carolina and Virginia should leave the Union, because they did not like the acts of the govern-



THOMAS JEFFERSON'S RESIDENCE IN PHILA-DELPHIA

At the time the Declaration of Independence was written

ment; he declared that their departure would mean the breaking up of the United States "into their simple units." His argument was successful; the states did not leave the Union.

In the election of 1800 he received eight more votes than Adams,

though Aaron Burr received as many as Jefferson. When the election was thrown into the House of Representatives, Jefferson was made President. Four years later his reëlection was almost unanimous.

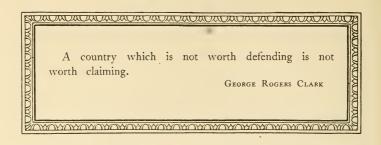
The great acts of his eight years as President were the successful contest with the Barbary States, whose pirates had destroyed many American ships, the purchase of the Louisiana Territory from France, and the exploring trip of Lewis and Clark to the Pacific coast, which, forty years later, became a factor in winning Oregon for the United States. He had failed in many of the things he had hoped to do, but his successes were greater than his failures.

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CHAPTER VI

GEORGE ROGERS CLARK, WINNER OF THE WEST

(Born in Albemarle County, Virginia, November 19, 1752; died near Louisville, Kentucky, February 13, 1818)

When George Rogers Clark was a boy in Virginia, he lived only a mile and a half from Thomas Jefferson, who was nine years older than he, and he went to school with James Madison.

Like so many of the sons of the pioneers, it was not possible for young Clark to remain long at school. He was able to secure only the rudiments of an English education, but he gave much attention to mathematics and surveying. These subjects were thought to be all-important in that day, when so much land was to be taken up and recorded.

The tales of those who were planning to go to the Ohio Valley, or who had returned after a journey to the West, proved of such interest to Clark that when he was twenty years old he crossed the mountains and made his way to the OhioValley, where he remained for a few months. One of his companions, David Jones, kept a journal of the trip. Of this journal the following are extracts:

I left Fort Pitt on Tuesday, June 9, 1772, in company with George Rogers Clark, a young gentleman from Virginia, who with several others inclined to make a tour in this new world. We traveled by water in a canoe. . . .

. . . Instead of feathers my bed was gravel stones, by the river side. From Fort Pitt to this



GEORGE ROGERS CLARK From the portrait by Otto Stark

place [Grave Creek] we were only in one place where white people live. Our lodging was on the banks of the river, which at first seemed not to suit me, but afterwards it became more natural. . . .

this stream about ten miles, and out on every side to view the land and to obtain provision. My interpreter killed several deer, and a stately buffalo bull. . . .

On a later trip Mr. Clark made a location of land near Wheeling, on which he built a cabin. For some time he spent his days surveying, hunting, fishing, and caring for his land.

On January 9, 1773, he wrote to his brother Jonathan:

I embrace ye opportunity by Mr. Jarrot to let you know that I am in good health, hoping that this will find you in the same. . . . I am settled on my land with good plenty of provisions, and drive on pretty well as to clearing, hoping, by the spring, to get a full crop. I know nothing more worth acquainting you with, but that this country settles very fast, and corn is in some parts 7s. 6d. per bushel, but I have a great plenty. The people are settling as low as ye Sioto river, 366 below Fort Pitt. Land has raised almost as dear here as below. I had an offer of a very considerable sum for my place. I get a good deal of cash by surveying on this river. . . .

Becoming interested in Kentucky, through the reports of returning travelers, Mr. Clark pushed

on down the Ohio River and into the interior. At first his time in the new location was spent in surveying. Of this work he told his brother:

I have engaged as a deputy surveyor, under Cap'n Hancock Lee, for to lay out lands on y^e Kentuck for y^e Ohio company, at y^e rate of £80 pr year, and y^e privilege of taking what land I want.

He had not been in Kentucky very long when he felt that something should be done about the Transylvania Company, which claimed a large part of this territory by reason of a purchase from the Cherokee Indians. Had they a real right to the country, or did Virginia intend to exercise control over the region? On June 6, 1776, he called a meeting of citizens at Harrodsburg, to consider what should be done, and was appointed one of the delegates to the Virginia legislature to present the matter. The journey to Williamsburg was difficult. The season was unusually wet, roads were muddy, and there was constant danger from Indians. After a time one of the horses was lost, and Clark walked until his feet became blistered and sore. Years later he said that he suffered more torment on this trip than he had ever suffered before or afterwards.

Finally the two men reached Williamsburg, rejoicing that they would soon have an opportunity to perform their errand. But, to their dismay, they learned that the legislature had adjourned.

Clark sought an interview with the governor, Patrick Henry, and asked for a grant of five hundred pounds of powder, for the use of the settlers in Kentucky in defending themselves against the Indians. When there was delay in furnishing the powder, he urged that "a country which is not worth defending is not worth claiming." These words proved effective, for Virginia intended to push its claim to Kentucky, against the Transylvania Company and all other claimants.

At the next session of the legislature Clark and his associate brought about the organization of Kentucky as a county of Virginia.

The powder was taken to Kentucky, though not without great difficulty. Indians attacked those in charge of it, among these being Clark's associate delegate, John G. Jones. A large party was sent after the powder from Harrodsburg, and it was finally received in good condition.

Clark's next step showed that he was a statesman as well as a warrior. He saw how important Kentucky was to the Union. He realized that the Indians in Kentucky were encouraged to make attacks on the settlers by the British at Detroit, Vincennes, Kaskaskia, and Cahokia. He



GEORGE ROGERS CLARK CONFERRING WITH THE INDIANS From a painting in the Illinois State Capitol at Springfield

thought that the best way to defend Kentucky and preserve it for the Union was to conduct a campaign against the four forts named.

Without telling anyone of his object, he sent spies to the British forts. On their return these men reported that the officers had no thought of being attacked, but that their forces were well prepared for anything that might come.

In December, 1777, he laid his plans before Patrick Henry, governor of Virginia, and asked for approval, money, and men for the campaign. Patrick Henry listened to him with absorbed interest, and heartily approved his plans.

On January 3, 1778, Lieutenant Colonel Clark was given a commission which began:

As some Indian tribes to the westward of the Mississippi have lately without any provocation massacred many of the Inhabitants of the Frontier of the Commonwealth in the most cruel and barbarous manner, it is intended to revenge the Injury & punish the Aggressors by carrying the War into their own Country. We congratulate you upon your appointment to conduct so important an Enterprize.

This letter, signed by C. Wythe, George Mason, and Thomas Jefferson, promised to each of those who should serve as volunteers under Colonel Clark three hundred acres of land, "out of the

lands which may be conquered in the Country now in the Possession of the said Indians,"

Colonel Clark hoped to secure four hundred men, but he was forced to be content with one hundred and fifty followers. The difficulty of enlisting soldiers was due to the fact that his open letter of introduction from Patrick Henry spoke of his expedition as intended only for the defense of Kentucky; it was thought best to tell of the real object in secret instructions only, lest warning be carried to the forts against which Colonel Clark was to go.

The purpose of the expedition was announced to the men who then were encamped on Corn Island, in the Ohio River, near the site of what is now Louisville. Most of the soldiers were delighted with the idea, but a few deserted; they did not wish to be "taken near a thousand miles from the body of the country to attack a people five times their number, and merciless tribes of Indians, their allies, and determined enemies to us," Colonel Clark wrote.

There were about one hundred and seventy-five men in the party when the start was made for Kaskaskia; evidently a few had enlisted at Corn Island.

There were those who found fault with the leader for daring to attempt the difficult feat he had in mind, without a larger force, but he knew he must not hesitate. He felt that the future of

the vast territory northwest of the Ohio River depended on him and his men. So he went on. "I knew my case was desperate," he wrote in his journal, "but the more I reflected on my weakness, the more I was pleased with the enterprise."

It was on June 24, 1778, that the march to Kaskaskia was undertaken. After floating some distance down the Ohio, the party landed, and concealed their boats. Then the journey of one hundred and twenty miles through a swampy and difficult country was begun. The guide who promised to lead them became bewildered, and the road was found only after long search. There were no wagons, and not even a pack horse; the men had to carry all their baggage, their guns, and their ammunition.

On the evening of July 4 the expedition came to the Kaskaskia River, three miles from the fort. After dark, boats were found at a farm where the members of the family were made prisoners. What followed was told by the commander in a letter to Virginia:

I immediately divided my little army into two armies; ordered one to surround the town, with the other I broke into the fort, secured the governor, Mr. Rochblave, in fifteen minutes had every street secured, sent runners through the town, ordering the people on pain of death to keep close

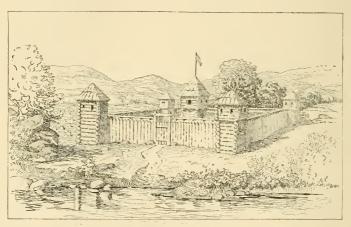
to their houses, which they observed, and before daylight had the whole town disarmed.

The officers and residents of Kaskaskia were filled with terror, for they had been told that the Virginia rebels were more savage than the Indians. Clark says that Mrs. Rochblave "must have feared the loss of even her clothes, from the idea she entertained of us." In his memoirs the leader of the expedition said he was glad they had been given this idea, for he would have the pleasure of surprising them by his lack of severity. Thus he would be able to make of them valuable friends. His judgment proved to be correct, for when he told them that their property would not be taken from them, and that the citizens would be permitted to remain in possession of their homes, "the scene was changed from an almost mortal dejection, to that of joy in the extreme - the bells ringing, the church crowded, return thanks, in short, every appearance of extravagant joy that could fill a place with almost confusion."

Prisoners taken among the soldiers were sent to Virginia. When the Virginia legislature learned of the success of the expedition, they passed a vote of thanks to Colonel Clark and his men, and proceeded to organize Illinois as a county of Virginia.

In a letter to Governor Henry, Clark told of his intention to move against Vincennes. He owned that the attack would be desperate, but that it was necessary, for if he waited he would be attacked by the British. Then he said:

No time is to be lost. Was I sure of a reënforcement I should not attempt it. Who knows what fortune will do



FORT SACKVILLE, VINCENNES, INDIANA

for us? Great things have been effected by a few men well conducted. Perhaps we may be fortunate. We have the consolation that our cause is just, and that our country will be grateful and not condemn our conduct, in case we fall through; if so, this country, as well as Kentucky, I believe, is lost.

The story of the campaign against Fort Sackville at Vincennes is one of the most absorbing stories in the records of pioneer life. Colonel Clark divided his forces, sending some of his men, with guns, by water, and himself marching overland with one hundred and fifty men. He hoped to reunite his forces, the calculation being that the men sent by water would be able to descend the Mississippi and ascend the Ohio and the Wabash as soon as his men could march overland.

Colonel Clark, the leader of the land expedition, in his memoirs has pictured many of the hardships of the way:

A great part of the plains were under water several inches deep. It was difficult and very fatiguing marching. My object was to keep the men in spirits. . . . Without a murmur were those men led to the banks of the Little Wabash, which was reached on the 13th, through incredible difficulties, far surpassing anything that any of us had ever experienced. Frequently the diversion of the night wore off the thoughts of the preceding day.

This place is called the two Little Wabashes. They are three miles apart, and from the heights of the one to that of the other, on the opposite shore, is five miles—the whole under water, generally about three feet deep, never under two, and frequently four.

... I viewed this sheet of water for some time with distrust, but... I immediately set to work, ordered a pirogue to be built immediately, and acted as though crossing the water would be only a piece of diversion...

In the evening of the 14th our vessel was finished,

manned, and sent to explore the drowned lands on the opposite side of the Little Wabash with private instructions what report to make, and, if possible, to find some spot of dry land. They found about half an acre and marked the trees from thence back to the camp. . . .

... The channel of the river where we lay was about thirty yards wide. A scaffold was built on the opposite shore which was about three feet under water, and our baggage ferried across and put on it; our horses swam



TRADING WITH THE INDIANS

From a mural decoration in Hotel Seelbach, Louisville, Kentucky

across and received their loads at the scaffold, by which time the troops were brought across, and we began our march through the water. . . . As tracks could not be seen in the water, the trees were marked.

By evening we found ourselves encamped on a pretty height in high spirits, each party laughing at the other in consequence of something that had happened in the course of the ferrying business, as they called it. A little antic drummer afforded the great diversion of floating on his drum. . . . They now began to view the main Wabash as a creek, and made no doubt but such men as they were could find a way across it. . . .

But the leaders knew that the situation was critical. They were in the midst of a "drowned" country, as they called it. If the enemy should discover their advance and approach, the Virginians would be at their mercy. In that case their only hope of escape would be by means of the vessel which had been sent up the Wabash. But this had not appeared as yet.

Difficulties increased. The men began to despair; some talked of returning. But for five days longer the leader kept up their spirits.

On February 21 Colonel Clark learned of a sugar camp, on the bank of the river, the nearest land. He sought this in a canoe, sounding the water as he went, and "found it deep as to my neck," he wrote. He continued:

I returned with a design to have the men transported on board the canoes to the sugar camp, which I knew would spend the whole day and ensuing night, as the vessels would pass but slowly through the bushes. The loss of so much time to men half starved was a matter of consequence. . . . On our arrival all ran to hear what was the report. Every eye was fixed on me. I unfortunately spoke in a serious manner to one of the officers. The whole were alarmed without knowing what I said. They ran from one to another, bewailing their situation. I viewed their confusion for about one minute, whispered to those near me to put some water in my hand, poured on powder, blackened my

face, gave the warwhoop and marched into the water, without saying a word. The party gazed and fell in, one after another, without saying a word, like a flock of sheep. I ordered those near me to begin a favorite song of theirs. It was passed through the line and the whole went on cheerfully.

... When about waist deep one of the men informed me that he thought he felt a path — a path is very easily discovered under water by the feet. We examined and found it so, and calculated that it kept on the highest ground, which it



MARCHING THROUGH THE WATER TO VINCENNES
From a mural decoration in Hotel Seelbach, Louisville, Kentucky

did, and by taking pains to follow it, we got to the sugar camp without the least difficulty . . . where was about half an acre of dry ground, at least not under water, where we took up our lodging.

In the morning the ice was from one half to three quarters of an inch thick, but the expedition pushed on. The men grew weaker as time passed. The leader decided that a stratagem was necessary. So he "sent some of the strongest men forward with orders when they got to a certain distance to pass the word back that the water was getting shallow, and when getting near the woods to cry out, 'land.'" This plan had the desired effect. The men, encouraged, helped one another, and even when they found that the water was becoming deeper they pushed on. The memoir continues:

The water was up to my shoulders, but gaining the woods was of great consequence. All the low men, and the weakly, hung to the trees and floated on the old logs until they were taken off by the canoes. The strong and tall got ashore and built fires. Many would reach the shore and fall with their bodies half in the water, not being able to support themselves without it.

At last, after sixteen days' journey, five of which were consumed in traveling the last nine miles of the way, the land force reached Fort Sackville, in advance of those who had gone by water. Colonel Clark reluctantly attacked without their aid.

The town surrendered on February 23, 1779, and the fort surrendered next day. This almost bloodless victory assured the possession to the United States of the country north of the Ohio River and west of Pittsburgh.

The leader of the expedition was unable to push on to Detroit, as he had planned to do, because reënforcements did not reach him in time. But he had done his work, and he had done it well. In later years Colonel Clark conducted other campaigns of importance, during the course of which he was made a brigadier general. But his fame rests on his winning of the "Northwest," as it was then called, for the state of Virginia, so that when the treaty of peace with England was made in 1783, the right of the United States to the territory was acknowledged. Virginia later surrendered her claim to the United States. Out of it the states of Illinois, Indiana, Ohio, Wisconsin, Michigan, and part of Minnesota were later formed.

Until a short time before his death General Clark lived on Corn Island, near the Falls of the Ohio, his starting point in his expedition of defense and conquest. His country had forgotten his great services. He was a disappointed man. He felt that no one cared for him. But there was one man who never forgot him, Thomas Jefferson, who had always been his friend since the two lived so close together in Virginia. On December 19, 1807, when Jefferson was near the end of his second term as President, he wrote to the hermit of Corn Island:

Dear Colonel:

I avail myself of the opportunity of recalling myself to your memory and of assuring you that time has not lessened my friendship for you. We are both now grown old. You have been enjoying in retirement the recollection of the service you have rendered your country and I am about to retire without an equal consciousness that I have not occupied places in which others would have done more good, but in all places and times I shall wish you every happiness, and salute you with great friendship and esteem.

Th. Jefferson

Genl. George Rogers Clark

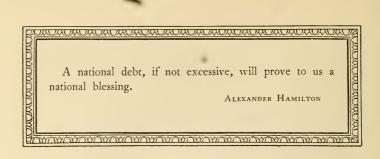
General Clark lived more than ten years after the receipt of this letter. In his later years he was paralyzed, and death was a relief.

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CHAPTER VII

ALEXANDER HAMILTON, STATESMAN

(Born in the island of Nevis, British West Indies, January 11, 1757; died in New York City, July 12, 1804)

Alexander Hamilton must have had a pleasant boyhood on the little island in the Caribbean Sea where he was born, where the sun was warm and the wind blew softly and boys were as much at home in the water as on the land.

His opportunity for play did not last long, for his mother died when he was eleven years old, his father left home in an effort to repair his fortune, and he became a charge on his relatives with whom he went to live on the Danish island of St. Croix, which now belongs to the United States.

The high-spirited boy was not content to be dependent on others, and when the chance came he took a position as bookkeeper and general assistant for Nicholas Cruger, a merchant of St. Croix. Here



ALEXANDER HAMILTON

he did good work, and his employer soon found that he could depend on him. Yet the boy was not happy. He thought of other twelve-year-old boys who were in school, and he longed to have their opportunities. To a friend who went to America to study he wrote:

I contemn the grovelling condition of a clerk, or the like, to which my fortunes condemn me, and would willingly risk my life, though not my character, to exalt my station. I am confident, Ned, that my youth excludes me from any hope of immediate preferment, nor do I desire it; but I mean to prepare the way for futurity. . . . I shall conclude by saying I wish there was a war.

Less than a year after this letter was written Mr. Cruger went to New York, leaving his business in the hands of the young clerk.

Mr. Cruger had been absent only a few weeks when the boy wrote to the captain of the sloop *Thunderbolt* a letter which showed that Mr. Cruger's confidence in Hamilton was well merited:

Herewith I give you all your despatches, and desire you will proceed immediately to Curracoa. . . You know it is intended you shall go from thence to the main for a load of mules, and I beg if you do, you'll be very choice in the quality of your mules, and bring as many as your vessel can conveniently contain — by all means take in a large supply of provender. Remember, you are to make three trips this

season, and unless you are very diligent you will be too late, as our crops will be early in. . . . I place an entire reliance upon the prudence of your conduct.

On his return to St. Croix Mr. Cruger showed that he was entirely satisfied with the acts of his clerk. Hamilton, however, was not satisfied to remain in his employ. He still dreamed of the day when he could go to the American colonies to

school, and he often talked to his friend Mr. Knox of his ambition. Under the guidance of this friend he read and wrote whenever he had a chance.



MARKET PLACE AT ST. CROIX

Pope and Plutarch were his favorite authors. His opportunity to go to America came as the result of the great hurricane that laid waste St. Croix on August 31, 1772. A week later Hamilton wrote an account of this hurricane to his father. Early in October the account was printed in the Royal Danish-American Gazette, with the explanation that "the Author's modesty in long refusing to submit it to the Publick view, is the reason of its making its appearance so late as it now does."

This is a small part of the vivid description given by Hamilton:

What horror and destruction — it's impossible for me to describe — or you to form any idea of it. It seemed as if a total desolation of nature was taking place. The roaring of the sea and wind — fiery meteors flying about in the air — the prodigious glare of almost perpetual lightning — the crash of the falling houses — and the ear-piercing shrieks of the distressed were sufficient to strike astonishment into angels . . . a strong smell of gunpowder added somewhat to the terrors of the night; and it was observed that the rain was surprisingly salt.

When Hamilton's relatives and friends read the hurricane letter they lost no time in agreeing with Mr. Knox that the writer should be given the chance to go to school in the colonies. The month following the hurricane he was put aboard a sailing vessel, and after a prosperous voyage he landed in Boston. After preparing for college at Elizabethtown, New Jersey, he applied for admission to Princeton College, but the authorities refused to agree to his plan to take the four years' course in two years or less, and he went to King's College (now Columbia) in New York City.

His college course was interrupted by the coming of the war for which he had expressed eagerness in 1769. His sympathies were stirred by accounts of the wrongs of his adopted country at the hands of the mother country, and soon he was ready to cast in his lot with the patriots. One day when an outdoor meeting of the Sons of Liberty was held for the purpose of stirring up the New York Assembly to take part in the first Continental Congress, he



OLD CITY HALL, WALL STREET, NEW YORK, IN 1776

pushed his way through the crowd and made an impassioned address that was remarkable for a boy only seventeen years old. A few weeks later New York's delegate departed for the Continental Congress, determined to remember the pleas of those who had been influenced by the meeting in the fields to "support at the risk of everything dear" any resolution that the Congress might adopt.

Hamilton's next step in the fight for liberty was the organization of a number of his fellow students into a military company which called itself "Hearts of Oak." These young patriots, who wore green coats and leather caps bearing the motto, "Liberty or Death," soon became marked men because of a number of daring acts, one of which was the removal of the cannon from the Battery under the guns of the British warship *Asia*.

A little while after the adjournment of the Continental Congress, those who were in favor of the strongest action to protect the liberties of the colonies were dismayed by the appearance of two pamphlets, written by well-known loyalists. It was feared that unless someone could answer these promptly and effectively the cause of the colonies would be in great danger. When fears were greatest the pamphlets were answered in a masterly manner by an anonymous author, who proved to be the eighteen-year-old Alexander Hamilton. In his pamphlet he hinted that independence might be the result of the quarrel with Great Britain, and suggested that France might decide to take a part in the war.

In 1776 Hamilton became captain of a volunteer company of artillery, but he had not served a year when Washington asked him to become a member of his staff, with the rank of lieutenant colonel. Here he remained until February, 1781, helping the Commander in Chief with his letters and carrying out the General's orders with wisdom and tact.

Other members of Washington's staff were not jealous of him, the youngest of the company, even when the Commander in Chief came to depend more on him than on themselves. They called him "the little lion," and became his earnest friends.

Hamilton's services during the war were invaluable, but his fame



THE MARQUIS DE LAFAYETTE
A friend and associate of Hamilton

rests on what he did after the war. In 1782 he began the practice of law in New York City. He was not allowed to remain in private life. Most of the next twenty years were given to the service of his country. He helped Robert Morris solve the

financial problems of the closing years of the war, and he made it his business to devise and carry out plans for the strengthening of the young nation. "Peace made, a new scene opens," he said in one of his letters. "The object will then be to make our independence a blessing. To do this, we must secure our Union on solid foundations."

As a member of Congress in 1782 he opposed those who thought that the only government necessary for the country would be provided by the adoption of amendments to the Articles of Confederation. With all his might he urged the folly of such a course; he said that only a strong government backed by a constitution could correct the mistakes that had proved all but fatal in the past.

Failure in this first attempt did not discourage him. In 1787 his second chance came to fight for a closer union of the states. As a member of the Constitutional Convention which met at Philadelphia, he was troubled because of conditions which John Fiske describes vividly:

Congress was bankrupt, foreign nations were scoffing at us, Connecticut had barely escaped from war with Pennsylvania, and New York with New Hampshire, there were riots and bloodshed in Vermont, Rhode Island seemed on the verge of civil war, Massachusetts was actually engaged

in suppressing armed rebellion, Connecticut and New Jersey were threatening commercial non-intercourse with New York, Spain was defying us at the mouth of the Mississippi and a party in Virginia was entertaining the idea of a separate Southern confederacy.

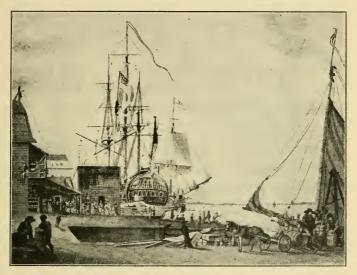
Hamilton's proposals for a centralized government were extreme, and they were not adopted, but his powerful addresses had their effect in persuading the delegates of the necessity of drafting a constitution. In behalf of New York state he signed the document that was adopted, and at once became known as the foremost advocate of its ratification by the states. Then he showed his greatness: he had not had his own way, but he was heart and soul for the constitution because, as a true patriot, he put aside personal feelings in his eagerness for his country's welfare.

During the campaign that followed for the ratification of the constitution by the states, he wrote the wonderful arguments in favor of the document that were later collected, together with papers written by James Madison and John Jay, in the volume, "The Federalist." These papers did much to win to the constitution the people of New York, and even of other states.

One of Hamilton's greatest contests came in the New York State Convention of 1788, called to consider the question of ratifying the constitution. Ten of the thirteen states had already ratified it. New York was the largest state that had not acted. Governor Clinton was against ratification, and the majority of the delegates were ready to vote with him. Hamilton realized that if Clinton had his way, the new country could not exist many years; there would be no future for a country whose parts were separated by New York. Yet how could he hope for a favorable vote when more than two thirds of the delegates, as well as their chairman, were opposed to ratification? By common consent he became the leader of the minority. By his marvelous tact, eloquence, and mastery of his subject he won to his side a sufficient number of the delegates to carry ratification by a majority of three votes.

As Secretary of the Treasury under Washington, Hamilton saved the country from other perils. He felt that everything depended on the prompt establishment of America's credit on a firm basis. He saw that it would not be enough to devise methods of raising money, but that adequate provision must be made for the payment of the country's debts to its own citizens and to foreign governments, as well as the debts owed by the individual states to private citizens. As a matter of course everybody favored

the payment of debts owed by the country as a whole, but there was opposition to the government's assumption of these state debts. Yet Hamilton knew that there could be no united support of the government if the creditors of the states were not



AT THE DOCKS IN PHILADELPHIA
From Birch's "Views of Philadelphia," 1800

provided for by the government. When his plan was adopted the wisdom of his course soon became apparent.

His financial scheme was completed by the imposition of customhouse duties and internal revenue taxes, and by the establishment of a national bank

in which the government was a stockholder. For twenty years after the Secretary of the Treasury succeeded in his plans the bank did its work well, and then made way for further developments in the country's banking system.

Hamilton's service to his country did not end with the close of his term as Secretary of the Treasury. As a private citizen he advised with public men, and was influential in bringing about needed reforms and in outlining vital policies.

His last official service began in 1798, when Washington appointed him one of three generals of the provisional army raised for the threatened war with France. In 1800, when the danger of war was past, he resigned his commission.

Four years later he died of a wound received in a duel with Aaron Burr. The challenge to the duel had been sent because Burr misunderstood and resented acts that proved anew Hamilton's patriotism.

It has been said that the mourning for "the little lion" was like that called forth in after years by the murder of Abraham Lincoln. But the event was not without benefit, for from the day of Hamilton's death there came to be a growing horror of dueling, and soon the practice was discredited throughout the Northern states.

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Works of this kind require much time, patience, and application, and till they are brought about, penury frequently presses hard on the projector.

ROBERT FULTON

CHAPTER VIII

ROBERT FULTON, AN INVENTOR OF THE STEAMBOAT

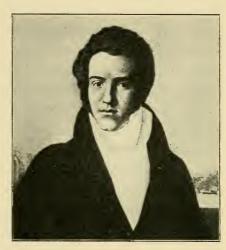
(Born in Lancaster County, Pennsylvania, November 14, 1765; died in New York City, February 24, 1815)

As a schoolboy Robert Fulton was the despair of his masters. Sometimes they thought he was lazy. But the trouble was that they did not understand him. He was eager to work if he could work with his hands. He liked to go to the shops where men were making things. There he proved a help and not a hindrance; he was always glad to aid the men whom he watched, and they were glad to have him come.

One day when he was nine years old he came to school late. His Quaker master, Caleb Johnson, asked the reason for his tardiness, and learned that he had been at a shop near the school pounding out lead, and that he had made a neat lead pencil. A few days later the teacher complained to his mother that the boy had said, "My head is so full of original notions that there is no vacant chamber to store away the contents of any dusty books."

When Robert was thirteen years old the citizens of Lancaster were asked to light no candles on the

night of July 4, in celebration of the day, because candles were expensive. But the boy inventor thought of something better; he told a store-keeper from whom he was buying pasteboard of his intention to shoot candles through the air, since the



ROBERT FULTON

people had been forbidden to burn them in their windows. And when the storekeeper told him his plan was impossible, Robert replied, "There is nothing impossible."

He was nicknamed "Quicksilver Bob" because of experiments he made with quicksilver, as well as because he was so quick and accurate in doing things that to others seemed difficult or impossible. His suggestions proved of special value to those who were employed by the government to make and repair the arms for the Continental troops.

He was fifteen when, with a companion, Christopher Gumpf, and Christopher's father, he went several times on fishing excursions on the Conestoga. It was the task of the boys to pole the boat along the stream. One evening Robert remarked that he was tired towing that heavy pole. During the next few days he made a working model of a fishing boat with paddle wheels. Later he told Christopher that they must make a set of paddles to work at the side of the boat, to be operated by a double crank. This contrivance was made as planned:

Two arms or pieces of timber were fastened together at right angles, with a paddle at each end, and the crank was attached to the boat across it, near the stern, with a paddle operating on a pivot as a rudder.... The boys were so pleased with the experiment, that they hid the paddles in the bushes on the shore, lest others might come and break them, and attached them to the boat whenever they chose; and thus did they enjoy many fishing excursions.

At the age of seventeen Robert went to Philadelphia, where he succeeded in making a living as an artist. For years he had shown ability to use the pencil, and it is probable that in Philadelphia he received training from some established artist. In 1785 White's Directory of Philadelphia contained this line:

Fulton, Robert; Miniature painter, corner of 2nd and Walnut Streets.

Among the protraits painted by him was one of Benjamin Franklin, who was quite friendly with the pleasant young man from the country. Probably one of the reasons for Franklin's interest was the fact that Fulton knew how to save his money. The artist had two reasons for saving: he wanted to go to Europe to study art, and he wanted to buy a farm for his widowed mother. On his twenty-first birthday he went to Lancaster and took his mother and sister to the new home, and toward the end of the year he sailed for England.

When he arrived in London he had forty pounds in cash and a letter of introduction from Benjamin Franklin to Benjamin West. The letter of introduction opened the way to the friendship of a master artist, but the forty pounds did not go very far in paying the expenses of an art student. He was frequently hungry, and many times he changed his lodgings, usually for cheaper quarters. He had so little money that it was often a hardship to pay the

postage on letters from home. In 1789 he asked his mother:

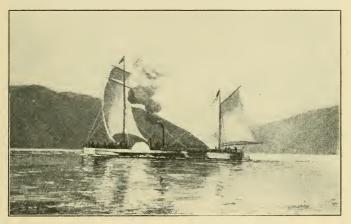
Write small and close that you may say a great deal in small compass, for the ships often put the letters ashore at the first port they make. They then come by post to London. And I have often paid half a guinea for a small package of letters—the better to accomplish this, you better buy letter paper as it is thin, for we pay according to the weight and not the size; so if you can send me a pound of news upon an ounce of paper I shall save almost a guinea by it.

A letter written to his mother on January 20, 1792, gave some particulars of his struggle with poverty. After telling of his success in having pictures hung at the exhibition in the Royal Academy, he said:

Many Many a Silent Solitary hour have I spent in the most unnerved, Studdy Anxiously pondering how to make funds to support me till the fruits of my labours should sifficant to repay this. Thus I went on for near four years — happily beloved by all who knew me or I long had ear now been Crushed by Povertie's Cold wind — and Freezing Rain — til last Summer I was Invited by Lord Coventry down to his Country seat to paint a picture of him which gave his Lordship so much pleasure that he has introduced me to all his Friends — And it is but just now that I am beginning to get a little money and pay some debtts which I was obliged to Contract so I hope in about 6 months to be clear with the world or in other words out of debt and then start fair to Make all I can.

Not long after writing this letter he gave up his work as an artist. Perhaps he decided that he could not make a sufficient living with the brush. At any rate, letters written in 1793 show that he was then giving all his attention to engineering problems.

His first venture was a mill for sawing marble. Later he patented double inclined planes for canals.



THE CLERMONT

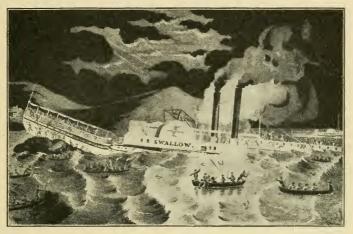
He made a machine for spinning flax and a ropemaking machine. He patented a sort of improved machine for digging canals, and spent months in planning for improvements in canal construction and operation.

He did not make the money he hoped to receive from his inventions. In 1796 he wrote to one who was interested in certain plans: Works of this kind Require much time, Patience and application. And till they are Brought About, Penury frequently Presses hard on the Projector; And this my Lord is so much my Case at this Moment, That I am Now Sitting Reduced to half-a-Crown, Without knowing where to obtain a shilling for some Months. This my Lord is an Awkward situation to a feeling Mind, which would devote every Minuet to Increase the Comforts of Mankind.

Two months later the inventor wrote a long letter to George Washington, telling of his plan for a system of canals that would give "easy Communication to every part of the American States." He hoped to see to it that in the most populous parts of the country no house should be "more than 10 or 14 miles from a Canal."

From England Fulton went to France. At first he sought to interest leaders in his canal project. Later he made plans of a submarine and torpedo boat, the *Nautilus*, which he built and operated successfully. But the government refused to commission him to make use of it, and it was broken up. He refused to tell the secret of the boat's construction.

Then began the final stage in his inventive work. Ever since as a boy he made his experiment with paddle wheels, he had been interested in improved methods of navigation for water craft. He must have known of the paddle boat built in 1785 by John Fitch, and of its two successors, one of which became a regular passenger boat on the Delaware, running a total of between two and three thousand miles at a speed of from seven to eight miles an



THE WRECK OF THE SWALLOW

The Swallow was an early Hudson River steamboat

hour. Fitch had patented his inventions, but poverty had kept him from reaping the rewards of his ingenuity and the vessels had ceased to run. Thus the field was open for Fulton.

Once an American who visited Fulton in France saw on his wall a sketch of a steamboat. "There is the image of what will yet traverse the rivers and the ocean," Fulton said, when he saw that this had attracted the attention of his visitor. In 1798 he drew a plan for a boat to be operated by a contrivance much like the modern screw propeller used by ocean steamships.

Just at this time Robert R. Livingston came to Paris as United States minister. This was in November, 1801. To him had been granted by the state of New York, three years before, the exclusive right of navigating "all kinds of boats which might be propelled by the force of steam or fire" on New York state waters, for the term of twenty years, provided that, within a year, he build such a boat, which would be able to make not less than four miles per hour. This agreement was later extended.

Mr. Livingston was looking for an inventor who would help him to solve his problem. He was therefore as glad to meet Fulton as Fulton was to meet him. The men agreed to work together and to share the profits of the venture.

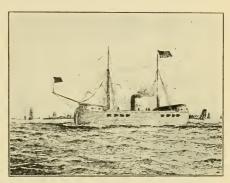
After a series of experiments in France and England, Fulton sailed to America, reaching New York on December 13, 1806, after an absence of nineteen years. Three months later he wrote to Mr. Livingston that "the steamboat" was then building. When this was launched an engine constructed in England at Fulton's direction was installed, and the boat was ready for the trial trip.

Monday, August 17, 1807, was the day of the trial. Crowds gathered to see the failure of "Fulton's Folly," as they called the boat.

In a letter to a friend Fulton told the result of the trial:

My steamboat voyage to Albany and back has turned out rather more favorably than I had calculated. The distance

from New York to Albany is one hundred and fifty miles. I ran it up in thirty-two hours and down in thirty. I had a light breeze against me the whole way both going and coming and the voyage has been performed wholly by the power of the steam en-



THE UNITED STATES WAR VESSEL

DEMOLOGOS, 1814

gine. . . . The power of propelling boats by steam is now fully proved. The morning I left New York there were not perhaps thirty persons in the city who believed that the boat would even move a mile an hour, or be of the least utility, and while we were putting off from the wharf, which was crowded with spectators, I heard a number of sarcastic remarks. . . .

Having employed much time, money and zeal in accomplishing this work, it gives me, as it will you, great pleasure to see it fully answer my expectation. It will give as cheap

and quick conveyance to the merchants on the Mississippi, Missouri, and other great rivers which are now laying open their treasures to the enterprise of our citizens; and although the prospect of honor and emolument have been some inducement to me, yet I feel infinitely more pleasure in reflecting on the immense advantages that my country will derive from the invention. . . .

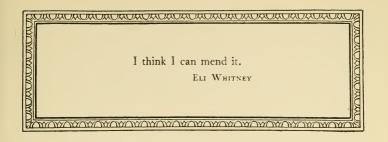
It seems strange that so few people realized the great importance of the first successful steamboat voyage on the Hudson River. There were at the time 83,000 people in New York City, for whom twenty newspapers were printed, half of them being dailies, "yet, excepting the letters written by Fulton and some of the passengers, there was merely the barest mention of the steamboat outside of the advertising columns."

Not many years passed till Fulton's countrymen realized what they owed to him. But by that time Fulton was dead.

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CHAPTER IX

ELI WHITNEY, INVENTOR OF THE COTTON GIN

(Born December 8, 1765, in Westboro, Massachusetts; died January 8, 1825, in New Haven, Connecticut)

Eli Whitney came naturally by his taste for machinery. His father was not only a farmer but a handy man on whom the neighbors learned to call for all sorts of carpenter and cabinet work. With equal skill he could fashion fine pieces of furniture or wheels and yokes for ox wagons.

His father's tools had a wonderful fascination for him; it was useless to forbid him to handle them. At first he tinkered, after the fashion of boys, but it is recorded that when he was twelve years old he made a fiddle which proved to be such a good instrument that neighbors employed him to repair some of their musical instruments.

He was not afraid to attempt other difficult tasks. When one of the fine table knives brought into the

Whitney home by his stepmother was broken, he succeeded in replacing it. In those days, before the invention of the nail-cutting machine, nails were made by hand, and the nails he made were in demand. He was skillful also in turning wooden canes for men and fashioning metal pins for women's hats. In fact, he seemed never at a loss



when he decided to make anything. Frequently, if he did not have the necessary tools, he would make these for himself.

During his earlier years he felt that school training was not so necessary as the ability to work with tools. Later he changed his mind; he saw that if he was to make the most of himself.

even as a handler of tools, he must have the best education possible. He therefore planned to go to Yale College, but he was twenty-three years of age before he could begin his course. Part of the necessary money he borrowed from his father, promising to repay this as soon as possible after graduation. The promise was kept within three years after leaving college.

There was much demand for his work when his ability with tools became known. Once he helped a carpenter who was building a house. The carpenter was a little dubious as to his ability; evidently he had dealt with student workers before. But Whitney's skill was so great that the carpenter



THE OLD BRICK ROW AT YALE COLLEGE

looked on in admiration, and finally said, "There was a good mechanic spoiled when you came to college." The student must have smiled; he knew that education would make him a better mechanic than ever, though he intended to be a lawyer.

An unexpected opportunity to show what he could do came one day when he heard one of his

teachers say that a piece of broken apparatus used in instruction must be sent abroad for repairs. Whitney surprised the instructor by saying, "I think I can mend it." Then he surprised him still more by doing the work thoroughly and promptly.

After his graduation, Whitney decided to teach. Finding no opening near home, he went to South Carolina, on the promise of a salary of one hundred guineas for the first year. In Savannah he was told that he was to have but fifty guineas. He declined to teach for this sum, and began to look for other work.

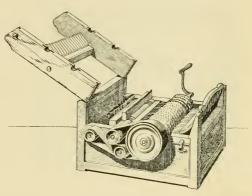
While he was trying to decide what to do, he was invited by the widow of General Nathanael Greene, whom he had met on the voyage to Savannah, to live on her plantation, twelve miles from Savannah, while he studied law. Evidently she felt that a man of his ability and training would be a good companion for her children.

George Iles has told of the next incidents, that proved the turning point in Whitney's life:

One evening as his hostess sat embroidering, she complained that her tambour frame tore the delicate silk of her pattern. Whitney saw at a glance how he could make a better frame, and this he accomplished next day to her delight. Early the next year Mrs. Greene received a visit

from three comrades of General Greene, who resided on plantations near Augusta, and who often talked about sowing and reaping with their vital bearing on profit or loss. They agreed that much of the up-country land belonging to themselves and their neighbors yielded good cotton, but that cotton had little or no value owing to the high cost of dividing lint from seed. At that time to part a pound of lint from the three pounds of seed, was ten hours' work for

a quick hand. Usually the task was taken up when regular work was over for the day. Then the slaves, men, women, and children, sat around a taskmaster who shook the dozing and urged



THE COTTON GIN

the slow. One evening as her visitors deplored the lack of a machine to supplant the tedious and costly process, Mrs. Greene said, "Gentlemen, apply to my friend, Mr. Whitney; he can make anything," showing them her tambour frame, with an array of her children's toys which he had made or mended. Whitney, thus appealed to, said that his home had been so far north that he had never seen cotton, as plucked from the bolls, with its seed firmly attached to the lint, so that the task of separation had never occurred to him.

The explanation was made to Whitney that the roller gin, which was used on the long-staple Sea Island cotton, was not effective for the short-staple cotton which grew on the mainland.

In Savannah, next day, Whitney examined carefully a specimen of raw cotton, and had a vision of the machine that would separate the seeds from the fiber far more quickly and thoroughly than the hands of the slaves. At once he went back to the plantation and began making experiments.

The inventor would be cheered by the momentary success of a plan adopted for the separating of the seeds and the fiber, only to be disappointed when he found fatal flaws in his device. But he was not discouraged. Patiently he tried both iron and wire for the teeth which he hoped would take the place of human fingers.

The wire teeth succeeded better than those made of iron, but in a short time the lint clogged them. He was wondering how to solve the difficulty when Mrs. Greene suggested that he clean the teeth with an ordinary hearth brush. This gave him an idea. He made a wooden cylinder, on which bristles were fastened. These bristles opposed the cylinder armed with wire teeth, and ran four times as fast as the cylinder. This experiment was a complete success.

The working model was ready for inspection within a few weeks. The planters who were invited to study it became enthusiastic. They urged Whitney to patent his invention at once. They told him that his machine would revolutionize the cotton industry, and that he would become a wealthy man if he followed their advice.

But the inventor objected that he did not wish to interrupt his law studies, and that he did not have the funds to push the invention. Thereupon Phineas Miller, the manager of Mrs. Greene's



THE COTTON GIN AT WORK

plantation, who was also a Yale graduate, offered to furnish the funds. Reluctantly Whitney accepted the proposal. To Mr. Miller he gave a half interest in the gin.

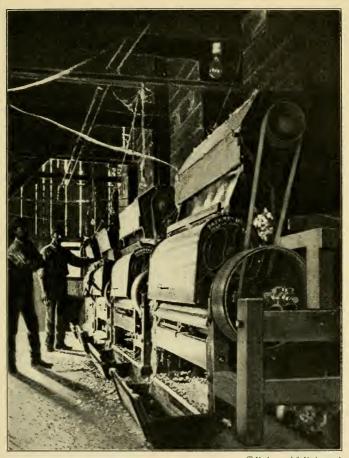
A model, made by Whitney in Connecticut, was sent to Washington with an application for a patent. This was forwarded to Thomas Jefferson, who was Washington's Secretary of State. Thomas Jefferson's knowledge of the cotton industry led

him to see the wonderful advantages of the invention, and the patent was granted on March 14, 1794.

But difficulties were not at an end. Miller was not able to supply all the money needed. Loans were made at a rate of interest that used up all the profits. Then the factory in New Haven was burned. The planters had been encouraged by the success of the machine to increase their acreage of cotton sown, and they demanded machines which could not be supplied by the owners of the patent. Discovering a flaw in the patent, many of them had gins made in the South; it was one of the advantages of the device that it was so simple that a carpenter and a blacksmith could manufacture it without difficulty.

In 1796 a patent was granted to a rival inventor, who used saws instead of wires in separating the cotton seeds from the fiber. This patent was later withdrawn, when Whitney proved in court that in his original papers filed in Washington with his model he had spoken of the fact that saws might be used in this way. But the suggestion was not noted in the patent itself.

The governor of Georgia and the state legislature asked Congress to modify Whitney's patent, or to pay him for his invention, that the patent might be canceled and the gins made free to



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A MODERN COTTON GIN

all. In other states the suggestion was made that state rights be paid for by an appropriation made by the legislature.

When Whitney heard of these propositions, he drove from New Haven, Connecticut, to Columbia, South Carolina. There he asked for \$100,000 for the free use of the gin in that state. Later he accepted \$50,000 in exchange for two machines which might be used as models; of this sum \$20,000 was paid on account.

The North Carolina legislature did not pay outright for the privilege of manufacturing the gin, but levied a tax of two shillings and sixpence for five years on every gin in use. From the proceeds of this tax, Miller and Whitney received about \$20,000. Tennessee, too, tried taxation, and paid the owners of the patent about \$10,000. Other small amounts brought the total received by the partners to about \$90,000.

A little later, attempts were made in South Carolina to prove that the balance due on the \$50,000 should not be paid because the cotton gin was really invented by a Swiss, and not by Whitney. To the honor of the state, however, it is recorded that the legislature upheld Whitney's claim to the invention and insisted on paying the full amount of the settlement. In North

Carolina also the efforts of those who desired repudiation were a failure.

But when Whitney applied to Congress for a renewal of his patent, the petition was denied. The manufacture of the gin was made free to all.

The cotton gin used in most parts of the South to-day is almost identical with Whitney's saw gin. The roller gin is used to some extent, but, even with many improvements, this has not displaced Whitney's device.

When the income from the gin was cut off, Whitney became a manufacturer of firearms for the United States government. In his factory in New Haven he introduced radical improvements in management. Many of these anticipated efficiency plans adopted in more modern factories.

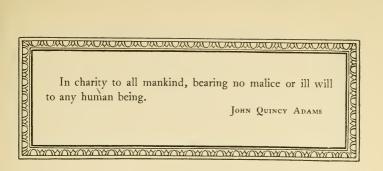
Whitney's fame is due entirely to the invention of the cotton gin, without which the history of the South must have been quite different. When he went to Savannah the output of cotton in the country was very small. A few years before, in 1784, when an American vessel carried a small quantity of cotton to Liverpool, it was seized at the customhouse on the ground that a false declaration had been made as to the vessel's cargo; the officers insisted that cotton could not be grown in America. Twenty-five years after

the invention of the gin, the exports of cotton from the United States were of greater value than all other exports combined. In 1914 the crop was more than sixteen hundred times as large as the crop of 1793.

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CHAPTER X

JOHN QUINCY ADAMS, STATESMAN

(Born in Braintree (now Quincy), Massachusetts, July 11, 1767; died in Washington, D. C., February 23, 1848)

John Quincy Adams spent his early years amid scenes that inspired patriotism. Frequently he heard the talk of his parents and their neighbors about the trials and hopes of the colonies. As he listened to them he decided that he too would be of use to the country for which others had made such sacrifices.

The impression was deepened when he was seven years old. During the battle of Bunker Hill he climbed with his mother to the top of a high hill and listened to the cannonading. From this hill he was able to see the reflection from the fires that raged in Charlestown. Later, during the siege of Boston, his steps turned many times to the hilltop.

These events excited John so much that he believed in dangers that did not exist. To his father, who was a delegate to the Continental Congress at Philadelphia, he wrote that the members of the little household were in constant terror,



THE HOUSES WHERE JOHN ADAMS AND JOHN QUINCY ADAMS
WERE BORN, QUINCY, MASSACHUSETTS

for they thought they were "liable every hour of the day and of the night to be butchered in cold blood, or taken and carried into Boston as hostages, by any foraging or marauding detachments." The father must have smiled when he read the letter; he understood that older members of the household would not be so fearful as John imagined. Even if John was fearful, he had real courage, for he was perfectly willing to ride often between Boston and the home farm, a distance of eleven miles, that the family might receive frequent letters from Mr. Adams, as well as the news from the city.

On June 2, 1777, when he was less than ten years old, he wrote to his father:

Dear Sir, - I love to receive letters very well, much better than I love to write them. I make but a poor figure at composition; my head is much too fickle, my thoughts are running after birds' eggs, play and trifles, till I get vexed with myself. I have just entered the 3d volume of Smollett, tho' I had designed to have got it half through by this time. I have determined this week to be more diligent, as Mr. Thaxter will be about at Court and I Cannot pursue my other Studies. I have set myself a Stent and determined to read the 3d volume Half out. If I can but keep my resolution I will write again at the end of the week and give a better account of myself. I wish, Sir, you would give me some instruction with regard to my time, and advise me how to proportion my Studies and my Play, in writing, and I will keep this before me and endeavor to follow this. I am, dear Sir, with a fervent determination of growing better, Yours.

P. S. Sir, if you will be so good as to favor me with a Blank book, I will transcribe the most remarkable occurrences I meet with in my reading, which will serve to fix them upon my mind.

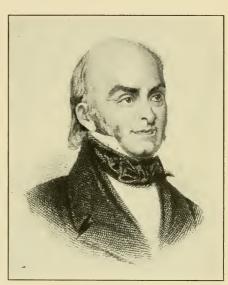
He was but eleven years old when he went with his father to Paris, where Mr. Adams had been sent on an errand for the Continental Congress. On September 27, 1778, he wrote to his mother from Passy, France:

Honored Mamma, - My Pappa enjoins it upon me to keep a Journal, or a Diary of the events that happen to me, and of objects that I see, and of Characters that I converse with from day to day; and tho' I am Convinced of the Utility, importance and necessity of this Exercise, yet I have not patience to do it so Constantly as I ought. My Pappa, who takes a great deal of pains to put me in the right way, has also advised me to Preserve Copies of all my letters, and has given me a Convenient Blank Book for this end; and altho' I shall have the Mortification a few years hence to read a great deal of my childish nonsense, yet I shall have the Pleasure and advantage of Remarking the several steps by which I shall have advanced in taste, judgment, and knowledge. A Journal Book and a letter Book of a Lad of Eleven Years old Can not be expected to contain much of Science, Literature, art, wisdom, or wit, yet it may serve to perpetuate many observations that I may make.

The diary was begun, but there were many interruptions up to 1795, when he opened the journal which he continued until within a few days of his death.

It does not seem strange that a boy who could write such a mature letter at eleven years of age should, at fourteen, be chosen secretary to Francis Dana, the envoy from the United States to Russia. Later he became one of the secretaries of the commission that negotiated in Paris the treaty of peace between Great Britain and the United States.

The young man had the opportunity to go with his father when Mr. Adams was appointed minister to England. He knew that this stay in England would be pleasant, but he decided to return to America and continue his education at Harvard College. In



JOHN QUINCY ADAMS

his diary he frankly owned that it would be hard "to spend one or two years in the pale of a college, subject to all the rules which I have so long been freed from," but he said that he was determined to get his own living in an honorable manner, and be dependent on no one.

After fifteen months at Harvard, he graduated in 1787. Details of the next three years, which he spent as a student in a law office at Newbury-port, he recorded in his diary.

On April 14, 1787, he told of his arrival in Newburyport:

I did not enter the town with the most favorable impressions. About three weeks hence I am to become an inhabitant of the place. Without friends or connections, I am to stand on my own ground, and am in all probability to live here three years; whether agreeably or not time only will discover; but the presages within my heart are not such as I should wish realized.

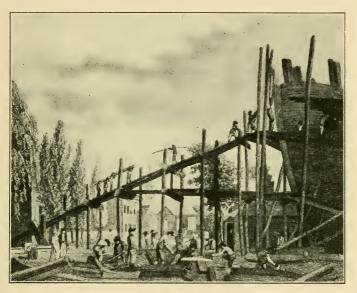
During 1788 he made several references to the proposed United States Constitution, to which there was a good deal of opposition in Massachusetts. On January 9, 1788, he wrote:

This day our State Convention is to meet in Boston for the purpose of assenting to and ratifying the Federal Constitution. . . . Some think there will be a great majority for adopting the Constitution, while others hope the opposite party will greatly preponderate.

On February 7, 1788, he wrote:

This day, at about noon, the news arrived in this town that the Federal Constitution was yesterday adopted and ratified by a majority of nineteen members in our State

Convention. In this town the satisfaction is almost universal; for my own part, I have not been pleased with this system, and my acquaintances have long since branded me with the name of anti-federalist. But I am now converted though not convinced. My feelings upon the occasion have



BUILDING THE FRIGATE PHILADELPHIA.
From Birch's "Views of Philadelphia," 1800

not been passionate nor violent; and, as upon the decision of the question I find myself on the weaker side, I think it my duty to submit without murmuring against what is not to be helped. In our government, opposition to the acts of a majority of the people is rebellion to all intents and purposes. . . .

His feelings toward the Constitution led him to write on February 8:

This afternoon the delegates from Newbury and from this town returned home from Convention. A number of very respectable citizens, and a number who were not very respectable, went out on horseback to meet the members and escort them into town; as they came along the bells at the different churches were set to ringing, and this noisy expression of joy was continued with some intermissions until eight o'clock in the evening. The mob huzza'd, and one would have thought that every man from the adoption of the Constitution had acquired a sure expectancy of an independent fortune.

On July 4 of the same year he made another reference to the Constitution:

In the middle of the afternoon the news arrived that Virginia had acceded to the Federal Constitution, and immediately the bells were set to ringing and the guns to firing again, without any mercy, and continued all the remainder of the afternoon. In the evening a number of young fellows paraded round the streets, with candles lighted in their hands and a drum before them, not much to their own credit or to the honour of the day; but they did no damage.

For some years Mr. Adams practiced law, but when, in 1794, he was appointed by President Washington as minister to The Hague, he gave up his office and sailed for Europe. Because of

the election of his father to the presidency in 1796, he thought that he ought not to accept further office, but Washington urged that the promotion the son had earned ought not to be kept from him merely because the father had been chosen president. So the appointment as minister to Prussia was made and accepted by the young diplomat.



THE CITY OF WASHINGTON, 1800

On arriving at Berlin the young minister was humiliated by being "questioned at the gates by a dapper lieutenant, who did not know, until one of the private soldiers explained to him, where the United States of America were."

In February, 1803, Mr. Adams, who had returned to the United States less than two years earlier, was elected to the United States Senate from Massachusetts. At once he went to Washington, which was then "a raw and unattractive village in which there was not a church of any denomination, church services being held on Sundays at the Treasury Office and the Capitol."

He was not popular as a senator, either with his fellow senators or with the people of Massachusetts. This was partly due to the fact that he would not have his hands tied by the party which had elected him. He was accused of being "false, selfish, designing, a traitor, an apostate," but he kept on with his work until his successor was elected, doing what he thought was best.

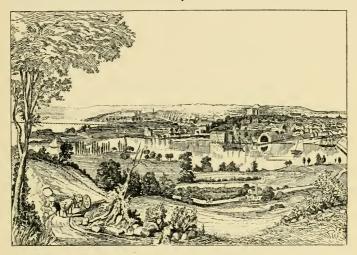
During the War of 1812 Mr. Adams was minister to Russia, and he was one of the commissioners who proposed the Treaty of Ghent, in 1814, which concluded the war. Thus he had part in both our treaties of peace with England.

After serving as minister to Great Britain, he became President Monroe's Secretary of State. While in office he arranged for the purchase of Florida from Spain, and worked out what has been known ever since as the Monroe Doctrine. This opposed the interference of European powers in the political affairs of the American colonists.

As the sixth president of the United States he served faithfully, in spite of many obstacles. Soon

after the close of his term he became a member of the United States House of Representatives from his district in Massachusetts.

There were those who said it was beneath the dignity of one who had been president to serve in



AN EARLY VIEW OF WASHINGTON

this way, but he insisted that "no person could be degraded by serving the people as a representative in Congress." He added, "Nor in my opinion would an ex-president of the United States be degraded by serving as a selectman in his town, if elected thereto by the people."

Sixteen years later he fell insensible on the floor of the House. Just before he died, after two days' illness, he was heard to say, "It is the last of earth; I am content."

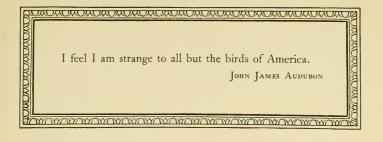
Mr. Adams has been called "one of the most lonely and desolate of the great men of his time." He did not have many of the qualities of heart that make a man a pleasing companion. Yet, to-day, he is honored as one of the greatest of American statesmen.

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CHAPTER XI

JOHN JAMES AUDUBON, NATURALIST

(Born near New Orleans, Louisiana, May 4, 1780; died in New York City, January 27, 1851)

John James Audubon's earliest recollections were of lying amid the flowers of Louisiana, breathing the fragrance of the orange trees and listening to the song of the mocking bird.

Audubon was a mere lad when his father took his family to Nantes, in his native France. It was his plan that the boy should be educated there for life in the French navy. As a part of the training he was taught mathematics, geography, and fencing. He was also permitted to take drawing lessons from David, the great French artist.

Under David's guidance he began to make drawings of objects of natural history. He secured specimens for copying by taking long tramps into the country about Nantes. He delighted to take

a haversack of provisions and go out after birds and animals. The artist's lessons gave him a knowledge of the rudiments of drawing, but his own determined perseverance was responsible for his increasing success in making accurate repre-



JOHN JAMES AUDUBON

sentation of his feathered friends and even of the animals he encountered in a forest ramble.

When his father returned home after a long trip he decided that the boy was not working hard enough, so he saw to it that there were not so many chances for the expeditions into the country in which

the boy took such great delight.

When his education was complete, his father realized that he could not hope to make a sailor of him. As the next best thing, he sent him to America to manage the estate on Perkiomen Creek, near Philadelphia, in which Mr. Audubon had invested some years earlier.

But the nature lover paid little attention to the estate because he found so many new things to see as he wandered over the hills and valleys and through the forests. He hunted, he fished, and he made drawings of the birds he saw. Before long



MILL GROVE, ON THE PERKIOMEN, NEAR PHILADELPHIA

he decided to prepare a great work on American birds. This was not a mere whim. In spite of tremendous difficulties he persevered in his purpose until, after many years, it was accomplished so well that a famous bird lover called the work "the most gigantic biblical enterprise ever undertaken by a single individual." A friend who visited his house, Mill Grove, on the Perkiomen, during the early years of his residence there, said:

I was astonished and delighted to find that it was turned into a museum. The walls were festooned with all sorts of birds' eggs, carefully blown out and strung on a thread. The chimney-piece was covered with stuffed squirrels, raccoons and opossums; and the shelves around were likewise crowded with fresh specimens, among which were fishes, frogs, snakes, lizards and other reptiles. Besides these stuffed varieties, many paintings were arranged upon the walls, chiefly of birds.

When the young naturalist asked leave to marry the daughter of a neighbor, the father told him he must be able to make a living. Audubon went to New York at once, and tried to become a business man. But his heart was not in his work, and he failed. Then he sold the farm, bought goods with which he planned to trade in the West, married the young woman, and, with a partner, started for Louisville.

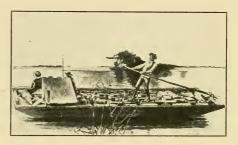
The young people made their way overland to Pittsburgh. There the goods were loaded on a flatboat in which they were floated down the Ohio.

The trading venture did not prove profitable, partly because times were hard, and partly because Audubon spent so much of his time in nature study.

When it was decided to go to Ste. Genevieve on the Mississippi, in the hope that business might prove better there, the goods remaining to the partners were loaded on a keel boat.

The boat was new, stanch, and strong, and had a cabin in her bow. A long steering oar, made of the trunk of a slender tree, about sixty feet in length, and shaped at its outer extremity

like the fin of a dolphin, helped to steer the boat, while the four oars from the bow impelled her along, when the course was with the current, at the



FLOATING DOWN THE OHIO ON A FLATBOAT

quite satisfactory rate of about five miles an hour.

A brief experience in the French town on the Mississippi disgusted Audubon, and he sold to his partner his interest in the trading venture. Then, on horseback, he started overland to Henderson-ville, Kentucky, where he had left his wife. During the journey he had a narrow escape from death at the hands of an old woman with whom he lodged. The sight of his gold watch proved too much for her, and she plotted with her son to

kill him as he slept. He overheard the plan, and was just ready to spring up to defend himself when two travelers entered the house. Audubon told his story, and the mother and her son were secured.

Not long after his return to Kentucky, in November, 1812, came the series of earthquake shocks which changed the course of the river and caused terror to the scattered settlers along the Mississippi.

During the next few years he toiled to support his family by business ventures, but every time he failed. Once the reason for failure was that he was more interested in hunting than in business. At other times men took advantage of his ignorance. Finally he had nothing left but his gun, his dog, and his drawings. But he began to make portraits of the settlers, and before long he had a good income.

He did not lose sight at any time of his dream of studying the birds in the forests. Whenever he had a chance he wandered into the wilderness to gather specimens, from which he made drawings. On one of these trips he met Daniel Boone.

His ability to draw and his love for birds brought him an appointment to take charge of the museum in Cincinnati. There he remained until the work for which he had been appointed was finished. In 1820 he set out from Cincinnati on a flatboat, intending to make a tour of the South in search of specimens. He wanted to make one hundred drawings of birds before he returned to Cincinnati.

While on this trip he was many times in want, but he was always generous. One day, in Natchez, the condition of a man without shoes appealed to him, perhaps because he needed shoes himself. Audubon called on a shoemaker, told of his need of two pairs of shoes, and offered to paint the portraits of the shoemaker and his wife in exchange for the two pairs of shoes. The portraits were painted in two hours, and the payment was made.

When he reached New Orleans he had a little money, but this was stolen. He tried in vain to get work, for his own support and to send money to his wife and children. Even in the time of greatest poverty, however, he continued to go to the woods that he might add to his specimens and his drawings.

Life became a little easier when he was asked to spend half his time teaching the daughters of a planter near New Orleans. The other half of his time he spent in hunting and studying in the woods and the fields. When he returned to New Orleans, he was able to send a draft to his wife. He was glad to write in his journal that he had managed to live for a



MEADOW STARLINGS, OR MEADOW LARKS
From the drawing by Audubon

year on his earnings. During the first year after leaving Cincinnati he finished sixty-two drawings of birds and plants, three of quadrupeds, two of snakes, and fifty portraits.

Friends found fault with him because he continued his wandering life. They thought he amounted to nothing and that for the sake of his family he ought

to settle down. But he was willing that they should think of him as a madman, so long as his wife and family encouraged him. He had tried to make a home for them in New Orleans, but work was scarce and Mrs. Audubon had to teach in the home of a friend to support herself. Once he was not able to write his journal for two weeks because he did not have sufficient money to buy even a blank book.

Feeling that he could not complete his book of birds without the assistance of subscribers, he decided to leave his family in the South and go to Philadelphia. Six months were required for the journey.

The stay in the East was a disappointment. Artists admired his drawings, but he did not see how he was to get them published. After five months he was so badly discouraged that he told of his fear that he should die unknown. "I feel I am strange to all but the birds of America," he said. "In a few days I shall be in the woods and quite forgotten."

The next day he felt better and decided to stay in the East a little longer. Perhaps in Boston he would be successful, he thought. But money became scarce on the way, and he made up his mind to go back to Louisiana by way of Niagara Falls. For seven dollars he bought a ticket on a canal boat from Albany to Rochester, two hundred and sixty-eight miles. The trip took six days. As he traveled he was able to add drawings of several new birds to his collection.

A day was spent at the Falls and on the river banks. Of the end of the day he wrote in his journal:

I afterwards strolled through the village to find some bread and milk, and ate a good dinner for twelve cents. Went to bed at night thinking of Franklin eating his roll in the streets of Philadelphia, of Goldsmith traveling by the help of his musical powers, and of other gentlemen who had worked their way through great hardships and difficulties to fame, and I fell asleep, hoping, by persevering industry, to make a name for myself among my countrymen.

From Pittsburgh to Cincinnati he made the journey in a skiff. He traveled by day and at night drew the boat on the bank and slept in it. From Cincinnati to Louisville he took deck passage on a boat, sleeping at night on a pile of shavings.

The last stage of the trip to Bayou Sara was completed, and he arrived "with rent and wretched clothes and uncut hair, and altogether looking like the Wandering Jew."

In April, 1826, the naturalist left Bayou Sara for Europe, where he hoped to interest lovers of art and nature who would help him to publish his book. His wife, who was earning three thousand dollars a year, asked to help pay the expenses of the journey.

In England he was so well received that he was able to plan to publish the bird plates, with descriptive matter, at \$1000 per set. As the expense would

be \$100,000 in all, he had to have advance subscribers before he could proceed with the work. These subscribers he sought and found himself. Sometimes he was disappointed but usually he was successful.

While arrangements were being made for the publication, Audubon supported himself by giving exhibi-



AUDUBON'S WOODPECKER

tions and by doing work in paint and oils for customers.

Once he had only a sovereign left in his pocket, and did not know of a single individual to whom he could apply to borrow another. When he was on the verge of failure, in the very beginning of his undertaking, he extricated himself from his difficulties by rising at five o'clock in the morning, working hard all day, and disposing of his work at a price which a common laborer would have thought little more than sufficient remuneration for his work.

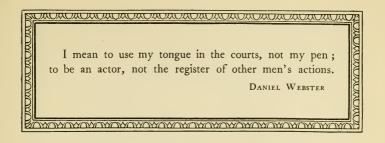
In the four years required to bring out the first volume, fifty of his subscribers, representing the sum of \$50,000, abandoned him. He was forced to go in search of others to take their place.

Finally the work was finished, and fame came to the patient toiler who had borne untold hardships because he felt that he must give his work to the world.

For some years he continued the study of the birds in the forest. In 1839 he retired with his family to a home in New York City, where he spent the last twelve years of his life in peace and prosperity.

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CHAPTER XII

DANIEL WEBSTER, ORATOR AND STATESMAN

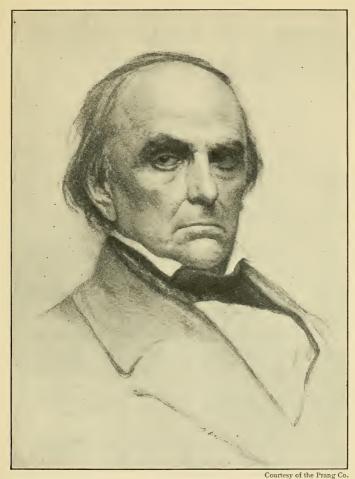
(Born in Salisbury, New Hampshire, January 18, 1782; died in Marshfield, Massachusetts, October 24, 1852)

In childhood Daniel Webster was frail. Friends said he would not live. But his devoted father and mother spared no effort to help him to grow strong and well. While others worked, they encouraged him to roam in the woods and by the streams of the region about the home farm, which was "nearer to the North Star than any other of the New England settlements." These were Webster's own words, spoken many years later. The Indians were not far away, and the day of sudden alarms had not passed. Only seven years before Daniel's birth the savages killed the wife of the man who owned the farm at that time. Frequently Daniel played about the remains of the stockade built for defense against Indians.

As Daniel became stronger he had his part in the tasks about the tavern which his father opened for the accommodation of passing teamsters. One of the events of his later life which he took pleasure in telling was the greeting of one who heard him deliver a political speech in Ohio: "Is this the little black Dan that used to water the horses?"

Ezekiel Webster, Daniel's father, longed to give to his children the education which had been denied him. For years he did not see the way to do this. But when Daniel was nine years old there was a turn in the father's fortunes; he was made judge of the local court, at a salary of three or four hundred dollars a year. This seemed like a fortune to the New Hampshire family. Mr. and Mrs. Webster had many talks about what they would do with the money. Among other things they decided to give Daniel a better education than the neighborhood school could provide.

Accordingly, in 1796, the boy was sent to Phillips Academy at Exeter, Massachusetts. At first he was not well received by his mates on account of his appearance; but it was not long before he won his way to a position of leadership. One by one obstacles were overcome. Of one of these obstacles he himself told:



DANIEL WEBSTER

I could not speak before the school. . . . Many a piece did I commit to memory, and recite and rehearse in my own room over and over again, yet, when the day came when the school collected to hear declamations, when my name was called, and I saw all eyes turned to my seat, I could not raise myself from it. . . . When the occasion was over, I went home and wept bitter tears of mortification.

He would not give up. He persisted in his attempts till he finally conquered his timidity, and was able not only to speak what he had learned but also to think upon his feet. This ease did not come all at once; it was not until, he was in college that he felt even reasonably at home before an audience.

After nine months at the academy he taught school for a time before continuing his studies with a minister at Boscawen, six miles from his home. While his father was driving him to Boscawen a wonderful bit of information was given him: he was to go to Dartmouth College. In the story of his life, he said:

I remember the very hill which we were ascending, through deep snow, in a New England sleigh, when my father made known his purpose to me. I could not speak. How could he, I thought, with so large a family, and in such narrow circumstances, think of incurring so great an expense for me? A warm glow ran all over me, and I laid my head on my father's shoulder and wept.

Probably the knowledge that his parents had to mortgage the farm to secure funds for his education spurred him to great exertions. He studied hard, and, in August, 1797, when he was fifteen years old, he was ready to begin his freshman year at Dartmouth. In Webster's day many students entered college at an age even earlier.

The journey to Hanover, New Hampshire, was made on horseback. His feather bed and bedding, as well as his books and clothes, were carried by the patient animal.

At college he soon became known as a reader who could not be satisfied. Cervantes, Milton, and Shakespeare were among his favorite authors. He became famous also as an extemporaneous speaker, but his ease in speaking was acquired only at cost of severe toil. One of his classmates said:

He was accustomed to arrange his thoughts in his mind in his room or his private walks, and to put them upon paper just before the exercise was called for. When he was required to speak at two o'clock, he would frequently begin to write after dinner, and, when the bell rang, he would fold his paper, put it in his pocket, and go in and speak with great ease.

His method of study and reading, as he described it, was just as painstaking.

Many other students read more than I did and knew more than I did. But so much as I read I made my own. When a half hour, or an hour at most, had elapsed, I closed my book and thought over what I had read. If there was anything peculiarly interesting or striking in the passage, I endeavored to recall it and lay it upon my memory. . . . Then if, in debate or conversation afterwards, any subject came up on which I had read something, I could talk very easily so far as I had read, and then I was very careful to stop.

All this time the student for whom loving parents were sacrificing daily was thinking of his brother Ezekiel. The two had always been chums. Ezekiel had ever shown himself ready to do what he could for Daniel's happiness, and Daniel, in his turn, longed to help him. He thought the best thing he could do for his brother was to give him an education.

Yet it had been decided when Daniel went to school that Ezekiel was to be his father's right-hand man at home. Mr. Webster was becoming old, his health was poor, there were two dependent sisters, and the family income was small. So when Daniel told his father of his hope that Ezekiel might go to academy and college, he promised to relieve the home pocketbook by teaching school.

Soon after Ezekiel began his studies at the academy, he wrote to Daniel that he was sure he could

not succeed. But the younger brother, who would never own that Ezekiel was his inferior, replied:

In the future say in your letters to me, "I am superior to you in natural endowments; I will know more in one year than you do now, and in six than you ever will," ... but be assured, as mighty as you are, your great puissance shall never insure you a victory without a contest.

Daniel's words proved a spur to the backward brother. He became a lawyer of some note in his own state, and was for many years a member of the legislature.

Before the days of pleas in court could come there were rough roads for both boys. During Daniel's junior year he edited *The Dartmouth Gazette*, and so earned his board. During the winter he taught school and paid his brother's final bills for his college preparation. Mr. Webster, referring to those days, often spoke of how his brother and he, having, so to speak, but one horse between them, "rode and tied" (the New England expression meaning that they alternately rode and walked).

At first Ezekiel rode and Daniel walked. After his graduation Daniel paused in his professional studies, begun in a law office near home, and took charge of an academy at Fryeburg, in what is now the state of Maine. That his salary might be saved for Ezekiel, he secured work as a copyist of deeds. In telling of that winter, he said:

Four evenings in a week earned two dollars, and two dollars in a week paid my board. . . . The ache is not yet out of my fingers, for nothing has ever been so laborious to me as writing, when under the necessity of writing a good hand.

The day came when Ezekiel and Daniel walked together. It became necessary for the older brother to teach school to relieve the financial situation at home. Daniel, then in the office of a country lawyer, longed to go to Boston, but he did not see his way to keep himself in the city until Ezekiel wrote him that in his Boston school there was need of a man to teach Latin and Greek for an hour and a half a day. Board would be given for his services. Daniel applied for and secured the position. He promptly sought the office of a leader at the bar and, with some difficulty, secured a clerkship. This was a splendid opening for an ambitious student.

A temptation came when, in 1804, he was offered the clerkship of a New Hampshire court, of which his father was one of the judges, at a salary of fifteen hundred dollars a year. His father, who notified him of the appointment, seemed to take it for granted that he would accept. Acceptance would

mean present ease and comfort for himself and for the entire family. To Daniel's surprise his employer urged him to decline, saying:

Go and finish your studies. You are poor enough, but there are greater evils than poverty; live on no man's favor; what bread you do eat, let it be the bread of independence; pursue your profession, make yourself useful to your friends, and a little formidable to your enemies, and you have nothing to fear.

"Here was present comfort, competency, and, I may even say, riches, as I then viewed things, all ready to be enjoyed, and I was called upon to reject them for the uncertain and distant prospect of success," Webster said when looking back on this period. In the end he did not regret his rejection of the clerkship, for in less than twenty years he was famous and was earning twenty thousand dollars a year—a large income for his day.

Filial affection made the giving up of the clerkship a difficult matter. When he announced his determination his father said: "Well, my son, your mother has always said you would come to something or nothing, she was not sure which; and I think you are now about settling that doubt of hers."

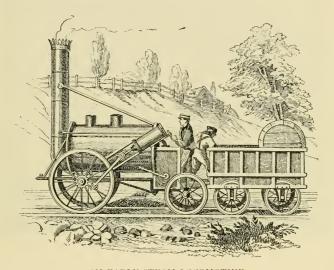
Desiring to do what he could for the family, he borrowed three hundred dollars and paid some pressing bills which were worrying his parents. Thus he revealed both his thoughtful affection and that carelessness of financial obligations for which he soon became known. He was always borrowing, and he was always in straits for money.

On his admission to the bar he returned home and began practicing in his father's court. From the first he attracted attention. A lawyer then famous said of him, "He broke upon me like a thunder shower in July, sudden, portentous, sweeping all before it."

His home town could not hold him. After his father's death and Ezekiel's admission to the bar the home practice and the care of the mother and sisters were given over to the older brother, while Daniel assumed his father's debts and removed to Portsmouth, New Hampshire. In 1813 his service in Congress began. Those who proposed to keep him from prominence because he was a newcomer were compelled to give way before the force of his personality and his oratory. Soon he became famous. In Congress and in court his words were listened to with delight by his friends and with fear by his opponents.

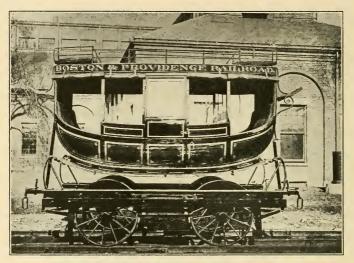
His most famous oration was delivered in 1830, during the course of what became known as The Great Debate, on the system of opening up to settlement the lands of the great West. Some urged

that these lands should be sold in such a way as to bring a revenue to the government; others, among these being Senator Hayne of South Carolina, argued that sales should be made at figures that would bring to the government little return.



AN EARLY STEAM LOCOMOTIVE

The question seemed simple enough, but back of it lay a number of the greatest problems that confronted the country for many years. There were those who feared that the settlement of the West might extend slave territory, and there were others who feared that the result might be the extension of free soil. Then Hayne argued that the sale of the public lands at the price of \$1.25 per acre would fill the United States Treasury with a great fund which would be a terrible weapon in the hands of Congress and the President to control the states.



OLD RAILROAD COACH USED BETWEEN BOSTON AND PROVIDENCE IN 1840

For the sake of state rights the lands should not produce large revenue.

Webster saw the menace of Hayne's argument. He could not have replied to him with greater vigor if he had been able to foresee the awful results of the argument for state rights, only thirty years later, when the Southern states seceded from the Union.

With all his might he opposed the plea that the

safety of American institutions lay in the strengthening of the states against the central government; he declared that the nation's prosperity, felicity, safety, perhaps its existence, depended on the consolidation of the Union. He insisted that a public improvement that was for the benefit of Ohio was for the benefit

of South Carolina as well, and that any project that helped South Carolina helped Ohio also, because the states formed a part of the great Union and their interests were one.



THE UNITED STATES CAPITOL IN 1850

In closing his second reply to Hayne, perhaps the greatest speech of his life, Webster spoke the words that have been echoed by tens of thousands of schoolboys:

When my eyes shall be turned to behold, for the last time, the sun in heaven, may I not see him shining on the broken and dishonored fragments of a once glorious Union; on states dissevered, discordant, belligerent, on a land rent with civil feuds, or drenched, it may be, in fraternal blood. Let their last feeble and lingering glance rather behold the gorgeous ensign of the Republic now known and honored throughout the earth; still full, high, advanced, its arms

and trophies streaming in their original lustre, not a stripe erased nor polluted, not a single star obscured, bearing for its motto no such miserable interrogatory as "What is all this worth?" Nor those other words of folly and delusion, "Liberty first and Union afterwards"; but everywhere, spread all over in characters of living light, blazing on all its ample folds as they float over the sea and over the land, and in every wind under the whole heavens that other sentiment dear to every American heart, "Liberty and Union, now and forever, one and inseparable."

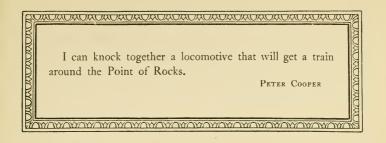
Webster's public service was varied. As congressman, senator, and secretary of state he proved a sagacious counselor. Three times he was a candidate for president, but that office was denied him. This disappointment must have been in his mind when he said, in 1852, the year of his death: "I have given my life to law and politics. Law is uncertain, and politics are utterly vain."

The political mistakes and failures of his later years cannot dim his fame. His friends wept over his failings, but they rejoiced in the privilege of calling friend the man of power, now known as one of the greatest statesmen America has produced.

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CHAPTER XIII

PETER COOPER, FRIEND OF BOYS

(Born in New York City, February 12, 1791; died in New York City, April 4, 1883)

Peter Cooper's parents were ambitious for their son. He was born when the American republic was young, and they hoped the day would come when he would do something worth while for his country.

The father was poor, and, as soon as possible, the members of his large family were expected to add to the income. Peter's head was just above the table when he began to assist his father, who was a hatter, by pulling the hair out of rabbit skins. As he became older he thoroughly learned all other details of the hat-making trade. Later he was his father's assistant in a brickyard at Catskill; there it was his task to carry the unbaked brick to the kilns.

After the day's work was done the active boy found useful things to do about the house. His

first invention, a device for pounding linen, was inspired by the sight of his mother doing the family washing. Of another bit of work he told himself, in his autobiography:

I remember one of the earliest things I undertook, of my own accord, was to make a pair of shoes. For this purpose I first obtained an old pair, and took them all apart to see the structure, and then, procuring leather, thread and needles, and some suitable tools, without further instruction I made the last and a pair of shoes which compared very well with the country shoes then in vogue.

There were no night schools in New York in those days, yet the boy felt that he must have an education. He did not even have the advice of a friend who was interested in his progress. Night after night he read and studied by the light of a tallow candle. And while he studied, his life purpose was formed: some day he would make it easy for boys to secure an education after working hours.

When he was seventeen years old he was apprenticed for four years to a coach-maker. During this period he was to receive twenty-five dollars a year and board. To this small income he added by night work at coach-carving, in a room on Broadway which his grandmother set apart for his use.

He did not reserve his best efforts for the evening, but worked diligently in the shop. During

his apprenticeship he invented a machine for mortising hubs, the first of its kind. This became the property of his employer. In gratitude for this service the master offered to advance the money needed to give him an independent start as a

coach-maker. The offer was declined, however, because the young man did not wish to run in debt.

Debt had been the cause of many sorrows in his own home, and some of the first capital he was able to put aside after he was twenty-one he devoted to paying



PETER COOPER

the most pressing of his father's obligations. After working three years as an assistant in the manufacture of machines for shearing cloth, at wages of one dollar and a half a day, he had saved enough to buy the right to manufacture the machines for sale in New York state. He sold the first machine for four hundred dollars and applied the

amount to his father's relief. Then he began at the bottom once more.

Added to his dread of debt was an aversion to any means of getting hold of money except by the toil of his hands and his brain. This aversion was due to a lesson impressed upon his mind when he was thirteen, and in the following manner:

I had earned about ten dollars beyond my immediate wants, which I invested by the advice of a relative in lottery tickets, all which, fortunately for me, drew blanks. This impressed upon me the folly of looking to games of chance for any source of gain or livelihood.

The demand for cloth-shearing machines fell off after the War of 1812, when imported woolens took the place of domestic weaves, and Cooper had to find other means of making a living. As a grocer in New York City he saved enough to buy the glue factory which he retained to the end of his life. This business became profitable because for a number of years he was ready to do the work of several men. He would go to the factory early and light the fire; he was his own city salesman, and in the evenings at home he kept the books, wrote business letters, and planned for the business so well that he could afterwards write:

I do not remember the week or month when every man who worked for me did not get his pay when it was due.

This is strictly true, through a business life of more than sixty years, in which I have had as many as twenty-five hundred people in my employment.

While at home he was not too busy to help Mrs. Cooper. His inventive genius was brought to bear on household affairs:

I found it necessary to rock the cradle while my wife prepared our frugal meals. This was not always convenient in my busy life, and I conceived the idea of making a cradle that would be able to rock by a mechanism. I did so, and enlarging upon my first idea, I arranged a mechanism for keeping off the flies, and playing a music box for the amusement of the baby.

His active mind was always at work on problems whose solution would benefit the public. For instance, a year before the water was let into the Erie Canal, he thought of a method of propelling canal boats by the force of water drawn from a higher level and made to move a series of endless chains along the canal. The plan was proved practicable by means of a test apparatus built largely by himself on a section of the East River flats. Governor Clinton, convinced of the value of the proposed arrangement, paid eight hundred dollars for the right to use it on the Erie Canal, but he was not able to take advantage of his purchase because the farmers refused to give the right of way unless the

promise was given that horses should be used. To them the chief advantage was the fact that horses must eat the grain that they had for sale. Later, use was made of the invention on the Camden and Amboy Canal and as the basis of the Belgian system of canal and river transportation.



THE FIRST RAILWAY CAR IN WASHINGTON

By frugality and good management Mr. Cooper was able to save enough money to buy, in 1828, three thousand acres of land in Baltimore. Here he erected the Canton Iron Works.

The property was retained long enough for the owner to become deeply interested in the fortunes of the Baltimore and Ohio Railroad, one of the earliest railroad enterprises in the country. For a time cars were drawn by horses, but the expense proved too great. The proposal was made to use

steam engines instead, but sharp curves in the line promised to make the ordinary locomotive ineffective. English engineers had declared that a locomotive could not be used on a curve whose radius was less than nine hundred feet, yet on the Baltimore and Ohio road there were curves whose radius was only one hundred and fifty feet.

There was great depression in Baltimore because of the fear that the large investments made by the city in the railroad would be lost. No one thought that the problem presented by the short curves could be solved and the road enabled to pay dividends.

Peter Cooper's large investments in Baltimore had led him to take deep interest in the difficulties of the road. While he was wondering what he could do to help matters, he recalled an invention he had made in 1828 for which he had received a patent. The idea was to give to an engine a rotary motion from the alternate rectilinear motion of a steam piston. But the invention was not appreciated at the time, and was laid aside. Now he told the directors of the railroad that he "could knock together a locomotive which would get a train around the Point of Rocks." In fulfillment of his promise he built the Tom Thumb locomotive, using bits of scrap brass and iron.

A trial trip was made. A party of six rode on the engine and thirty-six rode on the car attached to it. An average grade of eighteen feet to the mile was overcome, and a distance of thirteen miles was made in seventy-two minutes. Encouraged, the directors decided to adopt steam for the road.

The problem of going around sharp curves was not completely solved till the bogie truck was



THE FIRST TRIP OF THE TOM THUMB
From an old print

substituted for the rigid frame; but this improvement came in due season. In the meantime discouraged investors were cheered. The quiet boast of the builder of the

Tom Thumb, "My contrivance saved the road from bankruptcy," was not without justification. At any rate, he had built one of the first American locomotives.

Cooper's most serious work was done in managing his iron mills in New York City, Phillipsburg, and Trenton. In connection with these his inventive genius found still further expression. He devised a system for carrying coal a distance of three miles from the mine to the furnaces by means of

an aërial cable system, similar to that used to-day. In one of his mills, in 1854, he spent seventy-five thousand dollars in making the first iron beams for use in building operations. In 1879 the Iron and Steel Institute of Great Britain conferred upon him the Bessemer Gold Medal for his services in the development of the American iron trade. It is also worthy of note that he foresaw the need of some substitute for stairways in large buildings; in building Cooper Union he made provision for its equipment with elevators.

When, in 1854, the New York, Newfoundland, and London Telegraph Company was organized, Mr. Cooper became its president. Through all the years of discouragement before the first Atlantic cable was successfully laid, he stood loyally by Cyrus Field, furnishing money freely as it was needed.

While thus occupied by business cares, he found time for his duties as a citizen. As early as 1828, when he was assistant alderman in New York City, he began to urge the substitution of a modern system of waterworks for the antiquated hollow log pipes supplied by springs. He was made chairman of the water committee at the time of the completion of the Croton system. He was also actively interested in the establishment of the organized

police and fire service. In 1838 he became a trustee of the Free School Society, which, until 1853, had entire control of the public schools of the city. For two years he was vice president of the new Board of Education. He was long president of the Citizens' Association, the forerunner of many organizations of citizens in their battle for good government.

But he had not lost sight of his hope to found an institution for the education of apprentices. The apprentice system had been displaced, but he felt that young people still needed the school he had in mind. Lot after lot was purchased as a part of the site of the building he proposed to erect, and, in 1854, he had an entire city block at his disposal. On this he began to build a substantial six-story structure. The initial investment was \$630,000. Later he was able to add \$200,000 for endowment.

The donor desired to call the school simply The Union for the Advancement of Science and Art, but the legislature insisted on naming it the Cooper Union. He felt that this addition was unfortunate; he saw that the Union would need millions of endowment which he could not supply and that givers were not apt to be attracted by an institution that bore the name of the founder. Fortunately his fears

proved groundless; in recent years large gifts have been made to the Union, so that it has been possible to enlarge the purposes of the foundation.

During the years since 1859, when the building was completed, the Union has given to thousands, of all classes, creeds, and races, opportunities for education which would otherwise have been denied them. The purpose of the founder was "to open the volume of Nature by the light of truth—so unveiling the laws and methods of Deity that the young may see the beauties of creation, enjoy its blessings, and learn to love the Being 'from whom cometh every good and perfect gift.'"

Soon the great reading room was daily used by from fifteen hundred to two thousand people. In the lecture rooms large audiences gathered to hear famous speakers. A complete four years' course was instituted, while it was possible for students to enroll in separate classes.

At a meeting of friends who had gathered in his home to celebrate his ninety-first birthday Mr. Cooper said:

I can see that my career has been divided into three eras. During the first thirty years I was engaged in getting a start in life; during the second thirty years I was occupied in getting means for carrying out the modest plan which I had long planned for the benefit of my fellow men, and

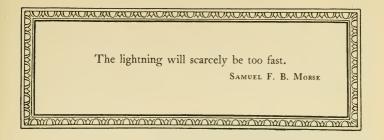
during the last thirty years I have devoted myself to the execution of this plan. The work is now done.

When he died, at the age of ninety-two, the city mourned as it had not mourned since the funeral of George Washington.

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CHAPTER XIV

SAMUEL F. B. MORSE, INVENTOR OF THE TELEGRAPH

(Born in Charlestown, Massachusetts, April 27, 1791; died in New York City, April 2, 1872)

Samuel Finley Breese Morse was only four years old when he gave the first indication of the taste that promised for many years to be the ruling passion of his life. While attending a school near his home kept by an old lady who could not leave her chair, he scratched her likeness with a pin on the highly polished surface of a chest of drawers. For punishment the future artist was pinned to the dress of the schoolmistress.

Three years later he was sent to a school at Andover, Massachusetts, that he might prepare to enter Phillips Academy. The first letter he sent home after the beginning of his life at Andover has been preserved:

Dear Papa, — I hope you are well I will thank you if you will Send me up Some quils Give my love to mama and NANCY and my little brothers pleas to kis them for me and send me up Some very good paper to write to you.

I have as many blackberries as I want I go and pick them myself.

Samuel Finley Breese Morse,

Your Son

He was a student at the academy when his father sent him a letter that showed how far the boy must have advanced since the days when he had written home about "quils" and "blackberries":

Charlestown, February 21, 1801

My dear Son: — You do not write me as often as you ought. In your next you must assign some reason for this neglect. Possibly I have not received all your letters. Nothing will improve you so much in epistolary writing as practice. Take great pains with your letters. Avoid vulgar phrases. Pay attention to your spelling, pointing, the use of capitals, and to your handwriting. . . .

... Attend to one thing at a time. It is impossible to do two things at the same time, and I would, therefore, never have you attempt it. Never undertake to do what ought not to be done, and then, whatever you undertake, endeavor to do it in the best manner. . . .

Your affectionate parent,

J. Morse

Finley, as the boy was called, was a thoughtful student. He went over his required lessons

faithfully, and he was eager to read helpful books that were not required. He was especially fond of Plutarch's "Lives." At the age of thirteen he sent to his father a paper he had prepared

on "The Life of Demosthenes."

A letter written to his parents when he was sixteen, just after he had entered Yale College, told of books of travel and history in which he delighted. But it is good to note that Finley knew how to join with his companions in



SAMUEL F. B. MORSE

their sports. The letter that described his reading told also of a mock trial in which he had taken part:

The college cooks were arraigned before the tribunal of the students, consisting of a committee of four from each class in college; I was chosen as one of the committee from the Sophomore class. We sent for two of the worst cooks, and were all Saturday afternoon trying them; found them guilty of several charges, such as being insolent to the students, not exerting themselves to cook clean for us, in concealing pies which belonged to the students, having supper at midnight and inviting all their neighbors and friends to sup with them at the expense of the students.

The findings of the student court were brought to the attention of the president. One of the cooks was dismissed, while two were put on probation.

At college Finley's favorite studies were electricity and chemistry. Many times he wrote home of his interest in the classroom experiments made by his instructors.

The experiments in electricity especially made a deep impression on him; he could recall them vividly for many years. Later he said of one of these:

The fact that the presence of electricity can be made visible in any desired part of the circuit was the crude seed which took root in my mind, and grew up into form, and ripened into the invention of the telegraph.

Of other experiments he wrote, during his junior year:

I am very much pleased with chemistry. It is very amusing, as well as instructive. There are many very beautiful and surprising experiments performed, which are likewise very useful. I intend, with your leave, getting in "a chemical trough," and small apparatus when I come home. . . . You will find our experiments very entertaining. There

will be a number of articles which we shall want, which we shall be obliged to get here, on account of their being obtained here cheaper, such as gun-barrels, retorts, etc. the use of which I will explain to you hereafter.

Perhaps it was a classroom experiment that suggested to Morse and his brothers, Sidney, a junior, and Richard, a sophomore, the bit of sport of which a classmate wrote in 1872, sixty-three years after the event:

What remains most vividly in my memory is the balloon which they constructed of letter paper. . . . This balloon was eighteen feet in length, was suspended from the tower of the Lyceum of Yale College, inflated with rarefied air, and sent aloft with its blazing tail, rising most gloriously till it vanished in the distance.

Other things besides study and sport occupied the student. His father, a country minister, was poor, and the expense of keeping three sons in college was large, even in that early day. So Finley was glad to do what he could to lighten the burden. Fellow students noted his skill with the brush and asked him to paint their miniatures on ivory. The work was crude, for the young artist had been given no instruction, but the fellows were satisfied. Other early work that showed genius was the crude drawing on the walls of his college room, representing "Freshmen Climbing the Hill of Science," and

his first group picture. In this his father was represented as standing by the side of a library table, while the sons and their mother were about him, evidently listening to a lecture on geography.

When he was graduated from college, in 1810, he was eager to become the pupil of Washington Allston, the great artist, but when his parents thought he ought to go into a Boston bookstore and earn money, he did as he was asked. He did his best to earn his salary of four hundred dollars a year, but his heart was not in his work. The only hours of the day he really enjoyed were spent in the room over his employer's kitchen, where he had his paints, brushes, and easel.

Early in 1811 his father consented to his leaving the uncongenial bookstore that he might accompany Mr. Allston to Europe to make a serious study of art. In July, in company with Mr. Allston, he sailed for England. His first letter from London written to his parents was almost prophetic, in view of the invention that was to make him famous. He said:

I only wish you had this letter now to relieve your minds from anxiety, for while I am writing I can imagine Mother wishing that she could hear of my arrival, and thinking of thousands of accidents which may have befallen me. I wish that in an instant I could communicate the information; but three thousand miles are not passed over in an instant, and we must wait four long weeks before we can hear from each other.

In London Morse was introduced to Benjamin West, the great American artist, then more than seventy years old, who had been taught to paint by an Indian, using hair brushes made from the back and tail of a cat. The story of his struggles and triumphs inspired the young student to do his best under Mr. West's guidance. Frequently he worked at the easel from half-past seven in the morning until five in the afternoon.

An incident that occurred several months after the pupil began to receive instruction from the great artist not only illustrates the wise method of the teacher but shows the spirit of the student. When Morse presented to Mr. West a drawing of the Farnese Hercules which he intended to offer as a test for his admission at the British Academy, the great artist said, "Very well, sir, very well, go on and finish it." "It is finished," was the reply. Three or four defects were pointed out to him, and he was content to spend another week on the drawing. Once more Mr. West urged him to "go on and finish it." Almost discouraged, Morse asked, "Is it not finished?" Again defects were shown, and the beginner was set to work once

more. But when a third examination resulted in the same verdict as before, Morse said, "I cannot finish it." Thereupon the teacher said:

Well, I have tried you long enough. You have learned more by this drawing than you would have accomplished in double the time by a dozen half-finished beginnings. It is not numerous drawings, but the character of one, that makes a finished draughtsman. Finish one picture, sir, and you are a painter.

For five years Morse remained abroad. He did good work both in sculpture and in painting. When he returned to America in 1816 he thought he could make a living by his art. But as there was no demand for his work he had time for other things than pictures. Many of the evenings of the first year at home were spent in planning an improved force pump for a fire engine. Late in the year a Boston paper published an account of this invention, for which Finley and his brother Sidney secured a patent. The engine was a success; it made the name of Morse more famous than his art had yet done. Fortunately it was decided not to weight it with the name Sidney proposed, "Morse's Patent Metallic Double-Headed Ocean Drinker and Deluge Spouter Valve Pump Boxes."

During this time of great discouragement a friend wrote to Mr. Morse, "Believe that you are

destined to do something great, and you will do it." The words cheered the young man for years of varying fortune. Comparative failure in the North was followed by a successful year in Charleston, South Carolina, where within a few weeks he had orders for one hundred and fifty miniatures at sixty dollars each. Later he painted a number of more ambitious pictures that were highly spoken of, among these being portraits of President Monroe and of General Lafayette and a large canvas of the House of Representatives in session. He became the founder of the New York Academy of Design, and after many years of poverty he had a measure of popularity and comfort.

But his art was not enough to occupy his active mind. In 1827 he revived his studies of electricity, particularly electromagnetism, under Professor Dana of Columbia College. In 1829, when he made a second trip to Europe, his mind was on electricity as well as on art. In 1832, after study of the French Semaphore Telegraph System, he decided that this was too slow. "The lightning will scarcely be too fast" was his comment.

In October, 1832, he was a passenger on the packet ship *Sully*, from Havre to New York. During a conversation on electricity at the dinner table a passenger, Dr. Jackson, referred to experiments

made by Dr. Franklin with several miles of wire in circuit to learn the velocity of electricity, when it was found that there was no observable difference in time between the touch at one end of the wire and the spark at the other. Thereupon Mr. Morse remarked, "If the presence of electricity can be made visible in any part of the circuit, I see no reason why intelligence may not be transmitted instantaneously by electricity." As he spoke there came to his mind all that he had ever learned about electricity, and the idea of the telegraph was born.

For days he worked feverishly, making sketches in his notebook. Soon he finished the general outline which became the basis of his invention. Before the vessel reached port he said to Captain Pell, "Well, Captain, should you hear of the telegraph one of these days as the wonder of the world, remember that the discovery was made on board the good ship *Sully*."

At the dock his two brothers met him. To them he told of his invention. Richard Morse said of this conversation:

Hardly had the usual greetings passed between us three brothers, and while on our way to my home, before he informed us that he had made, during the voyage, an important invention, which had occupied about all his attention on shipboard — one that would astonish the world, and

of the success of which he was perfectly sanguine; that his invention was a means of communicating intelligence by electricity, so that a message could be written down in a permanent manner by characters, at a distance from the writer. He took from his pocket and showed from his sketch book in which he had drawn them, the kind of



BEFORE THE DAYS OF TRANSATLANTIC STEAMSHIPS

characters he proposed to use. The characters were dots and dashes, representing the ten digits or numerals; and in the book were sketched other parts of his electromagnetic machinery and apparatus, actually drawn out. . . .

Once more the artist inventor tried to combine art and experiments. In the fifth story of a building in New York City he had a room which for a long time was his study, studio, bedchamber, parlor, kitchen, drawing room, and workshop.

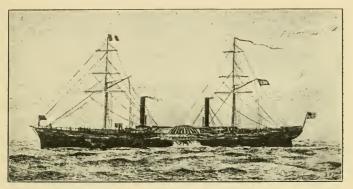
On one side of the room stood the little cot on which he slept, when sleep was kind enough to visit him, in the brief hours which he allowed himself for repose. On the other side of the room, by the window, stood his lathe with which he, his own mechanician and workman, as well as inventor, turned the brass apparatus necessary for him to use in the construction of his instrument. He had, with his own hands, first whittled the model and the castings. On the lathe, with the graver's tools, he gave them polish and finish. Into this room were brought to him, from day to day, crackers and the simplest food which, with tea, prepared by himself, sustained his life.

Then came a bitter disappointment which proved the best thing that could have happened to him. He sought a commission for one of the historical paintings to be placed in the rotunda of the Capitol at Washington. Owing to what seemed an unfortunate misunderstanding, the commission which might have been given to him was given to another. Because of this disappointment, Morse the artist became Morse the inventor.

On September 2, 1837, an exhibition of the completed telegraph was given at the New York University, where Mr. Morse was serving as professor. It was evident that the instrument was a

success. Some wondered if it was practicable for long distances, but Mr. Morse replied, "If I can succeed in working a magnet ten miles, I can go round the globe."

A private exhibition to friends was given in New York on January 24, 1838. On this occasion the message was transmitted and recorded,



THE TRANSATLANTIC STEAMSHIP FULTON, 1855

"Attention, the Universe! By Kingdoms, Right Wheel." And on February 20, 1838, the invention was tested at Washington before the President of the United States and the heads of government departments. This was so successful that it was decided to ask Congress for an appropriation for a trial line.

There was discouraging delay in pushing this appropriation through Congress. The inventor worked

and hoped on. During the time of waiting for action he went to Europe to apply for foreign patents. He was successful in France, but his request was refused in England on the ground that his invention was not new. After eleven months abroad, he landed in New York. The next day he wrote to an associate:

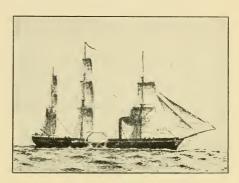
I return without a farthing in my pocket, and have to borrow even for my meals, and, even worse than this, I have incurred a debt of rent by my absence. . . . I do not mention this in the way of complaint, but merely to show that I have also been compelled to make great sacrifices for the common good, and am willing yet to make more, if necessary.

Four years longer he managed to exist while he waited for Congress to act on his application. A letter written in 1841 told of his trials during this period:

I have not a cent in the world. I am crushed for want of means. . . . I fear all will fail because I am too poor to risk the trifling expenses which my journey to and residence in Washington will cost me. . . . Nothing but the consciousness that I have an invention which is to mark an era in human civilization, and which is to contribute to the happiness of millions, would have sustained me through so many and such lengthened trials of patience in proof of it.

The appropriation for the trial line finally passed the House of Representatives on February 27, 1843, by the narrow margin of 89 to 83. But it seemed certain that the Senate would not concur. Two hours before the close of the session the inventor went home disheartened. He passed a sleepless night, thinking of the thirty-seven and a half cents

he would have when he reached New York, a disappointed man. Early in the morning, however, he had a call from Miss Annie Ellsworth, daughter of the Commissioner of Patents, who



AN EARLY TRANSATLANTIC STEAMER

brought word that the bill was the last passed at the session. The gratified inventor promised her that she should send the first message over the trial line from Baltimore to Washington. When, a year later, the line was ready for operation, she sent the historic message, transmitted by the inventor: "What hath God wrought!"

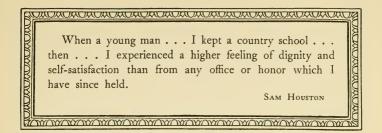
A few days later, when Silas Wright was nominated for vice president by the Democratic

convention in session in Baltimore, word was telegraphed to Mr. Wright in Washington, who at once wired his answer, declining the nomination. The convention would not believe that a message had so soon been sent and the response correctly received till they had sent a delegation all the way to Washington to learn the truth.

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CHAPTER XV

SAM HOUSTON, PIONEER

(Born near Lexington, Virginia, March 2, 1793; died in Huntsville, Texas, July 26, 1863)

Sam Houston came of soldier stock. His father, Samuel Houston, served through the Revolutionary War, at the close of which he was appointed Major and Inspector General of the frontier troops. While away from home on this duty, he died in the Allegheny Mountains in 1806.

Six sons and three daughters were thus left dependent on Mrs. Houston. Deciding that the best chance for all of them would be in the new settlements in Tennessee, she crossed the Allegheny Mountains with her family and built a rude log cabin in Blount County, eight miles from the Tennessee River, at the outermost edge of civilization. There the pioneer family had to be on guard continually against the Indians, for just

beyond were the lands where the Cherokees roamed. Sam, who was thirteen years old at the time of his father's death, was his mother's dependable helper during the laborious and anxious days of the making of the new home.



SAM HOUSTON

Fortunately Sam had learned to read, write, spell, and do simple problems in arithmetic at the primitive neighborhood school in Virginia. In Tennessee his opportunities for further study were limited; there were few schools, and his mother needed his help. Yet he was able to learn many things from the few books he

discovered in the homes of the settlers. These he read eagerly, early in the morning before the day's toil and as long as the candle end would last him in the evening. One of his favorite volumes was Pope's translation of Homer's Iliad; this satisfied his hunger for stories of conflict and adventure. Either at this period or in later life he learned, without a teacher, sufficient Latin to enable him

to read Cæsar's "Commentaries." It is not difficult to imagine how persistently the ambitious student must have studied the grammar and pored over the puzzling sentences till they yielded to him their secrets. Later, Cæsar's story of the Gallic Wars became his unfailing book of reference during the campaigns in Texas that made him famous.

Young Houston's first adventure led him into the country of the Cherokees, just across the Tennessee River. He had been clerking in the store of a trader near his home, but he could not resist the call of the forest. He spent some years among the Indians, living in their cabins, wearing native garments, learning their difficult language, and spending days in hunting, fishing, trapping, and the other occupations of the tribesmen who adopted him as one of themselves. From time to time he appeared among his own people, remaining long enough to buy supplies of powder, shot, and trinkets for trading.

But when he was eighteen he found a longer stay necessary. Wishing to earn money to pay for the supplies he had bought on credit, he opened a country school where the price of tuition was eight dollars a year. One third of this amount was payable in corn at thirty-one and a half cents per bushel, one third in cash, and one third in cotton goods. The fee was small, but there were so many pupils enrolled that his income for the year was good.

Years later, when he was United States senator, a friend asked him which one of the many offices he had held had given him most pleasure. He replied:

When a young man in Tennessee I kept a country school, being then about eighteen years of age, and a tall, strapping fellow. At noon, after the luncheon, which I and my pupils ate together out of our baskets, I would go out into the woods, and cut me a "sour wood" stick, trim it carefully in circular spirals, and thrust one half of it into the fire, which would turn it blue, leaving the other half white. With this emblem of armament and authority in my hand, dressed in a hunting-shirt of flowered calico, a big queue down my back, and the sense of authority over my pupils, I experienced a higher feeling of dignity and self-satisfaction than from any office or honor which I have since held.

His experience as a teacher made him feel the need of more education, and he entered the academy at Maryville, but the outbreak of the War of 1812 called him from the classroom. When he marched away with the soldiers, his mother handed him his musket, and said:

There, my son, take this musket, and never disgrace it; for remember, I had rather all my sons should fill

an honorable grave than that one of them should turn his back to save his life. Yes, and remember, too, that while the door of my cabin is open to brave men, it is entirely shut to all cowards.

The campaign in which he engaged was brief but brilliant. His regiment joined the command



AN INDIAN WAR DANCE

of General Jackson in its defense of the colonists against the Creeks, who took advantage of the war to attempt to drive out the settlers. In the engagement at To-ho-pe-ka, or the Horse Shoe, said to have been one of the fiercest encounters ever known between whites and Indians, he was a fearless leader. Early in the day, as he climbed

to the top of the Indian palisade, he was wounded by a barbed arrow, but he jumped within the barrier and led a charge that drove back the Indians to the shelter of the trees. Then he paused to have the arrow pulled from the wound. Though General Jackson told him he was too weak to fight longer, he insisted on continuing to do his part. When a party of Indians had taken refuge in a section of deep ravine, covered with heavy fir logs, Jackson called for volunteers to dislodge them. There was no response until Houston sprang forward, never doubting that the men would follow at his call. He was close to the ravine when he was shot twice in the shoulder and so severely wounded in the arm that his musket fell to the ground. He turned for help to his comrades only to find that no one had followed him. As it would have been folly to push on, he withdrew from the range of the guns of the Indians. In a few minutes he had the satisfaction of seeing the Creeks driven from their cover, and of knowing that his comrades were victorious. Months passed before he was well enough to report for service, and he never entirely recovered from the wound in his right arm.

Three years later, when a man was needed as sub-agent of the Cherokees, he was appointed on

the recommendation of General Jackson, who wrote of him to the Assistant Secretary of War:

He is a young man of sound integrity, who has my entire confidence, and in every way is capacitated to fill the appointment. Moreover, he has sound claims upon the government for a severe wound received in the service, which may be considered a disability.

Houston's most important service as sub-agent was the pacifying of those Cherokees who were indignant at the surrender by their chiefs of 1,385,200 acres of their lands in Tennessee. Later he succeeded in putting a stop to the illegal acts of the adventurers who made a business of stealing slaves in Florida, which was then a Spanish possession, and smuggling them across the Indian reservation for sale to the settlers beyond.

On May 18, 1818, when he held a commission as first lieutenant, he resigned from the service. After six months in a law office in Nashville he was admitted to the bar. When he began practice at Lebanon he bought the necessary law books and a suit of clothes on credit, and was trusted by the postmaster for the postage on his letters. The rent of his first office was twelve dollars a year. He was successful in his new work, won the friendship of the people, became

successively adjutant general of the state, prosecuting attorney for his district, representative in Congress, and governor of Tennessee. At the time of his election as governor his appearance was described as follows:

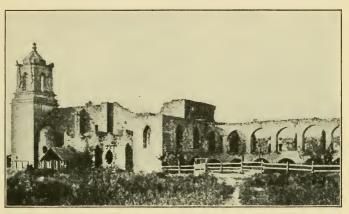
He wore . . . a tall, bell-crowned, medium-trimmed, shining black beaver hat, shining black patent leather military stock or cravat, incased by a standing collar, ruffled, short, black satin vest, shining black silk pants gathered to the waistband, with legs full, same size from seat to ankles, and a gorgeous, red-ground, many colored gown or Indian hunting shirt, fastened at the waist by a huge red sash covered with fancy bead-work, with a tremendous silver buckle, embroidered blue stockings, and pumps with large silver buckles.

As governor, Houston was a success and he was elected for a second term. But, deciding suddenly that he wanted to leave civilization behind him, he resigned his office, slipped away to the Indian territory, and remained there for some years, serving the Indians at Washington and defending them against dishonest traders.

Then came a call that brought out the best that was in him. In 1832 he was sent to Texas by President Jackson to arrange treaties with the Indians for the protection of settlers on the border. Just at this time settlers in Texas, which was then a part of the province of Coahuila, were

seeking for equal privileges with the other Mexican states. Most of the settlers had come from the United States, and they hoped that in time Texas might become a part of the United States.

On February 13, 1833, Houston wrote to President Jackson that the time was ripe for getting



SAN JOSÉ MISSION, SAN ANTONIO, TEXAS

hold of the country. Less than three months later he was asked to serve as a delegate to a Constitutional Convention, which demanded from Mexico the organization of the territory into a state, and was made the chairman of the committee which drew up for the proposed state a constitution based on that of the United States. Stephen F. Austin, who has been called "The Father of Texas," went to Mexico City with the

petition. But he was imprisoned, and the request of Texas was denied by Santa Anna, president of Mexico.

Later, when the colonists attempted to defend themselves against the Indians and other lawbreakers, the demand was made that they give up their arms. An attempt to enforce the demand led to several conflicts in which Houston was a leader of the defenders of Texas.

The organization of a provisional government followed in 1834, and Houston was chosen commander in chief of the army. The brief war with Mexico was marked by a number of heroic events, chief of which was the defense of the Alamo in San Antonio, when a small force of Texans resisted ten times their number of Mexicans for more than three weeks. "I shall never surrender or retreat," the commander wrote two weeks after the beginning of the siege. The six Texans who finally surrendered were massacred by the Mexicans.

"Remember the Alamo!" was the battle cry of the war for independence until the Mexican army was routed at San Jacinto, April 21, 1836.

At the first election, September 1, 1836, Houston was chosen president of the new republic, a constitution was adopted, and it was voted to ask for admission to the American Union.

One of the first acts of President Houston was to insist on the release of Santa Anna, the leader of the Mexican force which he had defeated at San Jacinto. The Texan congress was bitter against him and wished to put him to death,



THE ALAMO, SAN ANTONIO, TEXAS

but Houston succeeded in persuading them to be lenient.

The republic was recognized by the United States Congress, though that body decided that the time had not come to welcome the country into the Union. The facts that Texas had declared against slavery and that annexation would

mean war with Mexico, were arguments that delayed the action desired by many people in the United States as well as by most of the Texans, of whom there were about fifty-eight thousand.

Again President Houston proved a good leader. Under his guidance the country prospered, laws were enacted and enforced, and the Indians were persuaded to live at peace with the settlers. His knowledge of the language and the customs of the Cherokees fitted him for the task of dealing with them.

During both of his terms as president of Texas Houston made diligent efforts to secure the admission of the country as one of the United States, but in his final address to Congress, at the close of his second term, he said:

The United States have spurned Texas twice already. Let her therefore firmly maintain her position as it is, and work out her political salvation. Let her legislation proceed upon the principle that we are to be and to remain an independent people. If Texas goes begging again for admission to the United States, she will only degrade herself. . . . If we remain an independent nation, our territory will become extensive — unlimited.

When it became known in the United States that it was proposed to secure at once the

agreement of Great Britain, France, the United States, and Mexico to the recognition of Texas as an independent nation, and that Texas was to give a formal pledge not to unite with any other nation, Congress acted at once. In 1845 Texas ceased to be a republic, and was recognized as a part of the United States.

Houston was chosen one of Texas's first United States senators. In the Senate he became known as a stanch defender of the Union and as a friend of the Indians, though he was almost alone in Congress in standing up for them. He insisted that they could be civilized. His program, in part, was as follows:

Withdraw your army. Have five hundred cavalry, if you will, but I would rather have two hundred and fifty Texas rangers (such as I could raise) than five hundred of the best cavalry now in service. I would have fur-trading houses from the Rio Grande to the Red River for intercourse with the Indians. . . . Show them that you have comforts to exchange for their peltries. . . . Take no whiskey there at all. . . . Have fields around the trading houses . . . encourage the Indians to cultivate these. Let them see how much it adds to their comfort . . . you cheer him, and he becomes a civilized man.

In 1857 he was defeated because of opposition stirred up by his faithfulness to the Union, which some insisted was treason to the South. After twelve years as a lawmaker he returned to his Texas home, probably feeling that he was entitled to pass his last years in quiet. But in 1859 he consented to be a candidate for governor of Texas; he hoped to persuade the people to be loyal in the days he saw would come soon. He was elected by a large majority, but was unsuccessful in his efforts to keep Texas from declaring its purpose to secede. When he did not appear at the appointed time to take the oath of allegiance to the Confederacy, he was deposed, and the lieutenant governor was made governor in his stead.

When he finally retired to private life, he was a poor man. He might have been rich, but he had refused to speculate in lands. He had even voluntarily cut down his salary from ten thousand dollars to five thousand dollars because of the poverty of the state. At his death his most valuable possession was the sword which he had worn at the battle of San Jacinto. This he left to his eldest son, Sam Houston, "to be drawn only in the defense of the constitution, the laws, and the liberties of his country."

General Sam Houston must always be honored among the makers of America. His strength of will,

his fidelity to his friends, his love of country, his practical common sense, and his wise statesmanship combined to make a hero of unusual mold.

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We have been defeated. For us as a Christian people there is but one course to pursue. We must accept the situation. These men must go home and plant a crop, and we must proceed to build up our country on a new basis.

ROBERT E. LEE

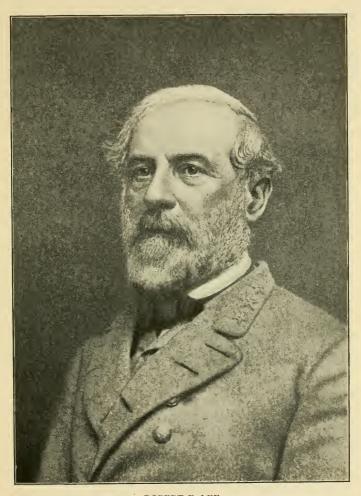
CHAPTER XVI

ROBERT E. LEE, SOLDIER

(Born in Westmoreland County, Virginia, January 19, 1807; died at Lexington, Virginia, October 12, 1870)

It was natural that Robert E. Lee should be a soldier. One of his ancestors is said to have fought at the battle of Hastings, while another was a trusted lieutenant of Richard Cœur de Lion at the siege of Acre. Representatives of later generations rendered signal service in the early history of Virginia, while the work of "Light-Horse Harry" Lee in the Revolution is familiar to every schoolboy.

Robert E. Lee, the son of "Light-Horse Harry," was born in the historic manor house, Stratford, built by Thomas Lee, a brother of his great-grandfather. It was a treasured tradition in the Lee family that the East India Company and the queen of England had assisted by their gifts in the building of the Virginia home.



ROBERT E. LEE

On the large plantation surrounding the manor house, Robert had abundant opportunity for the outdoor activities so dear to a boy. While he spent many months of each year at Alexandria, where his parents took their children in order to be near



AN OLD PLANTATION SCHOOLHOUSE

schools, the day appointed for the return to the country was always welcomed.

He liked to be in the open air. He was a skillful horseman, and he used to ride in all kinds of weather. This active life strengthened his constitution for the exposure of later years.

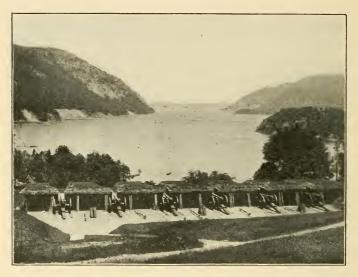
The frequent absence of Robert's father in search of health, and of his older brother at school, threw much responsibility on him when he was still quite young. To him was committed the care of his invalid mother, and never did son look after a mother more tenderly. A friend said of him:

Discarding schoolboy frolics, he would hurry home from his studies to see that his mother had her daily drive, and might be seen carrying her to her carriage, affectionately arranging her cushions, and earnestly endeavoring to entertain her, and gravely asserting that, unless she was cheerful, she would derive no benefit from her airing. In her last illness, he mixed every dose of medicine she took, and he nursed her night and day. He never left her but for a short time.

This intimate companionship brought out the best that was in the boy. While he was caring for her, she was giving him a liberal education in those graces of character which combined to make him the thorough gentleman whom all who knew him loved and honored.

But he did not wait for years of maturity to show the qualities of mind and heart that made him great. In school he was the joy of his teachers, one of whom said:

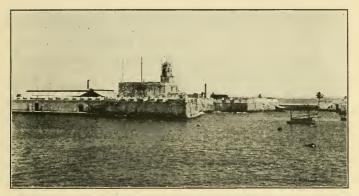
He never was behindhand in his studies; never failed in a single recitation; was perfectly observant of the rules and regulations of the institution; was always gentlemanly, unobtrusive, and respectful in his deportment to his teachers and his fellow students. In his eighteenth year he entered West Point. His four years there were a triumph. By his integrity of character, as well as by his scholarship, he made a record for popularity with his comrades and with his professors. It is a tradition at the



VIEW OF THE HUDSON RIVER FROM WEST POINT

Military Academy that his record was perfect in every respect. His friends learned to expect great things of him.

His first task after graduation was engineering work in Michigan, Ohio, and Illinois. At the outbreak of the Mexican War he was a captain of engineers, and to him was committed the task of studying the country for the divisions of the army of invasion then advancing under the command of Generals Wood and Taylor. At the siege of Vera Cruz he took part in the bombardment of the castle of San Juan de Ulloa, one of the strongest fortifications on the continent. The surrender of



FORT SAN JUAN DE ULLOA, VERA CRUZ

Vera Cruz was by General Scott attributed largely to the engineering skill of Captain Lee. In later engagements he distinguished himself so greatly that on all sides words of highest praise were spoken of him.

When the City of Mexico was occupied, a company of officers, after deciding that much of the credit of the successful campaign against the city was due to Captain Lee, proposed the health of the modest man. Search was made for him, and he was found drawing a map. The officer who found him requested him to join his companions, but Captain Lee said he could not leave his work. "But this is mere drudgery," the officer said; "make some one else do it." "No," was the reply, "I am but doing my duty."

After the Mexican War Captain Lee, soon made brevet colonel, was in charge of important engineering operations. Later he became superintendent of West Point Military Academy and leader of troops against the Indians in Texas. His last important assignment for the United States was as leader of the party sent to take John Brown at Harper's Ferry. In all these tasks he was most successful.

When Virginia joined her sister states of the South in seceding from the Union, Colonel Lee felt that his duty was clear. It was not easy to take up arms against the United States government, but he considered himself first of all a citizen of his native state. To respond to the call of the Confederacy meant ruin. His beautiful home would inevitably be destroyed. But he did not hesitate.

It has been repeatedly pointed out that a desire to retain possession of his slaves had nothing to do with the decision to fight for the South. His own slaves had already been freed, and provision had been made in the will of Mrs. Lee's father that all his slaves should be freed in 1862.

The governor of Virginia at once appointed Colonel Lee commander of the Virginia troops. When the Confederate War Department organized the united forces, he was made military adviser of President Davis, and to his genius in directing the movements of troops, the successes of the South in the early campaigns of the war have been attributed.

Later he was appointed commander of the army which was to move against the Federal forces in western Virginia. Early in this campaign, when a well-laid plan failed because of the unreadiness of subordinates to carry out instructions, he did not lay the blame on others, but assumed it himself. There was unfavorable comment on his failure, and this he might have silenced by a bold and really useless attack on the Federals at Sewell's Mountain. But he would not purchase reputation at so great a cost. "I could not afford," he said, "to sacrifice the lives of five or six hundred of my people to silence public clamor."

President Davis, unmoved by the murmurings against General Lee, appointed him to other positions of responsibility. Coast defenses in Georgia and the Carolinas were constructed in such a

masterly manner that the war was nearly at an end before the Federal troops were able to overcome the advantage gained by means of these.

In the Peninsular Campaign, when Lee was in chief command of the forces of the South, he showed the strategical ability for which he was famous. At first he was successful; later, failure followed failure. But the commander was the same gentlemanly soldier in time of failure as of success; he was always ready to shoulder the blame and to shield his subordinates.

At Fredericksburg still another side of the general's character was revealed. "Stonewall" Jackson, who was associated with him in the direction of the troops, sent to him for instructions. "Go tell General Jackson that he knows as well what to do as I," was the answer. This has been called "one of the most generous compliments ever paid by a commander to a general."

When, some time later, General Jackson was severely wounded at Chancellorsville, the battle that was Lee's greatest success, the commander showed the same greatness as in the days when reproaches were being heaped upon him for his failure. In reply to word brought to him from General Jackson, whose left arm had been amputated, he sent a message to the wounded man that the victory was his.

Later he said of him, "He has lost his left arm, but I have lost my right."

At Gettysburg, after three days' hard fighting, the army of invasion under Lee was defeated. Then his generosity was as apparent as on the field of Chancellorsville. "It is all my fault, and you must help me out of it the best you can," was his remark to General Pickett. To Jefferson Davis he wrote suggesting that some "younger and abler man" be put in his place; but the president replied that one more fit to command or who possessed more of the confidence of the army and of the reflecting men of the country could not be found.

In the last days of the Confederacy the hopeless Southern troops did not falter in their loyalty to their leader. Colonel Marshall, a member of his staff, wrote:

I can best describe his influence by saying that such was the love and veneration of the men for him, that they had come to look upon the cause as General Lee's cause, and they fought for it because they loved him. To them he represented cause, country, and all.

His attitude in the supreme hour was heroic. When he might have prolonged the conflict by guerrilla warfare, and was urged to do so, he said:

No, that will not do. It must be remembered we are Christian people. We have fought this fight as long and as well as we know how. We have been defeated. For us as a Christian people there is but one course to pursue. We must accept the situation. These men must go home and plant a crop, and we must proceed to build up our country on a new basis.

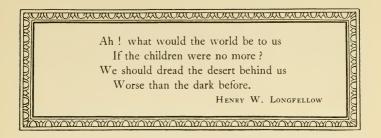
And when, learning that he intended to surrender, one near him remarked, "What will history say of the surrender of this army in the field?" he replied, "That is not the question. The question is, Is it right? If it is right, I will take the responsibility."

The five years following the end of the war were, in many respects, the greatest of his heroic life. He gave himself to serve his state as a part of the reunited country. Living at first in obscurity on a little farm, he then became president of Washington College at Lexington, Virginia, where his marvelous qualities of mind and heart enabled him to render to the cause of education an unobtrusive but influential service. After his death the name of the institution was changed to Washington and Lee University.

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CHAPTER XVII

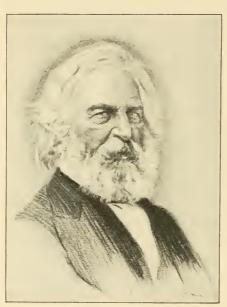
HENRY WADSWORTH LONGFELLOW, THE CHILDREN'S POET

(Born in Portland, Maine, February 27, 1807; died in Cambridge, Massachusetts, March 22, 1882)

When Longfellow was a boy, Portland was not a large town. In fact, there were no large towns in New England. Boston itself had only twenty-five thousand inhabitants. But Portland was a pleasant place in which to live. There was ample opportunity for a boy who loved the streams and the ocean, the fields and the woods, to wander for hours on a holiday.

But while Henry enjoyed wandering on the streets or in the country about the town, he had little taste for sports. When he was five he was ready to become a soldier in the War of 1812, for his aunt wrote: "Our little Henry is ready to march; he had his tin gun prepared and his head

powdered a week ago." His martial spirit was shown also by his request to his father for a drum, though his unfitness for the scenes of war was indicated by his desire to have cotton put in his



HENRY W. LONGFELLOW

ears to keep out the sound of the Fourth of July cannon. When he did finally fire a gun it was a time of sorrow, not of joy. Once his elder brother took him to the woods with a gun, but he soon returned with tears in his eyes. He had shot a robin. and that was the last time he ever pulled a trigger.

Sights and sounds of war came so close that he grew familiar with them, even if he did not go as a soldier. Forts for the defense of Portland were built, and at sea, near the city, the American Brig *Enterprise* fought and captured the British schooner *Boxer*, and then towed it into the harbor. The

scene when the two commanders were buried on shore was never forgotten by him. He wrote of it later in "My Lost Youth":

I remember the sea fight far away,

How it thundered o'er the tide!

And the dead captains, as they lay

In their graves o'erlooking the tranquil bay

Where they in battle died.

He was sent to school when he was five, and was early taught that a pupil should never smile in school hours. A year or more later he received this certificate from his teacher:

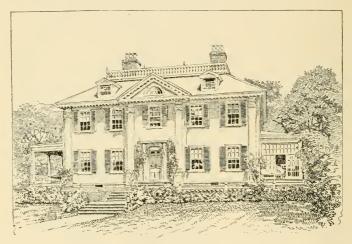
Master Henry Longfellow is one of the best boys we have in school. He spells and reads very well. He also can add and multiply numbers. His conduct last quarter was very correct and amiable. June 30, 1813.

When school was over for the day, he was usually eager for a book. When he was twelve he began to read Washington Irving's "Sketch Book," which appeared in serial parts. "I read each succeeding number with ever-increasing wonder and delight," he said. "Don Quixote" was another favorite. Cowper's poems and Moore's "Lalla. Rookh" formed a part of his reading.

He had access to Shakespeare, Milton, Pope, Dryden, Thomson, Goldsmith; *The Spectator, The Rambler*, the "Lives of the Poets," "Rasselas,"

Plutarch's "Lives," as well as Hume's "History of England" and Gibbon's "Decline and Fall of the Roman Empire," "Robinson Crusoe" and the Arabian Nights, were favorites of the imaginative boy.

He was thirteen years old when his first verses were published. They appeared over the signature



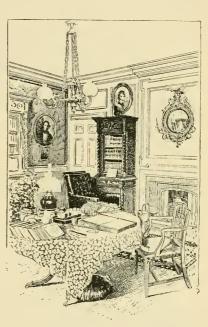
LONGFELLOW'S HOUSE, CAMBRIDGE

"Henry" in *The Portland Gazette*. His theme was "The Battle of Lovell's Pond," an encounter in the French and Indian War, the scene of which he had visited. The first stanza read:

Cold, cold is the north wind and rude is the blast That sweeps like a hurricane loudly and fast, As it moans through the tall waving pines lone and drear, Sighs a requiem sad o'er the warrior's bier. Henry was fifteen years old when he was sent with his brother Stephen to Bowdoin College, the pioneer school of which the father of the boys was a trustee. Henry entered the sophomore class,

of which Nathaniel Hawthorne was a member. Another classmate described him as he was at this period:

He was genial, sociable, and agreeable, and always a gentleman in his deportment. He was uniformly cheerful. He had a happy temperament, free from envy.... His nose was rather prominent, his eyes clear and blue, and his wellformed head was covered with a profusion of brown hair flowing loosely.



LONGFELLOW'S LIBRARY

In 1825, when less than nineteen, he completed his course. During the years in college he had done a good deal of writing, including seventeen poems, five of which were later chosen by him for preservation in his complete works. He had

maintained high rank in class, and for commencement day he was assigned one of the three English orations reserved for the leaders in the class. Immediately he was elected to the new chair of Modern Languages, and was asked to go to Europe, there to fit himself for his new work. But he was not entirely satisfied with the prospect. He had already made up his mind that he wanted to adopt literature as a profession, though his father did not look favorably on the idea, judging from this letter written by the son while he was yet in college:

In thinking of making a lawyer of me, I think you thought more partially than justly. I do not, for my own part, imagine that such a coat would suit me. I hardly think Nature designed me for the bar, or the pulpit, or the dissecting room. I am altogether in favor of the farmer's life. Do keep the farmer's boots for me.

However, he wrote, at another time:

Of divinity, medicine, and law, I should choose the last. Whatever I do study ought to be engaged in with all my soul, for I will be eminent in something.

In accordance with the wishes of the trustees of Bowdoin, Longfellow went to France in 1826. In France, Spain, Italy, and Germany he spent three years, living among the people, learning their customs and their languages, tramping in the country,

and utilizing every opportunity for self-improvement. Then, at the age of twenty-two, he became Professor of Modern Languages at Bowdoin.

From the beginning of his college work he was a success. He was a favorite with the students, who loved him for his personal qualities and admired him for his ability. The division of an ordinary day is given as follows:

He rose at six in the morning, and, as soon as dressed, heard French recitation by the sophomores. At seven he breakfasted, and then he was his own master till eleven, when he gave a lesson in Spanish to the juniors. Then came lunch, with half an hour in the library amid his pupils. At five he had another French class; at six he took coffee; he walked and visited till nine; studied and corrected exercises till twelve, and so to bed.

For all this his pay was never more than a thousand dollars a year. During the five years spent at Bowdoin, his literary work was continued.

Industry was rewarded when, in 1835, he was chosen Smith Professor of Modern Languages at Harvard University at a salary of fifteen hundred dollars a year, the first year to be spent, if he wished, in Europe. On this trip abroad he was accompanied by his wife, whom he had married in 1831. She remained with him through the pleasant months in Sweden, but soon after going

to Holland she died. It was of her he was thinking when he wrote, in "Footsteps of Angels":

Oh, though oft depressed and lonely, All my fears are laid aside; If I but remember only Such as these have lived and died.

In Cambridge, where he began his Harvard work in 1836, he made his home in the old Craigie house, once the headquarters of George Washington. His own bedroom was that in which Washington had slept.

While his college duties were carefully and painstakingly performed, his literary work was not interrupted. Poetry and prose were employed impartially by the versatile writer, and he met with editorial favor, but it was not until "The Psalm of Life" was published anonymously in 1838 that any of his work became popular. Preachers talked of this poem from the pulpit. Parts of it were sung as a hymn. A year later Longfellow acknowledged the poem and printed it in a volume of collected verse. The prose romance "Hyperion" appeared at about the same time.

As the years passed, other poems were published and were eagerly received. Soon the author became the popular American poet. He knew how to touch the hearts of young as well as old, and he is affectionately called "The Children's Poet."

In 1854 the sale of his books was so large that he was able to resign his professorship. Then came

a period of great peace and happiness. For eleven years the Craigie house was made a real home by the presence of Mrs. Longfellow, his second wife. Honors were heaped upon him. His countrymen loved him.

His days were filled with happiness, until that sad day in July, 1861, when Mrs. Longfellow was so seriously burned that



THE FRONT HALL, LONGFELLOW'S HOME, CAMBRIDGE

she died the next day. This great sorrow bore rich fruit for those who loved the poet. Much of his best work was done in the succeeding years.

His last message, "The Bells of San Blas," was published a few days before his death. The last three lines could not have been better framed if he had known they were to be his farewell message:

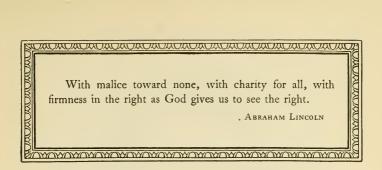
> Out of the shadow of night The world rolls into light, It is daybreak everywhere.

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CHAPTER XVIII

ABRAHAM LINCOLN, LIBERATOR

(Born near Hodgenville, Kentucky, February 12, 1809; died in Washington, D. C., April 15, 1865)

While Kentucky was still a wilderness, one of the pioneers, Abraham Lincoln, a hardy frontiersman, was one day working with his three sons on the edge of the clearing near his cabin. A skulking Indian fired from ambush and killed him. At once the eldest son, Mordecai, went to the cabin for a rifle, while his brother Josiah ran to the fort. When Mordecai, gun in hand, looked from the cabin, he was dismayed to see an Indian bending over the youngest brother, Thomas. A fortunate shot killed the Indian, and Thomas ran to the cabin. There Mordecai protected him until Josiah brought help and drove away the Indians.

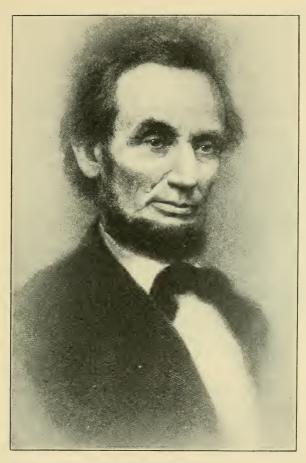
More than twenty years later Thomas Lincoln, whose life had been saved in this way, made a

cabin home for his wife, Nancy Hanks. Here Abraham Lincoln was born. In this house, and in a house near by that was little better than the original cabin, he lived until he was seven years old.

In 1816 his father built a flatboat, loaded on this his household goods, and floated down the creek that passed through his farm to the Ohio, and then down the Ohio to a pleasant site for a house. From there he returned for his family. They traveled to the Ohio River on horseback, and from the river they went by wagon sixteen miles into Indiana. Winter was coming on, and a temporary log shelter was built. This was little more than a shed, being entirely open on one side, but it was a welcome refuge. There was no chimney, so fires had to be built on the ground before the shack.

A year later a new cabin was so nearly completed that the family could move into it. To be sure, there was no floor and no door. But what of that? The Lincolns were so accustomed to hardship that these seemed small things to worry about.

Joy over the housewarming was soon turned to sorrow by the death of Abraham's mother, a woman of culture and refinement unusual for the



ABRAHAM LINCOLN

wilderness. Before she died she called her boy to her and said:

I am going away from you, Abraham, and shall not return. I know that you will be a good boy; that you will be kind to Sarah and to your father. I want you to live as I have taught you, and to love your heavenly Father.



ABRAHAM LINCOLN'S BIRTHPLACE

The boy never forgot her words. When he was a man he was proud to say, "All that I am, all that I hope to be, I owe to my angel mother."

The forest home was a gloomy place until Mr. Lincoln, desiring to have his children cared for by a woman's hands,

married again in his old Kentucky home. Abraham and his sister grew to love their stepmother and to confide in her, and they were glad to help her about the house. "Abe never gave me a cross word or look, and never refused to do anything I asked him," was her testimony long afterwards; "I must say that Abe was the best boy I ever saw or expect to see."

She helped the children study, and urged the necessity of a schoolhouse. This was built of logs. Instead of glass, oiled paper was used in the window openings. Not much more than reading, writing, and arithmetic were taught there, and this was only enough to whet the appetite of Abraham, who was beginning to be ravenous for knowledge. He used every opportunity to study. His arithmetic problems he worked out on a wooden shovel, writing with a charred stick. This shovel was much better than a tablet, for it was an easy matter to shave off the figures with a drawing knife and so be ready to start again on a clean surface.

Only a few books could be found in the neighborhood, but he borrowed every volume he could lay his hands on. Æsop's Fables was the first treasure. "Robinson Crusoe," "Pilgrim's Progress," Weems's "Life of Washington," and a history of the United States were later acquaintances. "As he read these," his stepmother said, "when he came across a passage that struck him, he would write it down on boards if he had no paper, and keep it there until he did get paper. Then he would rewrite it, look at it, repeat it. He had a copybook, a kind of scrapbook, in which he put down all things, and thus preserved them."

In answer to the question of a friend, he himself threw further light on how he secured his education:

I never went to school more than six months in my life. . . . Among my earliest recollections I remember how,



THE BOY LINCOLN STUDYING

when a mere child, I used to get irritated when anybody talked to me in a way that I could not understand. I can remember going to my little bedroom, after hearing the neighbors talk of an evening with my father, and spending no small part of the night trying to make out what was the exact meaning of some of their—to me—dark sayings. I could no more sleep, although I tried to, when on such a hunt for an idea, until I had caught it. And when I thought

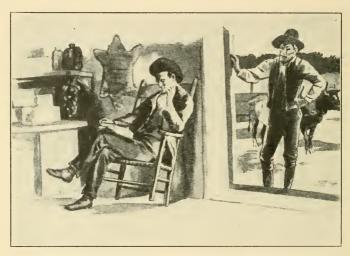
I had got it, I was not satisfied until I had repeated it over and over again and had put it in language plain enough, as I thought, for any boy I knew to comprehend.

Much fun was poked at the awkward young student who, at the age of eighteen, has been described as follows:

He was six feet four in his buckskins and moccasins. He was ungainly as well as tall, and, withal, most homely to look upon. His big, protruding ears, standing out from his head, his mop of stiff brown hair, which looked as though it had never known a brush, his large, uncompromising nose and mouth, with humorous hanging underlip, crowned a stalky, big-boned figure, roughly clad in deer-hide coat and breeches, which he continued more and more to outgrow till at last a gap of bare bluish skin was exposed above the moccasins on his feet.

Several trips were made by young Lincoln to New Orleans with a flatboat cargo of produce, which he floated down the Ohio and Mississippi rivers. It was on the second of these expeditions, in 1831, that he saw a slave auction and spoke the never-to-be-forgotten words: "If ever I get a chance to hit that thing, I'll hit it hard."

When his father moved to Illinois, Lincoln clerked in a store, split rails, continued his night studies, enlisted in the Black Hawk War, and, at the age of twenty-two, ran for the legislature and was defeated. Then he entered business with a partner who involved him in difficulties from which he might have escaped legally, but he insisted on assuming the debts and on these he made payments for fourteen years, at cost of rigorous self-denial.



LINCOLN AS A STOREKEEPER

Failure succeeded failure in his life; but every one of these seeming failures had its part in the making of the man. When he led the company enlisted for the Black Hawk War, he knew so little of military tactics that when he wished to take these men through a gate he had to be content to say, "This company is dismissed for two minutes, when

it will fall in again on the other side of the gate." Yet his experiences in roughing it with the troops added to the education that did not come from books. When he failed as a shopkeeper, the failure brought out the deep-seated honesty that played a large part in winning for him the confidence and the affection of those who knew him. He thought of learning the blacksmith's trade, and even after he had committed himself to being a lawyer he thought he might perhaps do better as a carpenter. He tried surveying, and he did good work as a surveyor, but the work did not provide the living for which he hoped. However, from the day when he used a grapevine as a chain to the day when he completed the task of laying out the town of Petersburg, Illinois, his experience as a surveyor entered into the development of his character.

Several times he was defeated when he asked the favor of the people at the polls, but after each defeat he was stronger as a man and more popular with the voters. He sought an appointment from President Taylor, and was disappointed. This experience served only to enrich his character, for when, a dozen years later, it was in his power to appoint to office the son of the man who secured the place he had wanted, he rejoiced that he could be of service to the candidate. His ambition to become a lawyer was born when he read a volume of Blackstone, bought with a barrel of miscellaneous goods. The story of how he fought his way to the bar is inspiring. He persisted in surmounting every difficulty. He once wrote:

In the course of my law reading I constantly came upon the word "demonstrate." I thought at first that I understood its meaning, but soon became satisfied that I did not. I consulted Webster's Dictionary. That told of certain proof, "proof beyond the possibility of doubt," but I could form no sort of idea what kind of proof that was. I consulted all the dictionaries and books of reference I could find, but with no better results. You might as well have defined "blue" to a blind man. At last I said, "Lincoln, you can never make a lawyer if you do not understand what 'demonstrate' means," and so I left my situation in Springfield, went down to my mother's house, and stayed there until I could give any proposition in Euclid at sight. I then found out what "demonstrate" meant, and went back to my law studies.

One reason he wished to be a lawyer was that he might prove the fallacy of the belief of some cynical people that there was no such thing as an honest lawyer. Once he said to young men:

Let no man choosing the law for a calling yield to that popular belief. If in your judgment you cannot be an honest lawyer, resolve to be honest without being a lawyer. Choose some other occupation rather than one in the choosing of which you do in advance consent to be a knave.

This high conception of the lawyer's calling was not mere finespun theory. From beginning to end his legal career showed his determination to live in strict accordance with his professions. His practice was in keeping with the advice later given to other lawyers:

Discourage litigation. Persuade your neighbors to compromise whenever you can. Point out to them how the nominal winner is often the real loser — in fees, expenses, and waste of time. As a peacemaker the lawyer has a superior opportunity of becoming a good man. There will always be enough business. Never stir up litigation. A worse man can scarcely be found than one who does this.

Once, when declining to take a case, he spoke words which deserve to be remembered:

Yes, we can doubtless gain your case for you; we can set a whole neighborhood at loggerheads; we can distress a widowed mother and her six fatherless children, and thereby get for you six hundred dollars to which you seem to have legal claim, but which rightfully belongs, it seems to me, as much to the woman and her children as it does to you. You must remember, however, that some things legally right are not morally right. We shall not take your case, but we will give you a little advice for which we will charge you nothing. You seem to be a sprightly, energetic man. We would advise you to try your hand at making six hundred dollars in some other way.

On another occasion, when his partner urged him to take advantage of a quibble, Lincoln said:

You know it is a sham, and a sham is often but another name for a lie. Don't let it go on record. The cursed thing may come staring us in the face long after this suit has been forgotten.

Honors came rapidly to the honest man. He served in Congress. When the Republican party in Illinois was born, at Bloomington, in 1856, he received one hundred and ten votes for the vice presidency. Here he made his first great speech on the slavery question. Herndon, one of his biographers, said:

If Mr. Lincoln was six feet four inches high usually, at Bloomington he was seven feet, and inspired at that. From that day to the day of his death he stood firm on the right. He felt his great cross, had his great idea, nursed it, kept it, taught it to others, and in his fidelity bare witness of it to his death, and finally sealed it with his precious blood.

Lincoln's one ambition was to serve his fellows. He sought office, but he was modest and he was never a self-seeker. In 1856, when he was told that he had been considered for the vice presidency, he could not believe that he was the man in the minds of the convention. "No, it could not be, it must have been the great Lincoln of Massachusetts," he

said. After his delivery of what is known as one of his most famous speeches, he was told by a friend that this would defeat him, and perhaps kill him politically for all time. "If I had to draw a pen across and erase my whole life from existence," he replied, "and I had one poor gift or choice left me as to what I should save from the wreck, I should choose that speech, and leave it to the world unerased." When his name was first mentioned for the presidency, he said that there were distinguished men in the party who were more worthy than he of the nomination, and whose public service entitled them to it. Again, he said that he scarcely considered himself a big enough man for President.

But the people thought differently. He was called to the presidency at the crisis of the national life. Then came the years for which he had been unconsciously equipping himself, the long, bitter years of the war, when all the strength, the tenderness, the humor, the patience, the sympathy, and the persistence of his wonderful nature were called into play. When he began his work, he did not have the entire confidence of his own party. As the years went by, he was left to bear the burden alone. But he had put his hand to the plow, and he would not turn back. The day came when he had the chance for which he had longed since his first visit to the New

Orleans slave market, and he "hit that thing hard" with the Emancipation Proclamation. He was bitterly maligned by those who could not understand him, yet he had only kindly words for them. When the country was criticizing the generals in the field, he was eager to give them messages of cheer. Once he sent word to Rosecrans, "I can never forget, whilst I remember anything, that . . . you gave us a hard-earned victory." And again, "Be of good cheer; we have unabated confidence in you." Politicians made fun of him for telling his droll, pointed stories, but it was in just such ways that he found the needed escape valve for his overburdened heart.

By his unselfish thoughtfulness and frank manliness he was ever winning those who opposed him, as, in 1860, he won a Southern visitor. One who witnessed the interview between the two men said, "It was beautiful to see the cold flash of the Southerner's dark eyes yield to a warm glow, and the haughty constraint melt into frank good nature." To this observer the Southerner said after the interview was over, "There's going to be war; but could my people know what I have learned within the last hour, there need be no war."

Thus he was fulfilling his boyhood ambition "to live like Washington." General Grant said, a short

time before Lincoln's death, "He will take rank in history alongside of Washington." And after Lincoln's reëlection in 1864, Seward said, "Abraham Lincoln will take his place with Washington and Franklin and Jefferson and Adams and Jackson—among the benefactors of his country and of the human race."

He won his deathless fame at fearful cost. An old acquaintance who saw him after several years of his life as President, said:

His old friends were shocked with the change in his appearance. They had known him at his home, and at the courts in Illinois, with a frame of iron and nerves of steel; as a man who hardly knew what illness was, ever genial and sparkling with frolic and fun, nearly always cheery and bright. Now they saw the wrinkles on his face and forehead deepen into furrows; the laugh of the old days was less frequent, and it did not seem to come from the heart. Anxiety, responsibility, care, thought, disasters, defeats, the injustice of friends, wore upon his giant frame, and the nerves of steel became at times irritable. He said one day, with a pathos which language cannot describe, "I feel as though I shall never be glad again."

In November, 1864, when burdens were more than ever oppressive, he found time to write a letter to a mother grieving for her sons. This was his thoughtful word: Dear Madam: I have been shown in the files of the War Department a statement of the Adjutant-General of Massachusetts, that you are the mother of five sons who have died gloriously on the field of battle. I feel how weak and pointless must be any words of mine which should attempt to beguile you from the grief of a loss so overwhelming. But I cannot refrain from tendering to you the consolation that may be found in the thanks of the Republic they died to save. I pray that our Heavenly Father may assuage the anguish of your bereavement and leave you only the cherished memory of the loved and lost, and the solemn pride that must be yours to have laid so costly a sacrifice upon the altar of freedom.

Less than five months after that letter was written, his own life was "laid a sacrifice upon the altar of freedom." On April 14, 1865, the assassin gave him his death wound. Next day died the man who guided the country in its darkest hours; who in life blessed all he touched, and in death was mourned not only by sorrowing millions in the North but also by far-seeing leaders in the South who felt, with Jefferson Davis, that his death was a calamity to the entire nation.

To him the author of "The Every Day Life of Abraham Lincoln" applies the words which Lincoln spoke of the soldiers in his matchless address at Gettysburg. After telling of the burial at Springfield of the weary martyr, the biographer said:

And here, while the Government that he saved endures, shall throng his patriot countrymen, not idly to lament his loss, but to resolve that from this honored dead they take increased devotion to that cause for which he gave the last full measure of devotion; that the dead shall not have died in vain; that the nation, under God, shall have a new birth of freedom; and that government of the people, by the people, for the people, shall not perish from the earth.

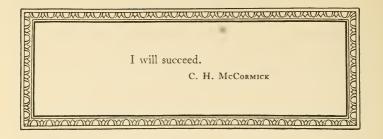
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CHAPTER XIX

CYRUS HALL McCORMICK, INVENTOR OF THE REAPER

(Born in Rockbridge County, Virginia, February 15, 1809; died in Chicago, Illinois, May 13, 1884)

One winter morning when Cyrus McCormick was a boy, he surprised his teacher by bringing to school a map of the world which he had made himself. The two hemispheres were shown side by side. They had been drawn with ink on paper, the paper had been pasted on linen, and the linen had been mounted on two rollers. "That boy is beyond me" was the remark of the teacher who examined the map.

Cyrus had done work in the blacksmith shop on the home farm. There, from early years, he had watched his father fashion the curious machines he used on his farm. There the lad had become so accustomed to the use of tools that about the time he made the map he constructed a harvesting cradle which was better adapted to a boy's use than was the ordinary cradle. In 1831 he planned and built a hillside plow. Two years later he made

a self-sharpening plow, which threw alternate furrows to right and left. Something might have been made of these inventions, but he forgot them in his enthusiastic interest in the model of a crude reaper built by his father, which had been tested in 1818 and had been stored in the shop because it had been



CYRUS H. McCORMICK

a failure. Later he watched his father construct a new machine. When this was tested, in 1831, he was as much disappointed as his father at the failure of this model also. By observation and reasoning he learned that the earlier model would

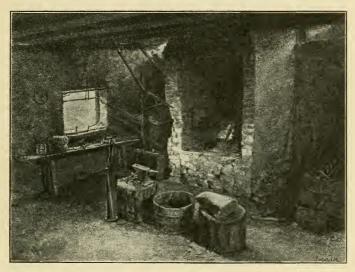
cut the wheat when the grain was perfectly straight, but that it was useless when the grain was the least bit matted or beaten down by wind or rain, and that the later model would fling the grain in a tangled heap. He thought of plans for correcting



THE OLD BLACKSMITH SHOP WHERE THE FIRST REAPER WAS MADE

these faults, and longed to make a model that he might test ideas that seemed to promise success.

His father urged him to give up all thought of the invention, but Cyrus had a vision of what a reaper would mean to the world, and he began to build a practical machine. When, one by one, difficulties presented themselves, he said, with determination, "I will succeed." Early and late he was in the blacksmith shop, testing many contrivances, and taking courage from the thought that some day he would complete a machine that would help in the solution of the farmer's problems.



INTERIOR VIEW OF BLACKSMITH SHOP

At the outset he saw the necessity of finding a new principle of operation. His father's method had failed; he must have something entirely different, and not merely an improvement on the plan that had proved a failure. He saw that if a machine could be constructed to cut grain which lay in a fallen and tangled mass, it would be sure to work

well under more favorable conditions. If a reaper was to cut such grain, it would first have to separate the grain to be cut from the grain to be left standing. So the first thing needed was a curved arm, a divider.

The second distinctive feature of the new reaper was a knife which had two motions, a motion forward, imparted by the horses, and a motion sideways. After much thought he perfected the reciprocating blade, similar to that used to-day on all reaping and mowing machines. He did not know that the same plan had occurred to others; he worked out his ideas for himself.

By a third contrivance, the placing of a row of fingers at the edge of the blade, he planned that the grain should be supported while it was being cut; otherwise it would be flattened on the ground without being cut.

Next the young inventor saw the need of something to press the grain stalks between the fingers, hold them against the knife, and, after they were cut, lay them on the platform. A revolving reel was tried successfully; this reel was much larger than similar reels used by other inventors.

Other features were the platform on which the grain was to fall, and from which it was to be raked by hand, and the big driving wheel to carry the weight of the reaper and to furnish power for all the other contrivances.

The first test of the reaper was made before the addition of the reel, in a field on the McCormick farm. Only members of the family watched Cyrus as he hitched a horse to the machine and approached the waving grain. All held their breath.



MODEL OF THE FIRST REAPER

Would it work? The question was answered almost as soon as it was asked. The cutting was done smoothly by the reciprocating blade, and the fallen stalks were thrown on the platform and raked off according to plan. The test was a success. It was apparent that several improvements could be made in the crude machine, but the inventor saw no reason to change it in any essential part. In fact, the Virginia farm boy's reaper was the first

practical combination of principles, invented by himself, which are now regarded as basic.

Several days later, after minor adjustments had been made, young McCormick gave a public exhibition on the farm of John Steele, not far from the home farm. That afternoon several acres of wheat were reaped, though a man with a cradle could cut but one acre in an afternoon. "Well, I am proud that I have a son who could accomplish what I failed to do," was the father's later comment.

In 1831 a second public exhibition was given at Lexington, eighteen miles from home, in the presence of more than one hundred men. The owner of the farm who had promised to permit the test in his field was skeptical of the ability of McCormick to do what he said he could do, Skepticism became hostility when, on account of the rough nature of the ground, the reaper made a great clatter. Almost at once the farmer called on the driver to stop, because he was rattling the heads off the wheat. One bystander therefore declared that the machine was a humbug, while another cried, "Give me the old cradle yet, boys." Fortunately, a man who owned an adjoining field invited the anxious inventor to pull down the fence and cross over into his wheat. Here several acres were cut, to the entire satisfaction of the owner.

The first advertisement of the McCormick reaper appeared in *The Lexington Union* of September 14, 1833, though the patent was not secured until 1834. The price fixed was fifty dollars. There was no response. Not until 1840 did a farmer venture to buy one of the machines. During these years Cyrus and his father continued their experiments, doing all they could to perfect the machine.

Years later, when applying for an extension of patent rights, Mr. McCormick wrote to the Commissioner of Patents:

From the experiment of 1831 until the harvest of 1840 I did not sell a single reaper, except one which I afterwards took back, although during that time I had many exhibitions of it, and received favorable notices of those exhibitions, but experience proved to me that it was best for the public, as well as myself, that no sales be made, as defects presented themselves which would have rendered the reaper unprofitable in other hands. From time to time a great many improvements were found necessary, requiring a great deal of thought and study. Sometimes flattered, at others discouraged, and at all times deeming it best not to attempt sales of machines or rights to manufacture them until satisfied that the reaper would succeed well.

During this period the inventor built a furnace and began the manufacture of iron. In the financial panic of 1837 he lost not only his furnace but his farm and all his other possessions.

Together with his father and his two brothers he turned to the manufacture of reapers as the most likely way to pay off their debts. One machine was built and sold for the harvest of 1840; two years later seven were disposed of; in 1844 fifty more found their way from the primitive shop. The following year fifty were manufactured at Walnut Grove, while about one hundred and seventy were made elsewhere. At first it was impossible to fill all the orders; there were many difficulties in the manufacturers' way. For instance, at one time sickles were made forty miles from the shop, and it was necessary to carry them home on horseback. It was even more difficult to ship the completed reapers. When the first machines were sent West, they were taken in wagons from the home farm to Scotsville, then to Richmond, Virginia, and from there to New Orleans by sea, and to Cincinnati up the Ohio and Mississippi rivers.

Mr. McCormick thought an easier way of reaching the West must be found, for in the West his machines were most needed. Tens of thousands of bushels of wheat were going to waste every year, in Ohio and Indiana and Illinois alone, because the farmers could not gather the wheat in season.

So the inventor ventured to go to Brockport, New York, and then to Cincinnati, Ohio. In both places reapers were manufactured for a time. The next move was to Chicago, where he opened a modest factory. Soon he was manufacturing hundreds of machines each year. Thus he made it possible to gather the wheat in time to save it.



A MODERN REAPER

In 1851 the reaper was exhibited at the World's Fair in London. The editor of the London *Times* made fun of it before one of his reporters saw it at work, but after this reporter had looked on in wonder at a test in the fields, the *Times* said:

It will be remembered that the American department was at first regarded as the poorest and least interesting of all foreign countries. Of late it has justly assumed a position of the first importance, as having brought to the aid of our distressed agriculturists a machine, which if it realizes the anticipations of competent judges, will amply remunerate England for all her outlay connected with the great exhibition. The reaping machine from the United States is the most valuable contribution from abroad to the stock of our previous knowledge that we have yet discovered, and several facts in connection with it are not a little remarkable.

Of the reaper's part in the development of America, William Henry Seward once said: "It has pushed the American frontier westward at the rate of thirty miles a year." Commissioner of Patents D. P. Holloway said:

Cyrus H. McCormick is an inventor whose fame, while he is yet living, has spread throughout the world. His genius has done honor to his own country, and has been the admiration of foreign nations, and he will live in the grateful recollection of mankind as long as the reaping machine is employed in gathering the harvest.

The French Academy of Sciences, in electing him a member in 1878, declared that he had "done more for the cause of agriculture than any other living man."

Mr. McCormick lived for more than fifty years after he secured his first patent. Great wealth became his as a result of his labor, but this was not

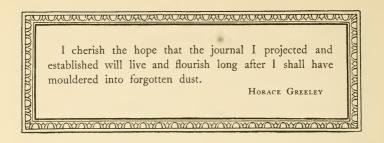
selfishly used. Large gifts were wisely made to many causes. In 1859, not long after he had laid aside his first million dollars, he gave one hundred thousand dollars to the Theological Seminary of the Northwest. Later the institution was called the McCormick Theological Seminary, in his honor. This gift was followed by many others, both to this and similar institutions. He believed that the possessor of wealth should use it for his fellow men.

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CHAPTER XX

HORACE GREELEY, JOURNALIST

(Born in Amherst, New Hampshire, February 3, 1811; died near Chappaqua, New York, November 29, 1872)

On a gloomy Monday morning in the year 1820, a poor little cottage on a stony New Hampshire farm was the home of a father and mother and four children. At midday the house was empty; the sheriff had taken possession of furniture, clothing, farming implements, and cattle, and had driven the family away. The explanation was given that creditors had attached for debt the farm and all the rest of the property of the father. A white-haired boy of nine, clad only in shirt and trousers of homespun, looked on in wonder and distress. At last he realized that the day was the beginning of a new chapter of hardships. He was not especially disturbed, for he was used to hardship, but he resolved then and there that he would

do his best to help the members of the household out of their difficulties.

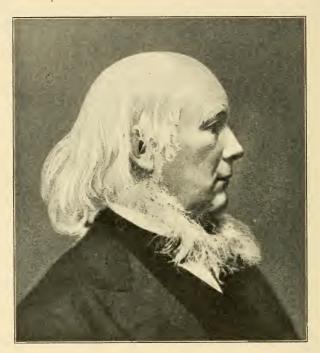
The white-haired boy was Horace Greeley, who, almost as soon as he was able to walk, had begun to help his father in his efforts to make a home in an inhospitable spot. At five he dropped corn and killed insects while his father hoed. Soon it became his duty to "ride horse to plough." Years later, he wrote, "Occasionally the plough would strike a fast stone, and bring up the team all standing, pitching me over the horse's head, and landing me three to five feet in front."

He was only ten when he became one of his father's two assistants in clearing for a neighbor a tract of fifty acres of wild land. The work was begun in early spring, when the water and slush were knee-deep. Men who understood such work declared that the boys who helped their father would be grown men before the tract was ready for the plow.

The constant exposure to thistles made this and other farm work especially trying to Horace. Almost every evening he had to submit to the torture of having the spines dug out of his feet.

But the evenings brought pleasure as well as pain. Mrs. Greeley, although frequently busy on the farm, where she raked and hoed, or even

loaded the hay wagons, had time to tell stories to her children and to help them with their studies. From her Horace early learned to read, and reading



HORACE GREELEY

soon became a passion. A book was nearly always in his hands, from early morning till late at night. During the day, if this was at all possible, he would carry a volume as he went to his

work; at night, after lighting one of a supply of pine knots which he kept for the purpose, he would "put it on the backlog in the spacious fireplace, pile up his schoolbooks and his reading books on the floor, lie down on his back on the hearth with his head to the fire and his feet coiled away out of the reach of stumblers, and there he would lie and read all through the long winter evenings, silent, motionless, dead to the world around him."

School opportunities were limited. Many times during the winter he would have to work from early morning until schooltime. Early in his first year it was realized that he was an exceptional pupil. He was at the head of his class. Several years later the special privilege of attending school at Bedford, outside of his district, was granted to him, the directors of the Bedford school voting that "no pupils from other towns should be received, except Horace Greeley alone."

When the family lost their New Hampshire home for debt, a sleigh was borrowed from a neighbor and into this they were loaded, with all their possessions, and taken to Westhaven, Vermont, where a new home was made in a tiny house rented for sixteen dollars a year. There they began life anew with "the clothes they wore, a bed or two, a few domestic utensils, an antique

chest and one or two other small relics of their former state." During the first winter the family dinner was frequently taken from a five-quart milk pan filled with bran porridge, placed on the kitchen floor; everybody dipped from the common dish.



THE KITCHEN OF A PROSPEROUS HOME IN GREELEV'S DAY

It has been estimated that during the five years at Westhaven, Horace's clothes did not cost three dollars per year. His summer dress—"a straw hat, a tow shirt, never buttoned, a pair of trousers made of the family material and having the peculiarity of being very short in both legs, though shorter in one than the other"—received in winter the addition of a jacket and a rough pair of shoes.

The boy soon decided that he must leave home and earn money to help his father. Even when he was six he had wished to be a printer. When he was eleven he walked to Whitehall, New York, nine miles from his home, and applied for work in the little printing office there; but he was sent home because he was too young. Four years later he saw in the *Northern Spectator* of East Poultney, Vermont, an advertisement for a boy. After walking eleven miles to the office, he made his application for employment.

It was a strange apparition that greeted Editor Bliss, for Horace was an odd-looking boy. Many who saw him declared that he looked like a fool. Mr. Bliss was at first inclined to take the same view, but he did not talk with the boy long before he decided that the applicant had an unusual mind, that he was intelligent far beyond his years, and that it would be worth while to hire him.

After a trip home to consult his father, Horace returned with all he owned in a handkerchief, carried at the end of a stick over his shoulder. Arrangements were made at once for an apprenticeship to last until he was twenty-one. For the first six months board only was to be paid, but for the remainder of the time the pay was to be forty dollars a year and board.

At Poultney young Greeley worked steadily. Almost his only recreation was the Poultney Debating Society. There he was on equal terms with the editor, the doctor, the clergyman, the judge, and other leaders of the community's thought. One of the villagers said later, "He was never treated as a boy in the society, but as a man and an equal."

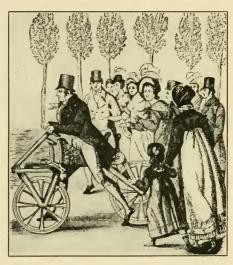
Soon after the beginning of the apprenticeship Horace's father moved to Erie, Pennsylvania. Twice during the stay in East Poultney the dutiful son walked the distance of six hundred miles to the new home and back. On both occasions, before returning to the printing office, he left with his father practically all of the wages he had received, for he seldom spent anything on himself.

The failure of the *Spectator* sent him to Erie County again. After several ineffectual attempts to secure paying work nearer home, he walked thirty miles to Erie and was given a case in the office of the *Gazette*. There, for seven months, he drew no wages. His employer finally urged him to take some of the money due him and spend it for clothes, to replace the "outlandish rig" he was wearing. But he replied, "You see, Mr. Sterrett, my father is on a new place, and I want to help him all I can." When he left the

office all his wages but six dollars were still due. When he was paid, he retained fifteen dollars for himself and gave the balance to his father.

Determined to make the next venture in New York City, he walked to the Erie Canal, again

carrying his bundle at the end of a shoulder stick. After traveling by canal and river he reached the city with ten dollars in his pocket, the clothes which had attracted so much attention in Erie, and his little bundle. At once he began his hunt for work. Up and



BICYCLE RIDING WHEN GREELEY WAS A BOY

down New York he trudged, trying office after office, only to be curtly refused on account of his appearance or because he was thought to be a runaway apprentice.

At last he learned of an office where a man was needed and he was on hand soon after five in the morning. When the foreman appeared Horace was given a chance to set a small New Testament. On account of technical difficulties that would make an ordinary printer desperate, no one of those to whom the book had been given was willing to keep at it more than a short time. But to the determined Greeley this was a chance not to be despised. It was by far the most difficult work he had ever attempted, but, as he could not afford to make a poor showing, and as the pay was to be in proportion to the amount accomplished each day, he gave himself with ardor to the task in hand. When the proprietor saw him at work, he asked the foreman: "Did you hire that fool? Pay him off to-night, and let him go about his business." But at the end of the day it was found by the proprietor that the new employee had done better work than any of his predecessors, and he was retained

The work was so difficult and the pay was so small that Horace found it necessary to work fourteen hours a day, beginning before breakfast and continuing long after supper. His total weekly earnings were only from five to six dollars, but he managed to save money.

After a period of working for others, Greeley arranged to put his small savings into publishing

the first penny paper ever printed, The Morning Post. The journal lived three weeks. Undiscouraged, Greeley started the weekly New Yorker, independently. This bright political paper lived during seven years of continual struggle with debt. The circulation reached nine thousand, but so many subscribers would not pay their bills that the editor and publisher was nearly distracted, especially as he was now married and was therefore trying to pay the expenses of two homes. Urged to discontinue the publication, he said he could not do so in justice to the subscribers who had paid in advance, to whom he could not refund the amounts due. His horror of debt made the situation especially trying. Once he said:

I would rather be a convict in a state prison, a slave in a rice swamp, than to pass through life under the harrow of debt. Hunger, cold, rags, hard work, contempt, suspicion, unjust reproach, are disagreeable, but debt is infinitely worse than them all.

One by one difficulties disappeared as he became editor, on salary, of *The Jeffersonian*, a political paper. Later he was engaged also in publishing *The Log Cabin*, which reached a circulation of ninety thousand.

On April 10, 1841, he issued the first number of the *New York Tribune*. Success did not come at once, but with determination he fought the obstacles in his way, and in seven weeks he was issuing eleven thousand copies a day. He worked sixteen hours out of the twenty-four, and inspired his helpers to give their best services to the paper.

From the beginning the editor of the Tribune was a national figure. Soon his reputation became international. It was not, however, until 1848 that he was elected to his first office, a seat in the House of Representatives at Washington. From that time he devoted his strength to serving his country's interests as he saw these. Through the columns of the Tribune during the days before the Civil War he had a large part in arousing the conscience of the nation as to the necessity of maintaining the Union at any cost, and after the war he was so persistent in urging full pardon for those who had taken up arms against the nation that many turned against him. The immediate effect was his defeat for the United States Senate. Later the wisdom of his comments became apparent. In 1872 he was defeated for the presidency, though he was the nominee of both the Liberal and Democratic parties, and received nearly three million votes.

He died a few weeks after the election. He was only sixty-one years old, but he had worked so hard that he seemed an old man.

He has the monument he wished for in the paper he struggled to build up. "I cherish the hope," he once said, "that the journal I projected and established will live and flourish long after I shall have mouldered into forgotten dust, and that the stone which covers my ashes may bear to future eyes the still intelligible inscription, 'Founder of the *New York Tribune*.'"

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Suppose you do not succeed, that you make the attempt and fail, your cable lost at the bottom of the ocean, then what will you do?

The QUERY OF A FRIEND

Charge it to profit and loss and lay another.

CYRUS W. FIELD

CHAPTER XXI

CYRUS W. FIELD, WHO LAID THE FIRST OCEAN CABLE

(Born in Stockbridge, Massachusetts, November 30, 1819; died at Irvington-on-the-Hudson, New York, July 12, 1892)

Cyrus Field's boyhood was spent in a New England parsonage, where his parents taught him to give strict obedience always. But the father, David Dudley Field, knew how to win the confidence of his children; they were never afraid of him. An incident related of the son illustrates this fact:

A hen was setting in a box in the woodshed; each morning Cyrus looked for the little chickens. One day, in an adjoining box, he found the family cat with a number of kittens. These he placed with the hen, and then with a very straight face asked his father to come and see the chickens.

Cyrus always declared that one of his brothers was the hero of the following story, yet the neighbors insisted that Cyrus himself played the chief part:

A certain rat trap . . . had been lost. After much search and questioning the minister gave orders that whenever

found it should be brought at once to him. So one day at a service, when the service was in full progress, there came a clanging noise up the aisle and the missing article was set down in front of the pulpit with the words, "Father, here is your rat trap."

On one occasion the minister discovered a pack of playing cards in the possession of Cyrus



CYRUS W. FIELD

and his brothers. He put them away in his study table. One day the villagers were called together by an alarm of fire from the parsonage. Volunteers who tried to save the furniture threw the study table out of the window. The drawers fell out as the table tumbled to the ground, and the playing cards fluttered before the eyes of the pastor's startled people.

By the time Cyrus was fifteen years old he thought he ought to make his own living. When, with the consent of his parents, he left Stockbridge for New York City, he felt rich with eight dollars in his pocket. His father's good-by message was, "Cyrus, I feel sure you will succeed, for your playmates could never get you off to play until all the work for which you were responsible was done."

On one of the first Sundays in New York, spent at the home of his brother David, his homesickness was so evident that he was teased about it. Dr. Mark Hopkins, who was also a guest in the home, put him at his ease by saying, "I would not give much for a boy if he were not homesick on leaving home."

Cyrus's first employment was as errand boy in the store of A. T. Stewart. For the first year he was to receive fifty dollars, for the second he was to have one hundred dollars. Board cost two dollars a week. From his brother he borrowed money to pay bills for which his salary was insufficient. All the funds advanced in this way he repaid, with interest, after he was twenty-one.

In later years, when telling the story of his early struggles in New York, he spoke of the fact that he always made it a point to be at the store before the porters came, and never to leave before the porters left. The knowledge that every dollar which passed through his hands represented six days of such toil was a factor in teaching him the value of money. He could tell at any time exactly how his funds had been spent, for his accounts were kept with accuracy. The first itemized statement of his expenses in the city, as sent to his father, is worth reading:

From Stockbridge to New York	2.00	
Paid to David for Penny Magazines (I am		
not agoing to take them any longer) 2.00		
To hair cutting		I-2
To one vial of spirits of turpentine (Used		
to get some spots out of coat)	6	I-4
To get Shoes mended	18	3-4
To one pair of shoe brushes	25	
To one box of blacking	Ι2	I-2
To get trunks carried from David's to my	7	
boarding house	25	
To two papers of tobacco to put in trunks	;	
to prevent moths getting in	12	1-2
To one straw hat (the one I brought from	ì	
home got burned and was so dirty	7	
that David thought I had better get	t	
a new one)	1.00	
To one steel pen	Ι2	I-2
To small expenses from time to time, such	1	
as riding in an omnibus, going to)	
Brooklyn, etc.	1.25	
	7.50	

After three years with Mr. Stewart, Cyrus went to Lee, Massachusetts, to keep books for his brother Matthew, a paper manufacturer. For several months before leaving the city he attended night school, studying double-entry bookkeeping, that he might be worth the two hundred and fifty dollars a year, with board and washing, which he was to be paid for his services.

Experience gained with his brother and during a few months when he was in business on his own account prepared him to become the partner of a New York paper dealer. The move was unfortunate, for six months later the firm failed. Mr. Field, though he was the junior partner, decided to assume the firm's debts rather than leave them unpaid. The law did not oblige him to do this, but he wished to do all that the strictest honesty required.

Then came a hard struggle to pay debts and to make a living for himself and his family. The expenses of the household were small, and accurate account was kept of them. Little by little the debts were paid, with interest, and Mr. Field began to breathe more freely. In 1844 he did not owe a dollar. In 1853 he was worth several hundred thousand dollars. He wrote for his children's eyes this explanation of his rapid progress:

There was no luck about my success, which was remarkable. It was not due to the control or use of large capital, to the help of friends, to speculation, or to fortunate turns of events; it was by constant labor and with the ambition to be a successful merchant.

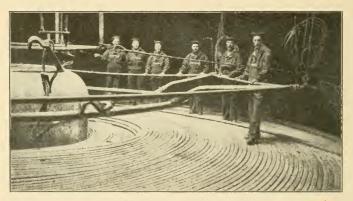
He now planned to retire from business, and as a beginning of relaxation he made a trip to South America. But when he returned he managed to remain away just one week from the office of the firm in which he still had a silent partner's interest. His effort to give up active life was a failure. "I never saw Cyrus so weary as when he was trying to keep still," one of his brothers wrote.

Two months after the return home the welcome opportunity to take part in new activities came to him. He was asked to help pay the expense of a submarine cable from Newfoundland to New York. As he studied the plan he became enthusiastic. "If it is possible to connect Newfoundland with the United States, why not Ireland with New York?" he asked himself.

Without delay he wrote to Samuel F. B. Morse, the inventor of the telegraph, and talked to his neighbor, Peter Cooper, about his new idea. A few months later the New York, Newfoundland, and London Telegraphic Company was organized. The organization later of the Atlantic Telegraph

Company opened the way for the completion of the line from St. John's, Newfoundland, to Ireland.

From the beginning Mr. Field was the chief figure in the work. He invested nearly everything he possessed; he interested others who had money and encouraged those who were half-hearted. His faith in the scheme conquered opposition.



THE CABLE TANK ON SHIPBOARD

Once an Englishman asked him, "But suppose you do not succeed, that you make the attempt and fail, your cable lost at the bottom of the ocean, then what will you do?" Quickly Mr. Field replied, "Charge it to profit and loss and lay another." When three hundred and sixty miles of the cable had been laid he had a chance to prove his brave words. On August 10, 1855, the cable parted in

mid-ocean. Half a million dollars had been spent without result.

Bravely Mr. Field returned to New York, hoping to arrange promptly for a second effort. But he was delayed by the news that, owing to the great panic of 1857, his firm had failed, owing more than



THE LANDING OF THE CABLE AT VALENTIA, IRELAND

six hundred thousand dollars. He settled with his creditors by giving notes, all of which were paid on or before the date they were due.

On July 26, 1856, the *Niagara* and the *Valentine*, each carrying great coils of cable, met in mid-Atlantic. The cable was spliced, one vessel started for Ireland and the other for Newfoundland, paying out cable as they went. It was calculated that at

the end of eight days the entire cable would be laid, but, owing to many accidents, it was August 5 before the work was done. Mr. Field sent one of the first messages to his father, telling of his success. To this the reply was sent by his brother:

The joyful news received here Thursday and almost overwhelmed your wife. Father rejoiced like a boy. Mother was wild with delight. Brothers, sisters, all were overjoyed. Bells were rung, guns fired, children, let out of school, shouted, "The cable is laid! the cable is laid!" The village was in a tumult of joy.

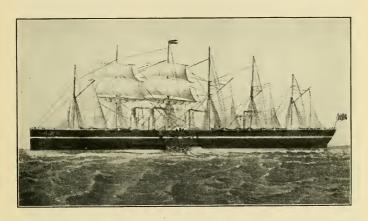
The feeling of the people in New York City found expression in many banners hung across the streets. One of these read:

Lightning caught and tamed by Franklin. Taught to read and write and go on errands by Morse. Started in foreign trade by Field, Cooper & Co., with John Bull and Brother Jonathan as special partners.

The cable worked for less than four weeks. On September 1 the attempt to send a message was made in vain.

Other disasters followed. On December 29, 1859, Mr. Field's business office burned, and the loss was large. On December 7, 1860, Cyrus W. Field and Company failed a second time. Once more

Mr. Field arranged with his creditors to pay all the claims. He mortgaged all his property and again began life without a dollar. Yet he was not cast down. Six months later he said, "I never had more confidence in the success of the Atlantic Telegraph Company than I have to-day."



THE GREAT EASTERN

During the Civil War Mr. Field was active in persuading men in England and America to undertake a third experiment.

In 1865 the *Great Eastern* was chartered for the work. On July 24 it was announced that three hundred miles of cable had been laid. On August 2 the triumphant word was sent that twelve hundred miles had been paid out and that

all was going well. But on August 3 the cable parted. On August 17 the failure of the attempt was announced when the *Great Eastern* landed in Ireland.

There were great difficulties in the way of raising capital for a fresh attempt, but Mr. Field was able to overcome them. Always his mere presence seemed to inspire men with confidence. The Anglo-American Telegraph Company was organized. Three million dollars of capital was soon subscribed, a new cable was made, and once more the *Great Eastern* was chartered. Mr. Field sent Mrs. Field the message:

All well. Thank God, the cable has been successfully laid, and is in perfect working order.

Within two weeks the *Great Eastern* put to sea once more, with the intention of grappling in the ocean for the ends of the cable broken in 1865. Peter Cooper told in his autobiography the wonderful story of the attempt:

We then went out to see if we could not pick up the other one. The balance of the lost cable was on board the ship. The cable we found, picked up, and joined to the rest, and this wonder of the world was accomplished. I do not think the fact is surpassed by any other human achievement. The cable was taken out of water two and a

half miles deep, in mid-ocean. It was picked up three times before it was secured. They got it up just far enough to see it, and it would go down again, and they would have to do the work over again. They used up all their coal, and spent



THE ATLANTIC CABLE PROJECTORS

Historical painting by Daniel Huntington in the Chamber of Commerce, New York City. From left to right, Peter Cooper, David Dudley Field, Chandler White, Marshall O. Roberts, Samuel F. B. Morse, Daniel Huntington, Moses Taylor, Cyrus W. Field, Wilson G. Hunt

ten or twelve days in "hooking" for the cable before it was finally caught. But they succeeded; the two ends of the cable were brought into connection and we had two complete cables across the ocean.

It was September 2, 1866, when Mr. Field sent the following triumphant message to Mrs. Field:

The cable of 1865 was recovered early this morning. God be praised. . . .

A few months later he told of the moment when word came to him on the vessel that both cables were working perfectly:

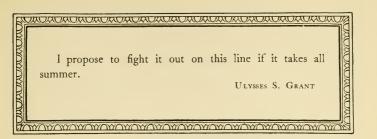
I left the room, I went to my cabin, I locked the door, I could no longer restrain my tears—crying like a child, and full of gratitude to God that I had been permitted to live to witness the recovery of the cable we had lost from the *Great Eastern* just thirteen months previous.

His first act on returning to New York was to sell two hundred thousand dollars' worth of cable stock to pay the debts due to the failure of the firm of Cyrus W. Field and Company which he had assumed in 1860. Success meant nothing to him until he could look every creditor in the face.

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CHAPTER XXII

ULYSSES S. GRANT, SOLDIER AND STATESMAN

(Born in Point Pleasant, Ohio, April 27, 1822; died in Mt. McGregor, New York, July 23, 1885)

Jesse Root Grant, the father of Hiram Ulysses Grant, was a tanner. He moved to Georgetown, Ohio, when the boy was only a year old. The villagers soon began to make sport of the father's proud way of speaking of "my Ulysses." "Lys," "Lyssus," "Hug," and even "Useless," were nicknames dealt out to the boy with generous hand by the matter-of-fact neighbors.

But he was not useless. At seven he was helping about the house. At eight he was a hand at the tannery, driving a team, or breaking bark into the grinding mill. He was a great lover of horses, and was never so happy as when he was driving or riding. When he was ten years old he made several trips to Cincinnati, forty miles away, driving

neighbors for pay. Other similar trips were taken, one of them to Toledo, nearly two hundred miles distant across the almost trackless state. Thus he earned enough money to buy a horse of his own.



ULYSSES S. GRANT

When he was twelve years old he showed in a remarkable manner his determination to do a hard task which others declared impossible. He was helping a company of men haul stones from White Oak Creek for the foundation of a new building in Georgetown. The men chose

a fine stone for a doorstep and tried hard to move it from its place in the creek bed. After a time they became discouraged and said that they would have to give up the attempt to lift it. But "Lys" said, "Let me try it. If you will help me I think I can load it." Of course the men laughed at him, but they agreed to do as he said. First he asked

them to lift one end of the stone with a lever, then to "chock" it. Next he backed the ox wagon over the stone, dropped a chain from the wagon around the raised end, propped up the other end and fastened another chain about this. Finally he gave the signal to the men, and the heavy wagon moved toward the town with the choice stone that grown men could not lift.

In the belief that "my Ulysses" had in him the making of an unusual man, his father determined to give him every advantage. The boy made a fair record at school, but his neighbors at Georgetown refused to take him seriously.

When, at sixteen, he was appointed to a cadetship at West Point these neighbors were surprised. "Why didn't they appoint a boy that would be a credit to the district?" they asked. At that time he was "short, stubby and hearty, but rather sluggish in mind and body."

By accident his name was entered "Ulysses Simpson Grant" at the time of his entrance at West Point. This mistake, which was never corrected, led the cadets to call him "United States" and "Uncle Sam." Finally "Sam" became his nickname. He bore without complaint the rough treatment usually accorded in those days to a new student. At first he was not in love with the

new life, but a year later he was looking forward to his graduation, to an assistant professorship at the Academy, and then to a college professorship.

His course was so uneventful that his biographers are not able to say much about it, though one of them gives a pleasing picture of him at the close of the four years:

He left the gate at West Point small, obscure, poor, and without political friends or influential relatives, a kind, obliging, clean-lipped, good-hearted country boy, who could ride a horse over a picket fence or across a tight rope.

His first service was as a second lieutenant at Jefferson Barracks, St. Louis. While there he made the acquaintance of Julia Dent, a seventeen-year-old girl, who afterwards became his wife. After a quiet year at St. Louis he went with his company to Mexico, and through this brief war he distinguished himself by capable service. He was in every battle except Buena Vista, he was twice promoted for gallantry, and at the close of the war he was a brevet captain.

Until 1854 he continued in the army, being stationed first in Detroit, then on the Pacific coast. To the surprise of those who knew him he resigned from the service on the very day he accepted his commission as captain. When he reached St. Louis

he was thirty-two years old, without funds and without plans for the future. To make matters worse, he had formed an appetite for strong drink. This appetite, however, he resolutely determined to conquer.

After working as a farm laborer for a time he built a cabin on a plot of ground which had been given to Mrs. Grant by her father. "Hardscrabble," as he called the four-room log house, continued to be the home of the Grant family for several years. Ready money was secured by hauling wood to St. Louis. The life on the farm proved too hard for him, and when in 1858 he removed to St. Louis, he was a victim of fever and ague that clung to him for years. In St. Louis he began business as a clerk in a real-estate office. One who knew him at this time said, "He does n't seem to be just calculated for business, but an honester, more generous man never lived." He failed in the real-estate office, and he failed in several later attempts. Finally he decided that there was no place for him in the city. He could not make bare living expenses, and many times he was dependent on generous friends. Later, when friends refused to help him because of his antislavery sentiments, he went to Galena, Illinois, where he was promised work by his brothers who were engaged in the leather business. For a time he earned but fifty dollars a month, and on this amount he cared for a family of six. He was there when he heard the call of his country for service in the Civil War.

But he found it difficult to secure an opportunity to serve. The governor of Illinois made use of him in various ways during the period of mustering in the first regiments. The adjutant general at Washington paid no attention to the proffer of his services. Then, on the same day, came offers of a colonelcy from Illinois and from Ohio. The former offer was accepted, and the Twenty-first Illinois Volunteers, of which he took charge, was soon changed from a careless company of holiday-makers to a serious military body. At first the men made fun of him, but they soon found that they were in the hands of their master.

So the man who for several years had struggled against misfortune, conquering his appetite and persevering in his purpose to serve his country in spite of politicians, was launched on the career that was to silence forever the doubting words of those who thought that there was no good in "my Ulysses." Yet he was so poor at the beginning of his military life that for a time he stood before his regiment in civilian garb. When at



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GRANT WITH HIS FAMILY

From the "Photographic History of the Civil War"

length he purchased a colonel's uniform, it was necessary to borrow money for the purpose.

The colonel's epaulets were soon displaced. Within a few months after the beginning of his military life in Mexico, Missouri, President Lincoln appointed him brigadier general. Later he was transferred to Cairo, Illinois, where the results of his careful study of maps and of his military training were apparent. The proclamation made to the citizens of Paducah when he occupied that place almost under the noses of an advancing Confederate force was a masterly document. It read:

I am come among you, not as an enemy, but as your fellow citizen; not to maltreat you, nor annoy you, but to respect you and enforce the rights of all loyal citizens.

An enemy in rebellion against our common Government has taken possession of, and planted his guns on the soil of Kentucky, and fired upon you. Columbus and Hickman are in his hands. He is moving on your city. I am here to defend you against this enemy, to assist the authority and sovereignty of government. I have nothing to do with opinions, and shall deal only with armed rebellion and its aiders and abettors. You can pursue your usual vocations without fear; the strong arm of the Government is here to protect its friends and punish its enemies. Whenever it is manifest that you are able to defend yourselves and maintain the authority of the Government, and protect the rights of loyal citizens, I shall withdraw the forces under my command.

After reading this proclamation President Lincoln said, "The man who can write like that is fitted to command in the West." In the House of Representatives at Washington, Richardson of Illinois said, "I wish that proclamation could be written in letters of gold on the sky, that everybody might read it." But Grant was so modest that when he wrote his Personal Memoirs he did not quote the proclamation; he was content with a brief reference to it.

In February, 1862, Grant began the movements on the Tennessee River which resulted in the opening of three important rivers for hundreds of miles. The first great victory was at Fort Donelson, when he sent to General Buckner, in command, the famous message, "No terms except an unconditional and immediate surrender can be accepted." Because of that message he was given the nickname of "Unconditional Surrender" Grant. On learning the news of the victory the nation began to ask, "Who is this man Grant?"

As major general of volunteers the successful commander was given charge of the district of West Tennessee, and later of the entire state. Vexatious delays had interfered with his plan to take Vicksburg, but now he was free to move on this key to the lower Mississippi. Slowly and

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GRANT'S MESSAGE TO LEE

painstakingly he overcame difficulties in the way, while the North began to grumble because of his delay. Then, when all was ready, the determined general carried out his plans. After a spectacular campaign the city fell July 4, 1863; 31,600 men and 172 guns were taken. This capture is said to have been, up to that time, the largest recorded in war.

This success brought to Grant his commission as major general in the regular army and opened the way for further triumphs. Early in 1864 Congress created for him the rank of lieutenant general, and he was given charge of all the armies. Grasping the situation in a masterly manner, he so organized his forces and directed his subordinates that the troops of the enemy were given no peace. "I shall fight it out on this line if it takes all summer," he wrote at one time.

Grant's advance in Virginia was stubbornly contested by Lee, but the gallant Southern commander was gradually driven back. Then Grant moved against Richmond and persisted in his determination to take the city in the face of the impatience and distrust of the people in the North, who thought that nothing was being accomplished. But his plans were working out. His subordinates were successful in campaigns on

which they were sent. Sherman marched to the sea, while Sheridan, Thomas, and Schofield triumphed in other quarters. In the meantime Grant grimly held Lee's army in check at Richmond. Then all available troops were massed



GRANT'S HEADQUARTERS AT CITY POINT, VIRGINIA

Now in Fairmount Park, Philadelphia

before the capital, and Richmond was taken. Lee fled with his troops, but was pursued. On April 9, 1865, he surrendered. Officers and men were allowed to return to their homes, taking their horses with them. General Grant's magnanimous terms led Lee to say, "The entire South will respond to your clemency."

The war was at an end. Scattered forces surrendered. Soldiers of the North and the South went home. General Grant returned in triumph to the people who had derided him. Congress created for him the grade of general, and a thankful country was proud to honor him. He stood the test of popularity as he had stood the test of adversity; at no time in his career was his greatness more evident than during this period. With rare wisdom he guided his steps in the midst of the difficulties about him during the term of office of President Johnson. For instance, when influential leaders were demanding the arrest of Generals Lee and Johnston on the charge of treason, he appeared before the President and his cabinet and persuaded them that the terms of surrender at Appomattox must be observed.

The grateful South was glad when, in 1868, the magnanimous general was elected President. "Let us have peace," was the significant message he wrote when notified of his nomination. During eight years of service he won fresh laurels as he led the reunited nation in the conquests of peace.

Then came the tour of the world, when people and rulers of every nation vied with one another in doing him honor. On his return home he was received with enthusiasm, not only in the North but even in those parts of the South where he had been most active during the war. His name was brought before the Republican convention of 1880 for nomination for a third term as president, and his following was large; but when, at a critical moment, a message was sent to him informing him that an influential leader promised to turn the tide in his favor, on certain conditions, he answered, characteristically, "I will not consent to any agreement in order to secure the nomination for President of the United States." The change of fifty votes would have secured his nomination; he preferred defeat on his own terms to success on the terms of another.

Later came one of the greatest victories of his life. He was a silent partner in a large business enterprise in New York when the firm failed because of the rascality of one of his associates. He sacrificed practically all his possessions, including the magnificent gifts presented to him while he was abroad, that he might pay debts from which he had been released legally. He insisted on paying them because the use of his name by the firm had led many poor people to make investments that turned out badly.

Loss of his fortune was not the worst thing that happened to him. A fall on the ice in front

of his house caused injuries from which he never recovered. Not long afterwards his throat began to give him great pain, and the doctors were unable to relieve him. Surely it was time for the hero who had served his country so well to rest. But he could not rest when he thought that his family was not provided for. The country was clamoring for his story of the war, and he decided to write this. Members of the family and his physician told him that he was not strong enough to undertake the work, but he made up his mind that the task must be done and that he would live until it was done. With grim determination he persisted, bearing the pain without complaint, fighting death day after day. Frequently he wrote or dictated for eight hours a day.

Eagerly people in all parts of the world wanted to learn how this last battle of the hero was going. By mail, by telegraph, and by cable they sent messages of cheer that gave new heart to the dying man. He was especially touched by the greetings that came from men and women of the South.

Finally the two volumes of his "Personal Memoirs" were completed. A grateful country received them with such hearty appreciation that the publishers were able to pay to Mrs. Grant four hundred thousand dollars in royalties.

When the final page of copy was prepared for the printer, he said: "If it is within God's providence that I should go now, I am ready to obey his call without a murmur. I should prefer going now to enduring my present suffering for a single day without hope of recovery." Three weeks later he died, peacefully and happily. He had fought and won his last battle.

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CHAPTER XXIII

FRANCIS PAR

THE FRANCIS

(Born in Boston, Massachusetts, September 16, 1823; died in Jamaica Plain, Massachusetts, November 8, 1893)

Some boys like the city, but Francis Parkman was not one of these. He liked to live out of doors, and his Boston home gave him little chance to do this. He was glad, therefore, when, at the age of six, he was sent to the farm of his grandfather near Medford. There he could wander as much as he liked in the fields and in the woods. He was especially fond of a rugged region near the farm known as Middlesex Fells, where were "ponds, - one half a mile across; a hill hundreds of feet high; heaths, glens, dales, crags; thickets full of trees too big to clasp, jungles of underbrush; rotten stumps to be smashed by a battle-axe; thick moss to drive a spear into; mud to smear new clothes from head to foot; glorious varieties of dirt, and all the riches of a wilderness." There, too, he became acquainted with the squirrels, the woodchucks, the birds, and the rocks of the wilds.

To be sure he went to school as well as to the woods, but the woods made the greater impression



FRANCIS PARKMAN

on him. The four years at Medford made him wish to spend his life in the open.

During the next six or seven years, which he spent at his Boston home, he did his best to supply the lack of the woods by fitting up a shed in the yard as a chemical labora-

tory, where he made many wonderful experiments and built an electrical machine with which he shocked playmates who were willing to brave its mysteries.

Other boys liked to play with him, though they were sometimes out of patience with him because he was never willing to give up anything he had once made up his mind to do. Frequently others

grew weary of a bit of sport and said, "Let's do something else." But he resolutely kept at what he had begun. He was unwilling to let anything master him, whether it was a lesson or only a bit of play.

An experience a few years later illustrates this characteristic. While on a vacation trip to Lake George, in company with his friend Henry Orme White, he spent a night made miserable by bugs and mosquitoes. Next day there was a long contest with the waves in a narrow part of the lake, where the wind was dead against the boat. At last White exclaimed:

"You call this fun, do you? To be eaten up by bugs all night and work against head winds all day isn't according to my taste, whatever you may think of it."

"Are you going to back out?" Parkman asked.

"Back out, yes," was the reply. "When I get into a bad scrape, I back out of it as quick as I can."

But there was no "back out" in Parkman; he kept on his way in spite of mosquitoes and head winds.

It is not surprising that a boy who knew his mind and could stick to his program in spite of discouragements should decide very soon what he intended to do with his life and should hold to his plan with eager determination. When he was seventeen years old, during his freshman year at Harvard, he decided that his work must take him to the woods he loved and enable him to tell others about the free life of the forest. A year later he determined definitely to tell the story of French colonization and empire in North America, because he felt that here "the forest drama was more stirring and the forest stage more thronged with appropriate actors than in any other passages of our history." As he thought more of his plan, he enlarged it so as to include the whole story of the conflict in America between France and England. To him this meant the story of the American forest and the story of the Indians in the forest during the struggles between France and England.

Having made up his mind as to his work, he began to do things that he felt would help him in his purpose. In his own words, he "tried to learn endurance by long walks taken at a pace far too rapid to make his companionship comfortable," and he "spent long hours into the night reading English classics and all sorts of books concerning American Indians." Later, when the first gymnasium at Harvard was opened, he tried to crowd years of physical training into six months. As a part of his life plan he felt that he must take long trips in the forest, and he must get ready for these trips. But

he was not strong enough for this severe discipline, and all his life he paid in physical weakness the penalty of overeagerness.

Other tasks were undertaken with more wisdom. Diligently he trained himself in English composition.



ON LAKE GEORGE

He was glad that, just before entering Harvard, he had been under the guidance of a teacher who taught him to write "good and easy English." Later, when he saw the wisdom of this training, he began to keep a journal with great care. He wrote his daily portion even when surroundings were most unfavorable and it would have been easy to say, "I think I won't write anything to-day." Some of his

best writing was done by the light of a camp fire after a weary tramp, or on shipboard, when the sea was rough and the cabin was dark.

Summer vacations gave the ambitious student opportunity to take long journeys in the forest. For these trips he chose regions of which he



THE RUINS OF FORT TICONDEROGA
From a photograph taken before the restoration

planned to tell in the volumes of history that were slowly shaping themselves in his mind. One summer he went to Saratoga and Fort William Henry and Fort Ticonderoga, interviewing old residents, studying the forest trails, and making copious notes for future use.

Because his father thought that he should have a profession, he entered law school a few months after the completion of his college course. He felt that the time would not be lost, for the knowledge of law would help him in his historical work. During the years of his professional course he gave more attention to reading and planning for his books than to his law studies. He frequently rose early in the morning that he might have more time for his work, but both his eyes and his general health suffered by reason of the repeated study at unseasonable hours.

When the law course was completed, he decided to write the history of the Indian War under Pontiac. He felt that if he was to do this well he must not only become acquainted with all the facts bearing on the subject but must also fill his mind with impressions from real life, range the woods, mix with Indians and frontiersmen, and visit the scenes of the events he meant to describe. He could find Indians near home, but these were half civilized and would not give him the correct picture. So he made his plans to go with a friend to the haunts of the Sioux and the Snakes in what is now Colorado and Wyoming. For five months he rode along the Western trails, hunting buffalo and living with the Indians. Not long after the beginning of the journey his health failed, and he knew that he ought not to be in the saddle; but he had

made up his mind to complete the journey, and he forced himself to ride over the rough country when he could hardly keep his place on the horse. He succeeded in gathering the material he sought, but the exposure made him an invalid. At first the chief



TREATING WITH THE INDIANS, KING PHILIP'S WAR

difficulty was with his eyes. He went to New York for treatment, but never again was he able to read with comfort.

The immediate result of the journey was the preparation of "The Oregon Trail," which he dictated to the friend who had made the trip with him. The chapters appeared serially in the *The Knickerbocker Magazine* and were later published in book form.

The completion of "The Oregon Trail" found him a physical wreck at twenty-five years of age. He could not even write his own name, except with his eyes closed; he was unable to fix his mind on a subject, except for very brief intervals, and his nervous system was so exhausted that any effort was a burden. But he would not give up. During the weary days of darkness he thought out the story of the Conspiracy of Pontiac and decided to write it. Physicians warned him that the results would be disastrous; yet he felt that nothing could do him more harm than an idle, purposeless life.

One of his chief difficulties he solved in an ingenious manner. In a manuscript, published after his death, his plan was described:

He caused a wooden frame to be constructed of the size and shape of a sheet of letter paper. Stout wires were fixed horizontally across it, half an inch apart, and a movable back of thick pasteboard fitted behind them. The paper for writing was placed between the pasteboard and the wires, guided by which, and using a black lead crayon, he could write not illegibly with closed eyes.

This contrivance, with improvements, he used for more than forty years of semiblindness.

The documents on which he depended for his facts were read to him, though sometimes for days he could not listen and then perhaps only for half

an hour at a time. As he listened to the reading he made notes with closed eyes. Then he turned over in his mind what he had heard and laboriously wrote a few lines. For months he penned an average of only three or four lines a day. Later he was able to work more rapidly, and he completed the book in two years and a half. No publisher was found who was willing to bear the expense of issuing the volume, and the young historian paid for the plates himself.

Friends thought that now he would have to give up. His eyes were still troubling him, he became lame, his head felt as if great bands of iron were fastened about it, and frequently he did not sleep more than an hour or two a night. Then came the death of his wife, on whom he had depended for some years. At one time his physician warned him that he had not more than six months to live. But when a friend said that he had nothing more to live for, he made the man understand that he was not ready to hoist the white flag.

He made two attempts to gain strength for the work he had planned to do. First he went to Europe for treatment, but without result. Then he turned his attention to life out of doors. On three acres of ground at Jamaica Plain, Massachusetts, he made a garden of roses. In his wheel

chair he went here and there in the garden, directing the laborers and rejoicing in the beauty about him. He succeeded in developing many new varieties of flowers. For the famous Lilium Parkmanii

he received a thousand dollars from an English florist. His success was due to his observance of advice he gave to cultivators of flowers: "Never attempt to do anything which you are not prepared to do thoroughly. A little done well is far more satisfactory than a great deal done carelessly and superficially."



STANDING BEAR, SIOUX CHIEF

Among the fruits of the six years in his rose garden were his election as president of the Massachusetts Horticultural Society, his service as professor of horticulture in the Agricultural School of Harvard, the publication of "The Book of Roses," and the slight improvement in his health that enabled him to go on with his studying and writing.

While he was preparing "The Book of Roses" he was toiling through the pages of "The Pioneers of France in the New World." Then came "The Jesuits in North America," "La Salle and the Discovery of the Great West," "Pontiac," "Montcalm and Wolfe," and finally, in 1892, "A Half Century of Conflict," which completed the histories he had set out to write fifty years before. Much of the material for the books was gathered in the libraries of Europe, where he was obliged to take helpers with him who would secure copies at his direction.

He died a year after the completion of this last book. By sheer power of will he had begun and carried through a program that would have been a tremendous task for a man in perfect health.

And he did the work well. John Fiske ranks him with Herodotus, Thucydides, and Gibbon. An English critic said he was great because he had in him the true genius of history, that enabled him "to wed accuracy with romance." Another critic says that the older reader of his work calls it admirable, while "the boy who reads Parkman after Cooper and the Waverley novels finishes 'Pontiac' or 'Montcalm and Wolfe' with a 'That's bully!'" Oliver Wendell Holmes, in his poem in memory of Parkman, wrote:

He told the red man's story; far and wide

He searched the unwritten records of his race;

He sat a listener at the Sachem's side;

He tracked the hunter through the wildwood chase.

Halting with feeble step, or bending o'er

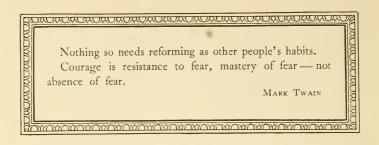
The sweet-breathed roses which he loved so well,
While through long years his burdening cross he bore,
From those firm lips no coward accents fell.

A brave, bright memory! his the stainless shield No shame defaces and no envy mars! When our far future's record is unsealed His name will shine among its morning stars.

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SEDGWICK, HENRY DWIGHT. Francis Parkman. Houghton Mifflin Company, Boston.



CHAPTER XXIV

SAMUEL LANGHORNE CLEMENS (MARK TWAIN), HUMORIST

(Born in Florida, Missouri, November 30, 1835; died in Redding, Connecticut, April 21, 1910)

As a boy Samuel Langhorne Clemens was looked upon by his parents as the least promising of their five children. He was always delicate, and he seemed to have no aptitude for books. His greatest delight was in playing pranks; he left it to other members of the family to excel at school. One of his pranks, played after the family moved to Hannibal, nearly cost him his life. A companion was suffering from black measles. Samuel decided that he must have measles, too, so he stole into the house of his playmate and then into bed with him. Of course the measles developed very soon.

Long before Sam was six years old he was noted for his imaginative tales. His brothers and sisters listened to them in amazement. Neighbors were disturbed; they spoke to Mrs. Clemens about the matter. But the sympathetic mother said that she had no trouble with his tales; she always discounted them ninety per cent. "The rest is pure gold," she would say.

At five Sam was started in school. At eight he was a healthy, rollicking boy, with a large head, a mop of sandy hair, and a smile that made up for his lack of good looks. About this time his longing to see life on the Mississippi made him forget parental commands; he boarded a steamboat and hid himself under one of the boats on the main deck. A deck hand saw his legs sticking out and he was ignominiously hauled before the authorities. At the next landing he was put ashore and sent back to his anxious parents.

With a number of boon companions, Sam played pirates in a cave, fished, hunted, explored the river in a boat, went swimming; in short, he lived the healthy outdoor life of a vigorous boy. Sometimes he got into mischief.

These care-free days came to an end when he was less than twelve years old. Then his father died, and the boy resolved to be faithful and industrious for his mother's sake. He was taken from school and apprenticed for two years to Joseph P. Ament,

the owner of the *Missouri Courier*, who promised to give him board and clothes in payment. The clothes supplied were Ament's discarded garments.

It was not long before he was the mainstay of the office. He learned so rapidly that when, about the end of the appointed stay, his brother Orion, also a printer, returned from St. Louis and bought the Hannibal *Journal*, he was able to go into this office as chief assistant.

He was sixteen when his first manuscript was accepted for publication. The editor of the Philadelphia *Saturday Evening Post* then used two short humorous articles, which he printed anonymously.

When Sam was eighteen he decided to go out into the world to seek his fortune, hoping to find it in New York City. His mother bade him Godspeed, asking him to make one promise only. So he repeated after her the words, "I do solemnly swear that I will not throw a card or drink a drop of liquor while I am gone."

Later he wrote to his sister Pamela, "Tell Ma my promises are faithfully kept."

In New York City he earned but four dollars a week, yet of this sum he saved fifty cents. He was more fortunate when he went to Philadelphia to work on a daily paper. There he was accustomed to set ten thousand ems a day, and he earned good wages.

Then followed two years in Keokuk, Iowa, where he worked for his brother Orion, in the printing office, and a short stay in Cincinnati. While in Cincinnati he wrote his first articles for pay, two letters to an Iowa paper which show faint traces of the ability that later made Mark Twain famous.

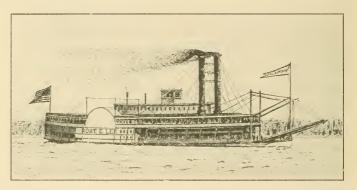
From Cincinnati the printer took passage for New Orleans on the *Paul Jones*, intending to go to South America. Once more the fascination of the river took hold of him and he proposed to Pilot Bixby that he become his apprentice, or "cub" pilot. Mr. Bixby asked for a premium of five hundred dollars, and Sam offered two thousand acres of Tennessee land. When this offer was refused he promised to pay one hundred dollars cash and agreed to give the remainder when he became a pilot.

His progress on the river was rapid. In little more than a year he was offered his first trip as day steersman. He was to leave the *Pennsylvania*, the boat on which he had traveled down the river with Pilot Bixby, and then go to St. Louis on the next steamer; when he reached St. Louis he was to begin his term of service.

But these plans were not carried out. At Memphis the *Pennsylvania's* engine blew up, and one hundred and fifty lives were lost. Sam's brother Henry, who

had been acting as third clerk on the boat, was so badly injured that he died soon afterwards. For some reason Sam blamed himself for his brother's death. From that time he dated his gray hairs and his sad expression of countenance.

The pilot's river experience lasted for three years. His earnings were large, and each month he sent a



A MISSISSIPPI RIVER STEAMBOAT

portion to his mother and his brother Orion. Spare hours were used in studying and writing.

Though the beginning of the Civil War saw the end of river trade for some years, he was out of work only a short time. Through a friend in Washington, Orion had been appointed Territorial secretary of Nevada. When Sam learned that he had not the funds necessary for the trip, he offered to pay the expenses provided Orion appointed him personal secretary. The offer was accepted. On August 14, 1861, the brothers reached Carson City. The trip and many of the experiences in the frontier state were later immortalized in "Roughing It."



A GOLD MINER'S CABIN

Those were the days when fortunes were made in Nevada mines, and it is not strange that Sam Clemens soon caught the mining fever. He turned his back on the territorial capital and hurried to the mines; but his dreams came to nothing. While at the mines he wrote humorous sketches which were printed over the signature "Josh." These attracted so much attention that in July, 1862, the

editor of *The Territorial Enterprise* offered him twenty-five dollars a week to take a position on the staff. For some time his articles written for the *Enterprise* were unsigned, but after a while he began to use the name "Mark Twain," over which an old river acquaintance had written steamboat news for the New Orleans papers. When the young newspaper man appropriated the title, he told his employer it was "an old river term, a leadsman's call, signifying two fathoms, twelve feet." Then he added, "It has a richness about it; it was always a pleasant sound for a pilot to hear on a dark night; it meant safe water."

"Mark Twain" began to take his place in the world's literature. Members of the legislature, which he was attending as a reporter, began to call him Mark. Everywhere he was hailed as Mark Twain; his own name became unfamiliar even to himself. Within a few years a large proportion of the reading public would have insisted that his pen name was his real name.

During the next four or five years he made steady progress. Newspaper work in the Nevada capital was followed by reporting in San Francisco and Honolulu, and a brief mining experience in the Tuolumne district. That no gold was found was due to his unwillingness to keep on with the disagreeable work. It is related that his partner had a panful of dirt all ready for the bucket of water required to wash it, but the unwilling miner declared he would not carry another pail if he knew there was a million dollars in the pan. The partner reluctantly laid down the pan, and the claim was deserted. Rain came and exposed a handful of nuggets in the pan. Two Austrians came that way, saw the gold, and washed out ten thousand dollars in a short time.

Something better than a few nuggets of gold came out of that mining experience. One day a loafer at the mines told a story of two frogs that became the basis for Mark Twain's story of "Jim Smiley and His Jumping Frog." This appeared on November 18, 1865, and was copied by papers all over the country. In a few months the English-speaking world was laughing, and Mark Twain was famous.

This was the beginning of his rapid growth in popular favor. He went on the lecture platform in the West, and took the public by storm; in the East he repeated his triumphs. He went to Europe under engagement to write sixty letters for the *Alta Californian*, and the letters were later printed in "The Innocents Abroad," a volume that sold for four dollars, yet broke all records for large sales. Within

nine months the profits were more than seventy thousand dollars. The book is still selling hundreds of copies each year, after more than a generation.



MARK TWAIN AT WORK

It is needless to give the list of later volumes, "Roughing It," "Life on the Mississippi,"
"Tom Sawyer," "The Adventures of Huckleberry Finn," "Pudd'nhead Wilson," "The Personal

Recollections of Joan of Arc," and many others. The names bring up memories of delightful hours and make one think, "I must read that book again."

His greatness was recognized in Europe as well as in America. The German emperor complimented him on his work; the porter of his apartments in Vienna told him of his delight in "Life on the Mississippi." The University of Oxford gave him a degree, though it had never before honored a humorist. When he went abroad to lecture he was received with hearty acclaim.

And when, late in life, he was burdened with a heavy debt by the failure of the publishing house in which he was interested, the world's regard for him became still deeper, for he determined to pay every claim. This he accomplished after what has been called the most spectacular and remarkable lecture tour in history.

Many sorrows came into his life. By the death of his wife and several children he was left almost alone. But always he was the same genial man of the people who helped others to forget their cares by his unfailing, kindly humor.

Among the tributes of his friends, given after his death, perhaps the best was spoken by Dr. Henry van Dyke: The atmosphere of his work is clear and wholesome. He made fun without hatred. He laughed many of the world's false claimants out of court, and entangled many of the world's false witnesses in the net of ridicule. In his best books and stories, colored with his own experience, he touched the absurdities of life with penetrating but not unkindly mockery, and made us feel, somehow, the infinite pathos of life's realities.

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Young hearts, young leaves, flowers, animals, the winds and the streams and the sparkling lake, all wildly, gladly, rejoicing together!

CHAPTER XXV

JOHN MUIR, INTERPRETER OF NATURE

(Born in Dunbar, Scotland, 1838; died in Los Angeles, California, December 24, 1914)

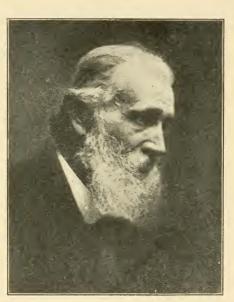
When John Muir was a schoolboy in Scotland he was fascinated by the vivid description of the American fish hawk given by the naturalist Alexander Wilson and by Audubon's story of the passenger pigeon. Then the pictures of the great American forests attracted him. If only he could see America!

One night he was startled by his father's announcement, "Bairns, ye needna learn yer lessons the nicht, for we be gaun awa' to America the morn."

The voyage to America, which was made in an old-fashioned sailing vessel, lasted six weeks and three days, but it was not too long for John Muir and his brother David. They were on deck in all

sorts of weather; in fact, they thought they liked the rough weather best.

Something said by a fellow passenger on the ship led Mr. Muir to decide to go to Wisconsin,



IOHN MUIR

instead of to Canada as he had intended. From Milwaukee the family was hauled one hundred miles to Kingston by a farmer who was: driving home with an empty wagon. From Kingston the immigrants were taken by oxteam to a farm ten miles farther into the lonely wilderness.

The oxen had hardly halted when John and his brother were off among the trees by the side of a little lake, beginning their explorations in a region that to them seemed very wild. That day, and on later days, they could not look enough at the feathered dwellers in the tree tops.

Their feelings were expressed thus by John:

Oh, that glorious Wisconsin wilderness! Everything new and pure in the very prime of the spring when Nature's pulses were beating highest and mysteriously keeping time with our own! Young hearts, young leaves, flowers, animals, the winds and the streams and the sparkling lake, all wildly, gladly, rejoicing together.

Deep impressions were made by the first sight of a woodpecker's hole, by the discovery of a hen hawk's nest on the top of a tall oak, by the startling cry of the whippoorwill, by the wonderful vision of tens of thousands of fireflies flitting over the meadows on a summer night.

In his own story of those early years on the pioneer farm, Muir told of the more serious side of his life:

I was put to the plough at the age of twelve, when my head reached but little above the handles, and for many years I had to do the greater part of the ploughing. It was hard work for so small a boy; nevertheless as good ploughing was exacted from me as if I was a man, and very soon I had become a good ploughman, or rather, ploughboy. None could draw a straighter furrow. For the first few years the work was particularly hard on account of the tree stumps that had to be dodged. Later the stumps were all dug and chopped out to make way for the McCormick reaper, and because I proved to be the best chopper and stump-digger I had nearly all

of it to myself. It was dull, hard work leaning over on my knees all day, chopping out those tough oak and hickory stumps, deep down below the crown of the big roots. Some, though fortunately not many, were two feet or more in diameter.

To the boy came also the work of splitting rails for the long line of zigzag fences. When the father found that he was not the success as a maker of rails that his son was, and that the boy rather liked the struggle with the great trees from which the rails were cut, he was quite content to leave the task in John's hands.

When the first farm was cleared, Mr. Muir bought a half section of wild land and the boys had to face a second time the disheartening prospect of making it ready for the plow.

Muir's story of the digging on this second farm of a well ninety feet deep, all except the first ten feet or so in fine-grained sandstone, is thrilling:

When the sandstone was struck, my father, at the advice of a man who had worked in mines, tried to blast the rock, but from lack of skill the blasting went on very slowly and father decided to have me do all the work with mason's chisels; a long, hard job, with a good deal of danger in it. I had to sit cramped in a space about three feet in diameter and wearily chip, chip, with a heavy hammer and chisels, from early morning till dark, day after day, for weeks and months. In the

morning, father and David lowered me in a wooden bucket by a windlass, hauled up what chip was left from the night before, then went away to the farm work and left me until noon when they hoisted me out for dinner. After dinner I was promptly lowered again, the forenoon's accumulation of chip hoisted out of the way, and I was left until night.

One morning, after the driving bore was about eighty feet deep, my life was all but lost in the deadly choke damp - carbonic acid gas - that had settled at the bottom during the night. Instead of clearing away the chips as usual when I was lowered to the bottom, I swayed back and forth and began to sink under the poison. Father, alarmed that I did not make any noise, shouted, "What's keeping you so still?" to which he got no reply. Just as I was settling down against the side of the wall, I happened to catch a glimpse of a branch of a burr-oak tree which leaned out over the mouth of the shaft. This suddenly awakened me, and to father's excited shouting I feebly answered, "Take me out." But when he began to hoist he found that I was not in the bucket, and, in wild alarm, shouted, "Get in! get in the bucket and hold on! Hold on!" Somehow I managed to get into the bucket and that is all I remembered until I was dragged out, violently gasping for breath.

Later a neighbor told Mr. Muir to throw water down the shaft to absorb the gas, and to let down by a rope a bundle of brush or twigs which could be drawn rapidly up and down so as to stir up the air. When these precautions were taken the boy was let down once more, and he continued his work till he had chipped away ten feet more of the sandstone.

During the intervals of farm work John taught himself arithmetic, algebra, geometry, and trigonometry. Books, borrowed from the neighbors, were devoured eagerly. He longed to read after his eight o'clock bedtime, but his father told him he could not do this. Then, when he saw the boy's disappointment, he said, "If you will read, get up in the morning and read; you may get up in the morning as early as you like."

He thought the weary farm boy would care more for sleep than for his books, but he was mistaken. Next morning his son rose at one o'clock, and all winter long this was his rising hour. The father decided to say nothing, for he realized that he was only being taken at his word.

Books did not occupy nearly all of the wonderful amount of spare time thus put at the boy's disposal. He began to make strange inventions, among other things a self-setting sawmill which he operated after damming a stream in the meadow; curious door-locks and latches, thermometers, clocks, a lamplighter and firelighter, and an automatic contrivance for feeding the horses at any required hour.

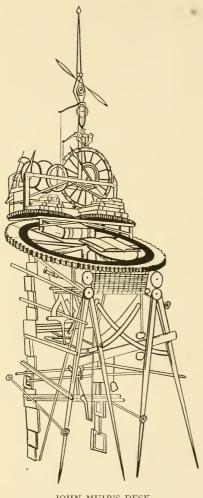
At the suggestion of a neighbor, he decided to take some of his curious inventions for exhibition at the state fair at Madison. When he left home he had fifteen dollars in his pocket, most of the sum having been saved by raising grain on a patch of abandoned ground. This proved to be his start in the world, for he did not come back home to stay.

On his way to Madison he took his first ride on a railway train, but he was not content to ride in the coach; he pleaded so hard for a ride on the engine that his request was granted.

At the fair he made some good friends and was encouraged to enter the state university and earn his way as he studied. During the four years at the university he worked in the harvest fields in the summer and so earned enough for the winter's bills. But he spent so much for experiments and extras that frequently he could spare only fifty cents a week for board.

One winter he taught school during the day and kept up his college work at night. He did not own a watch, so he used one of the clocks he had made from hickory wood. This was set on a shelf in the schoolroom and was made to start the fire at eight o'clock each morning. Not once during the winter did the clock fail to do its work.

Other inventions made while he was at Madison



IOHN MUIR'S DESK

From chart in the State Historical Museum of Wisconsin

were a bed which dumped him on the floor at any given hour in the morning, and a desk on which his books were arranged in order; by clockwork the books were opened before him, one by one, and each was closed and removed when a certain time had passed. This odd contrivance worked perfectly.

A fellow student told him of the pleasure of studying plants. Muir's love of nature made him listen eagerly, and from that day to his death he was an ardent student of the trees, the flowers, and all the wonders of earth and sky.

In writing the story of his struggles, he said that he "wandered away from the university on a glorious botanical and geological excursion which had lasted



CLINCH RIVER, TENNESSEE, CROSSED BY JOHN MUIR ON HIS TRAMP TO FLORIDA

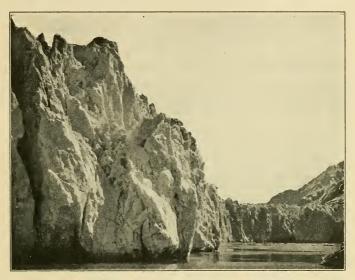
Courtesy of Louisville & Nashville Railroad

fifty years, and was not yet completed," that he was "always happy and free, poor and rich, without thought of a diploma or of making a name, urged on and on through endless, inspiring, Godful beauty."



GLACIER POINT IN THE YOSEMITE

When he left, as he said, the University of Wisconsin for the University of the Wilderness, he explored the region of the Great Lakes, botanizing and geologizing as he went. Trouble with his eyes led him to fear that he was going blind.



MUIR GLACIER, ALASKA

Resolved to enjoy as much as possible of the beauty of the world while he could still see, he wandered to Indianapolis, sleeping in the open air. In Indianapolis he worked a little while to pay his expenses, then he tramped to Florida. From Florida he made his way to California.

Landing in San Francisco in 1873, he asked almost at once for the Sierra Nevada Mountains, and when these were pointed out to him he set out on the hundred-mile walk necessary to reach them. And when he came to the mountains, he was happy. Through all the remainder of his life he called the Sierras "home," He wandered to Alaska and studied the glaciers; he went to Norway and Sweden for a similar purpose; he traveled around the world to study the beauties of forest and mountain. But always he returned with new zeal to the Sierra Nevadas, parts of which he knew as minutely as a farmer knows his acres or as a boy knows the schoolyard. To him America owes the first real knowledge of its Big Trees and the Yosemite. The great forest reservations in the mountains are really monuments to him, for he pointed out their necessity as a means of preserving the streams and valleys.

But perhaps his greatest work has been the gift to tens of thousands of the passion for the study of nature which was to him the breath of life.

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STROTHER, FRENCH. John Muir, Naturalist, Geologist, Interpreter of Nature. World's Work, April, 1907.

Those are the best poets who keep down their cloudy sorrow songs and wait until some light comes to gild them with comfort.

SIDNEY LANIER

CHAPTER XXVI

SIDNEY LANIER, THE SOUTHERN POET

(Born in Macon, Georgia, February 3, 1842; died in Lynn, North Carolina, September 7, 1881)

Sidney Lanier, his brother Clifford, and their sister Gertrude were chums who liked nothing better than to be in one another's company. The boys were devoted to Gertrude, and they were eager to have her with them when they went on Saturday to "the boys' happy hunting grounds, redolent of hickory nuts, scaly bark, and rose-blushing, luscious haw apples." Clifford Lanier has told how the three of them used to plunge into the woods, across the marsh, for a day among doves, blackbirds, robins, plovers, snipes, and rabbits.

Of course the Lanier children went to school, but on the way to and from school and at recess they liked to peer into nature's secrets. Nearly half a century after those country schooldays were over, Clifford wrote:

One of these schools stood in a grove of oak and hickorynut trees and was called the 'Cademy. Sidney was bright at studies, but while parsing, reading, writing, and figuring,



SIDNEY LANIER

he was also chucking nuts from the top of the tall trees, sympathizing with the darting, halfangel, half-animal flying squirrels, and drinking deep draughts of the love of nature from the cool, solacing oaks.

Sidney liked to imitate on crude musical instruments the notes of the birds which he heard in the forest.

His brother once recalled the following incident:

When he was seven years old he made his first effort at music upon an improvised reed cut from the neighboring river bank with cork stopping the ends, and a mouth hole and six finger holes extemporized at the side. With this he sought the woods, to emulate the trills and cadences of the song birds.

When, one Christmas, he was given a small, yellow, one-keyed flute, his heart was full. He lost

no time in organizing an orchestra among his boy friends. Thus already he was showing the love of nature and of music which led him to write these words in his first book, when he was twenty-six years old, about the playing of the flute:

It is like walking in the woods, amongst wild flowers, just before you go into some vast cathedral. For the flute seems to me to be particularly the wood-instrument; it speaks the gloss of green leaves and the pathos of torn branches; it calls up the strange mosses that are under dead leaves, of wild plants that hide; and it breathes oak fragrances that vanish; it expresses to me the natural images of music.

When he had children of his own he was glad when he could take them into the woods and point out to them the birds and the squirrels.

One day his six-year-old son brought home in his straw hat a helpless mocking bird, only a few days old, which had been picked up in the road where it had fallen from a nest that could not be found. The boy trembled a little for fear of what his father would say, for he had been taught that he must not rob nests of eggs or birds. There was a family council, and it was decided that there was no other way but to cage the little bird.

What joy the Lanier family took in the education of that mocking bird! For many years after it fell a victim to a cat the boys talked of the concerts when the flute of their father "would trill with extravagant grace to the silent but heed-



A MOUNTAIN MOCKING BIRD (MALE)

From a drawing by Audubon

ful wonder of the caged one," and when the bird would answer in notes that were the despair of a player on any man-made instrument.

The hours and days in the woods that prepared Sidney Lanier to give joy to his own children so many years later were not his only time of recreation. He was always ready to turn from out-of-door sports to his father's library.

There father and son, real cronies, read "with absorbing interest the stories of Sir Walter Scott, the romances of Froissart, the adventures of Gil Blas, and other stories that his boyish mind delighted in."

At Oglethorpe University, which Sidney entered when he was fifteen years old, he found in one of the younger professors a friend whose tastes were like his own. With him the student used to take rambles in the woods, or go for long drives whenever there was opportunity. The time would be spent in looking at the birds, the trees, and the other beautiful things about them, or in talking of what interested both of them, or by Lanier in playing the flute while the professor listened breathlessly to the music.

The musician was popular among his fellows. They liked him because, although he was one of the best students in the college, he did not act as if he were above them. One of his companions wrote:

I shall never forget those moonlight nights at old Oglethorpe, when, after study hours, we would crash up the stairway and get out on the cupola, making the night merry with music, song and laughter. Sid would play upon his flute like one inspired, while the rest of us would listen in solemn silence.

Another college mate gave this pleasant picture of dormitory life:

I have seen him take a banjo, for he could play on any instrument, and, as with deft fingers he would strike some strange new note or chord, you would see his eyes brighten;

he would begin to smile and laugh as if his very soul was tickled, while his hearers would catch the inspiration, and an old-fashioned "walk-round" and "negro breakdown," in which all would participate, would be the inevitable result.

Soon after his graduation, at eighteen, he became a tutor in the college. In a notebook he told at this time of his desire to find out what he ought to do with himself in life. He felt that his chief talent was for music, and that he could be a great composer. "But I cannot bring myself to believe that I was intended for a musician," he said.

A little later a young man of his own age, a teacher in an academy in the town, said of him:

The tutor is a brick. He is studying for a professorship; is going to remain here about two years, then go to Heidelberg, Germany, remain about two years, come back, and take a professorship somewhere. . . . He is the finest flute player you or I ever saw. It is perfectly splendid — his playing. His flute cost fifty dollars, and he runs the notes as easily as anyone on the piano.

But the dream of the music-loving tutor was interrupted by the Civil War. When, on January 2, 1861, Georgia declared its independence of the Union, he decided to stand by his native state, though with heavy heart. He enlisted in the first company that went out of the state to Virginia

and served throughout the war. During the many leisure hours of camp life, and the four months spent in prison at Point Lookout, Maryland, he inspired his fellow soldiers by his music, he dreamed of the future, and he read many books which made him feel that he wanted to spend his life in writing messages that would help other people. A few of his early poems were composed while he was a prisoner, amid surroundings that made beasts of many men. But always he was cleanhearted. A fellow prisoner said, "In all our intercourse I can remember no conversation or word of his that an angel might not have uttered or listened to."

From the prison camp he went to his home in Macon, broken in health. He made up his mind to do his best to help the South to find new life as a part of the reunited nation. His first work was as clerk in a hotel. During his spare time he completed the novel "Tiger Lilies," begun while he was in the army. When this was published, in 1867, it was well received, and the author began to look forward definitely to a literary life.

The South was poor, and few could afford to buy his books, so he had to support himself by teaching. His writing he did after the teaching day was done. Many ambitious young men were leaving Georgia for the North, because they thought they could have no future where they were, but Mr. Lanier was a hero, and he made up his mind to stand by his state.

For years it was a struggle to make a living. In Macon he practiced law, but his professional work was interrupted several times by trips to New York to see doctors; he was never well after he left the prison camp. In search of health he went to San Antonio, Texas, yet no one would have known from his words or his letters that he was in constant pain. The poems, of which he wrote many during those days, spoke of joy and peace and the love of God.

In 1873 he decided that it would be a pity to continue to be a third-rate lawyer if he could do something else really worth while far better. For this reason he went to Baltimore and spent a year in playing the flute in an orchestra, to admiring audiences.

In his spare time he wrote poems that stirred the hearts of readers all over the country. When he saw that he could not be both a musician and a poet, he turned his thoughts to the verse by which he was proving his right to be called one of the great poets of the country. At this period he spoke of life as a time "during which I must get upon paper as many as possible of the poems with which my heart is stuffed like a schoolboy's pocket." He

did not write just because he wanted money. "I don't work for bread," he said. He worked because he felt that this was why he had come into the world.

His first great chance came when he was asked to write the cantata to be sung at the opening of the Centennial Exposition at Philadelphia, in 1876. This cantata was a great success, not only as a poem but as the expression of faith in the future of the American Union by one who had been a Confederate soldier.

Only five years of life remained to the invalid after this Philadelphia success. These years were crowded so full of work that he found it difficult to take the time to go to Florida in search of health. After the Florida trip he became teacher of English literature in Johns Hopkins University.

His courage and brightness, even at the time when he knew that his life was nearly ended, were shown by the first sentence of a letter he wrote in 1878:

The painters, the whitewashers, the plumbers, the lock-smiths, the carpenters, the gas-fitters, the stove-put-upers, the carmen, the piano movers, the carpet-layers — all these have I seen, bargained with, reproached for bad jobs, and finally paid off. . . . I have moreover hired a colored gentlewoman who is willing to wear out my carpets, burn out my range, freeze out my water pipes, and be generally useful.

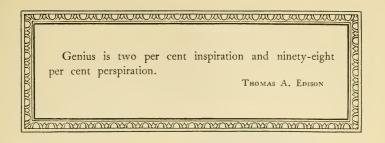
As he grew weaker, he wrote more powerfully. Indeed, some have thought that his inspiration was greatest when he was weakest. He wrote "Sunrise," which has been called his best poem, when his fever was at one hundred and four degrees. Yet he was always the jolly companion of his children and the cheerful friend of those who had learned to love him.

He became famous during his last years, but his fame has increased since his death. And his chief claim to fame is that by his perfect work he did more, perhaps, than any other literary man to hasten the day of the welding of the nation that was torn by the tragedy of civil war.

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CHAPTER XXVII

THOMAS A. EDISON, ELECTRICIAN

(Born February 11, 1847, in Milan, Ohio)

My mother was the making of me. She was so true, so sure of me; I felt that I had some one to live for, some one I must not disappoint. The memory of her will always be a blessing to me.

This was Thomas A. Edison's tribute to the mother who made a man of him. He was a careless boy, and but for her firm, careful handling, he feels that he would probably have turned out badly. At home she was his inspiration, and at school the thought of her strengthened him and kept him from many things for which he might have been sorry.

Long after her death he said this of her:

The good effects of her early training I can never lose. If it had not been for her appreciation and her faith in me at a critical time in my experience, I should very likely

never have become an inventor. You see, my mother was a Canadian girl, who went to teach school in Nova Scotia. She believed that many boys who turned out badly by the time they grew to manhood would have become valuable



THOMAS A. EDISON AT SEVENTEEN

citizens if they had been handled in the right way when they were young. Her years of experience as a school teacher taught her many things about human nature, and especially about boys.

Milan, the Edison home town, was on a canal which enabled the ships from Lake Huron to reach the town. When Thomas was a

boy there were always vessels on this canal, and he soon learned the way to the dock. When he was four years old he would frequently slip away from home and run to the water. He was attracted by the shipping, but he was attracted still more by the activity in the shipbuilding yards. He liked

to handle the tools of the ship carpenters and to ask why they did things as they did them.

His brief course in the school at Port Huron, Michigan, where the family soon moved, was supplemented by his mother's careful instruction. She guided him in his lessons and she taught him to read, or she read to him, such volumes as Hume's "History of England," Gibbon's "History of the Decline and Fall of the Roman Empire," and Sears's "History of the World," as well as books on electricity and science.

He was only eleven when he began to assist in the support of the family. With the consent of his parents, he applied for the privilege of selling newspapers and other things on the trains of the Grand Trunk Railroad. When he received a letter telling him that he could have the privilege, he was delighted. His run was to be short, only from Port Huron to Detroit, so that he could spend much time at home.

From the beginning the young news agent showed much enterprise. He became popular both with the passengers and with the train crews. No objection was made when he asked whether he might make use of the unoccupied express compartment in the combination car on his train, so he installed a small printing office, a chemical laboratory,

and a telegraph instrument. There he printed a little paper called *The Weekly Herald*, which had in 1862 a regular list of about five hundred subscribers. It is said that he sometimes made as much as forty-five dollars a month from the paper.

In addition to gossip calculated to interest the trainmen and the regular passengers, the young editor sometimes printed in the *Herald* news bulletins that were handed to him by operators at the stations along the line. Once in a while he was able to print, in an extra, news that had not yet appeared in any paper.

All went well with the improvised printing office and laboratory until one day when the ambitious news agent was making a chemical experiment. A sudden jolt made him drop a bottle of phosphorus which at once burst into a flame. The car caught fire. Edison was trying to put out the fire when the conductor rushed in and succeeded in extinguishing the blaze. The boy waited for the punishment which he felt sure was coming. How it came has been told by E. C. Kenyon:

The poor lad was deposited on the platform, with his type, chemicals, and other property. The brutal conductor, in his rage, gave him, before he descended, such a severe box on the ear, that the delicate organ of hearing was injured for life.

Left alone and desolate among the fragments of his poor belongings, ill dressed and ill fed, poor young Edison stood looking after his beloved laboratory and workshop disappearing in the distance. He felt stunned and miserably disappointed.

But the printing office and laboratory were soon installed in an attic room of the house at Port Huron. Here Edison would go for practice in the evening. Telegraph lines were built to the houses of a number of his boy friends. To these boys he was able to talk, after he had imparted to them the knowledge of telegraphy he had secured from operators along the road.

When he was fifteen years old, a grateful operator, whose child he had saved from death, offered to make him an expert telegrapher. Before long he asked for and was given an appointment as night operator at the Port Huron station, at a salary of twenty-five dollars a month. This position he held for some time, but he was so fond of making experiments during the day that he frequently fell asleep at night. For this reason he was discharged.

After serving for some years as a telegraph operator in a number of towns and cities, he fitted up in Boston a small shop in which he made many experiments after the day's work was done. Here, when he was still under twenty, he made the first

invention for which he secured a patent, a voterecording machine by means of which he hoped



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THOMAS A. EDISON IN HIS LABORATORY

to purify the ballot. The invention worked well, but it performed a service that did not seem to be in demand. "I made a yow that I would not invent anything which was not wanted, or was not necessary to the community at large," the inventor has said, in telling of the disappointing experience.

Though Edison had few idle moments, there came a time during his residence in Boston when he decided to have still less of these. A friend with whom he roomed has told of his resolution:

Once, when he was very busy experimenting, he bought the whole of Faraday's works on electricity, and, having brought them home at three o'clock in the morning, read without stopping until I got up, and it was time for us to adjourn for breakfast to the place, a mile distant, where we took our meals. Edison was full of interest and excitement about what he had been reading. "Adam," he said, "I've got so much to do and life is so short that I'm going to hustle."

A good position in New York, secured because of his sustained genius, gave him more time and money for his experiments. Here he made a number of improvements of interest to telegraphers. But he found great difficulty in persuading anyone with influence to listen to his explanations. He was especially anxious to talk to the president of the Western Union, and he made many vain visits to his office. On one of these visits he found the president in despair because the New York operators could not talk with Albany. The president

challenged him to find what was wrong, and offered to listen to all he had to say if he could discover the trouble within two days. Edison accepted the challenge, and by means of a simple expedient of which no one had thought he located the difficulty



THOMAS A. EDISON AT THE DESK

within two hours. The president kept his promise. It was not long before he realized that he had a prize in his new helper, for he learned of Edison's valuable invention of the duplex telegraph instrument, by means of which two messages can be sent in opposite directions at the same time, over the same wire.

By this time Edison had a factory in Newark, New Jersey. Here a large number of men assisted him. These assistants marveled at his unusual ability to devote himself unceasingly to his work when he had a hard problem to solve, and they found his enthusiasm contagious. On one occasion, when speaking of his work with these loyal assistants, he said:

We had no fixed hours, but the men, so far from objecting to the irregularity, often begged to be allowed to return and complete certain experiments upon which they knew my heart was set.

When Alexander Graham Bell patented the telephone, in 1876, there was one serious difficulty with his apparatus; it had no transmitter. Edison set to work and devised the carbon button which is to-day a part of the telephone equipment. Without this the rapid development of the telephone would not have been possible.

The idea of the incandescent electric light came to Edison when he saw an arc light exhibited by a circus. The Edison Electric Light Company was formed, and the inventor and a number of assistants began work at Menlo Park, New Jersey, on the problem of breaking up the big light into little lights that would be steady and bright.

In solving the problem Edison conducted one of the most marvelous series of experiments in the history of his work. He saw that he needed



THOMAS A. EDISON
Standing beside the phonograph tester in his workshop

a filament for the lamp. After various attempts, it was found that a filament made of cotton thread, carbonized, gave good results. The inventor told in *The Electrical Review* what followed:

We sat down and looked at that lamp. We wanted to see how long it would burn. The problem was solved — if the filament would last. The day was — let me see — October 21,

1879. . . . The lamp continued to burn, and the longer it burned the more fascinated we were. None of us could go to bed and there was no sleep for any of us for forty hours. . . . It lasted about forty-five hours, and then I said, "If it will burn that number of hours now, I know

I can make it burn a hundred." We saw that cotton was what we wanted, and the next question was what kind of cotton. I began to try various things, and finally I carbonized a strip of bamboo from a Japanese fan, and saw that I was on the right track. But we had a rare hunt finding the real thing. I sent a schoolmaster to Sumatra and another fellow up the Amazon, while one of my associates went to Japan and got what we wanted. Then we made a contract with an old Jap to supply us with a proper fiber, and that man went to work and cultivated and cross-fertilized bamboo until he got exactly the quality we required.

One of the numerous "notion books" in which Edison kept a record of his experiments shows that he tried at least two hundred varieties of bamboo before he noted the name of the filament against which he wrote "Eureka." At last the inventor had an answer for the professor of physics who said the Edison lamp would not burn.

Twenty years later the investments in electric-lighting plants in the United States amounted to \$750,000,000.

During the generation since the triumphant conclusion of the search for a proper filament for the electric light, the inventor has perfected hundreds of inventions, of which the most important are the phonograph, the kinetoscope, the electric locomotive, and the storage battery. By fifty years of inventive work Edison has shown that there is a good deal in his statement that "Genius is two per cent inspiration and ninetyeight per cent perspiration."

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If a membrane as thin as tissue paper can control the vibration of bones that, compared to it, are of immense size and weight, why should not a larger and thicker membrane be able to vibrate a piece of iron in front of an electromagnet?

ALEXANDER GRAHAM BELL

CHAPTER XXVIII

ALEXANDER GRAHAM BELL, INVENTOR OF THE TELEPHONE

(Born in Edinburgh, Scotland, March 3, 1847)

In 1868 Alexander Graham Bell, then a young man of twenty-one, listened spellbound to the president of the London Philological Society as he explained to him how a tuning fork could be made to sing by a magnet or an electrified wire. At once Bell began to ask himself questions. What was to prevent the invention of a musical telegraph, a telegraph with a piano keyboard by means of which many messages could be sent over a single wire? Why could not a musical note be made to represent the dot or dash of the telegraph code? And why should he not be the inventor to work this wonder?

From that day he busied himself with experiments; feverishly he worked and enthusiastically

he talked of his dream to others. Once he said to a friend, "Do you know that if I sing the note G close to the strings of the piano, the G string will answer me?" "Well, what then?" was the chilling response. But Bell was not easily discouraged. "It is an evidence that we may some day have a musical telegraph," he replied, "a telegraph which will send as many messages simultaneously over one wire as there are notes on the piano."

It was not strange that Bell was interested in the problem of the transmission of sound. Both his father and his grandfather had devoted their lives to the investigation of human speech. Alexander Bell, the grandfather, had invented an apparatus to correct impediments in speech. He wished to make the deaf hear, but he did not live to fulfill his dream. Alexander Melville Bell, the son, a college lecturer on elocution, succeeded in devising a method of teaching deaf-mutes to speak which is to-day in use in many schools for the deaf and dumb.

Alexander Graham Bell was only sixteen when he became a teacher of elocution in England. In 1868 he succeeded in teaching several deaf-born children to speak. Two years later his work was interrupted by failing health. For the sake of the climate his father moved with his family to Canada. There outdoor life restored the young

man's health so completely that in 1871 he was able to begin work once more.

During these years he had not forgotten his dream of the musical telegraph, and when his health

was restored he hesitated whether to give his time to the invention he longed to make or to go on with his work for deaf children. For a time at least the problem was solved for him. An invitation came to him from the Boston Board of Education to go to that city and introduce his method of teaching deaf



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ALEXANDER GRAHAM BELL

mutes; they had learned of his work in England and they needed his help.

His success in Boston was so great that he had no time to think of his invention. When he was only twenty-four he was made a professor in Boston University. Later he opened his School of Vocal Physiology, which provided him with so much work that the course of his life might have been changed.

Fortunately, however, he was asked to make his home with a family in Salem, Massachusetts, that he might teach the deaf-mute son, Georgie Sanders, how to speak. Wishing to make the best use of his evening hours, he asked and received permission to have a workroom in the basement of the house.

It was not long before he was spending every spare hour on his elusive invention of a musical telegraph or on experiments in sending speech over an electric wire. Thomas Sanders, the father of the boy he was teaching in the daytime, told of these laborious hours:

Often in the middle of the night Bell would wake me up. His black eyes would be blazing with excitement. Leaving me to go down cellar, he would rush wildly to the barn and begin to send me signals along his experimental wires. If I noticed any improvement in his machine, he would be delighted. He would leap and whirl around in one of his war-dances, and then go contentedly to bed. But if the experiment was a failure, he would go back to his workbench and try some different plan.

Another of Bell's students was Mabel Hubbard, a fifteen-year-old girl who had lost her hearing through scarlet fever. She became convinced that her teacher was sure to be a great inventor, and she did not rest until she had interested her father, Gardiner G. Hubbard, in his plans. Hubbard thought that something might come of the idea of the musical telegraph, but he was impatient when Bell spoke of sending speech over a wire. "Now you are talking nonsense," he said. "Such a thing could never be more than a scientific toy."

But Bell persisted in his idea that the voice could be transmitted just as well as musical notes representing the dots and dashes of the Morse code. "If I can make a deaf-mute talk, I can make iron talk," he said.

For many months he tried in vain to find a suitable apparatus for the transmission of sound. Then he made a careful study of the human ear. When he noted how the eardrum vibrated the bone and so transmitted sound, he said to himself, "If a membrane as thin as tissue paper can control the vibration of bones that, compared to it, are of immense size and weight, why should not a larger and thicker membrane be able to vibrate a piece of iron in front of an electromagnet?" When this thought came to him the first great step in the invention of the telephone transmitter was taken.

By this time the thought of his invention had become so absorbing that he paid no attention to anything else. Income ceased, for he had no time for pupils. Friends who had been advancing money to him said he could look for nothing more from them unless he would give up his ear-toy and work on the musical telegraph. "I am now beginning to realize the cares and anxieties of being an inventor," he wrote to his mother.

It was fortunate that just at this critical time he met Professor Joseph Henry, the great electrician, who listened to his description of his plans and said to him, "You are in possession of the germ of a great invention, and I should advise you to work at it until you have made it complete."

Bell objected that he had not the electrical knowledge necessary to perfect the invention. "Get it," urged Professor Henry. And Bell proceeded to do so.

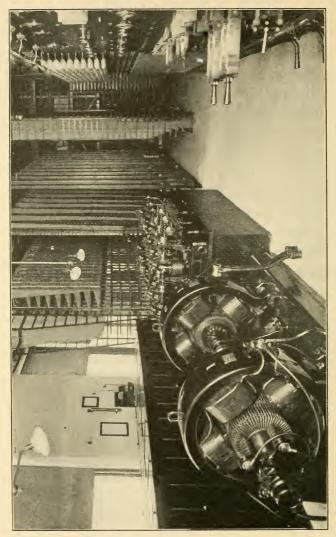
Months passed. The youthful experimenter had moved his shop from the Salem basement to 109 Court Street, Boston. There he had an assistant, Thomas Watson, whose wages were paid by the friends who had agreed to help Bell so long as he would confine his efforts to the musical telegraph. Loyally he did so until one afternoon in June, 1875, when, most unexpectedly,

a vibration made by Watson in a crude instrument in one room was transmitted to the instrument held by Bell in an adjoining room. No one but Bell, with his trained ear, would have noted the sound or would have understood the significance of the event.

From that moment he resolved to devote all his energies to the transmission of the human voice over a wire. It was not easy to persuade the friends who were supplying the funds for his work that the musical telegraph should be abandoned, but he did persuade them, and the way was open for him to push the work so well begun.

Of the next encouraging result Mr. Bell told a group of scientists in 1877:

I remember an experiment which at the time gave me great satisfaction and delight. One of the telephones was placed in my lecture room in the Boston University, and the other in the basement of the adjoining building. One of my students repaired to the distant telephone to observe the effects of articulate speech, while I uttered the sentence, "Do you understand what I say?" into the telephone placed in the lecture room hall. To my delight an answer was returned through the instrument itself, articulate sounds proceeded from the spring attached to the membrane, and I heard the sentence, "Yes, I understand you perfectly." It is a mistake, however, to suppose that the articulation was by any means perfect . . . still the articulation was there.



Here the big telephone cables are frayed into separate strands and distributed over the racks in the background THE TERMINAL ROOM AT A BELL CENTRAL SWITCHBOARD

In March, 1876, the assistant, who was in the basement, was astonished to hear the words, in the unmistakable voice of his employer, "Mr. Watson, come here, I want you." The assistant dropped the receiver from which the sound had come and dashed up three flights of stairs, seeking Mr. Bell, shouting as he went, "I can hear you! I can hear the words."

The patent received for this invention was awarded in March, 1876, for what Bell described as "an improvement in telegraphy."

Soon after the granting of the patent the Centennial Exposition at Philadelphia opened, and the crude telephone was one of the exhibits. That no one appreciated the importance of the invention appears from the fact that but eighteen words were given to it in the official catalogue and that it was put in an obscure corner of the space devoted to the Massachusetts Educational Exhibit. For six weeks it attracted no attention.

The inventor had not planned to go to the Exposition, for he felt he could not afford the trip. But he did go to the train to say good-by to Mabel Hubbard, who later became Mrs. Bell. Her disappointment when she learned that he did not intend to go to Philadelphia proved more than he could bear, and he jumped on the train, though he had neither ticket nor baggage.

This proved to be a most fortunate trip, for on June 24, 1876, the only day on which the inventor visited the Exposition, when the judges were making a tour of inspection, he was near the corner where the telephone had been placed, awaiting their coming with rapidly beating heart, for they had promised to visit his exhibit. At last they approached, but it was late, they were tired, and some of them talked of leaving the Exposition at once. One man handled the telephone listlessly, and another made a slighting remark about it.

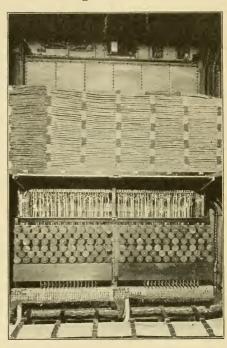
At that moment Dom Pedro de Alcantara, Emperor of Brazil, in company with his wife and other noted visitors, entered the room. At once he recognized the inventor, whom he had met in the deaf-mute instruction room at Boston University. "Professor Bell, I am delighted to see you again," was his greeting.

The judges had no further thought of retiring without seeing what Mr. Bell had on his table. They listened intently to Dom Pedro's questions. Curiously they watched the Emperor as he went to one end of the room and took down the receiver, while Bell went to the other end of the wire and spoke quietly into the transmitter. The judges could hear nothing, but the amazed Dom Pedro exclaimed in wonder, "It talks!"

Joseph Henry, who had encouraged Bell to study electricity, was in the room. He too tested the instrument and was delighted. Sir William

Thompson, a famous English scientist, listened in his turn to the telephone. "It does speak," he said, with delight. "It is the most wonderful thing I have seen in America."

It was ten o'clock before the judges left the telephone corner. Next day the invention was given a more conspicuous place, and from that time it



SECTION OF THE REAR OF A SWITCHBOARD
This shows the maze of wires in a modern
telephone switchboard

was one of the chief features of the Centennial.

"Now I shall have the money to promote the teaching of speech to deaf children," Mr. Bell wrote to his parents.

When the first prospectus of the first Bell Telephone Company was issued, the statement was made, "The proprietors are now prepared to furnish telephones for the transmission of articulate speech between instruments not more than twenty miles apart." On October 31, 1877, Mr. Bell said, in an address to the Society of Telegraph Engineers, in London, England:

The question will naturally arise, "Through what length of wire can the telephone be used?"... The longest length of real telephone line through which I have attempted to converse has been about two hundred and fifty miles.

The first long-distance line—from Boston to Salem, sixteen miles—was constructed in 1877. Three years later a man in Boston could talk with a friend in Lowell. In 1887 the line between Boston and New York was opened, while in 1893 New York and Chicago were connected. Gradually wires were extended until, in 1915, the commercial line from New York to San Francisco was opened to the public.

The telephone is but one of the many inventions which Alexander Graham Bell has made. Some of the most important improvements in the aëroplane are credited to him. He invented the

telephone probe for the painless detection of bullets in the human body. By the use of this apparatus the exact location of the bullet in President Garfield's body was found. He was one of the inventors of the phonograph and of the flat-disk records used in that instrument, and he devised the spectrophone, an instrument of importance in the study of the heavenly bodies.

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