

Innovation in Transportation

How did innovation in transportation push Americans westward?

Improvements in the 19th century greatly speeded westward expansion across the continent, both directly and indirectly. Not only did improvements in transportation help settlers and migrants, but also facilitated the marketing of crops and livestock and communications with families and contacts back East.

Water Transport

Rivers and lakes were the continent's first highways. European trappers first entered the Midwest through the Great Lakes and rivers. The Mississippi River had been the backbone of the region for centuries as American Indians created trade routes along it and its tributaries. Early settlers, including Abraham Lincoln, floated supplies down the river on rafts. But returning upstream was a challenge when crafts were powered by hand.

Robert Fulton was not the first to apply steam power to a sailing vessel but he was the first to make establish a successful commercial steam boat. In 1807, Fulton launched "The Clermont" in New York City up the Hudson River to Albany. Steamboats on the Mississippi River transformed river traffic and greatly hastened American settlement of the region. In 1816, a steamboat "Washington" traveled from New Orleans to Louisville, Kentucky, in just 25 days. By 1853, that trip took only four and a half days. Between 1814 and 1834, steamboat traffic arriving in New Orleans increased from 20 to 1,200 a year as boats carried cotton, sugar and passengers. Many Europeans reached new homes through the port of New Orleans. The romance of steamboat travel became part of American folklore and inspired many authors, including Mark Twain, to recount experiences on "the Mother of All Rivers."

Railroads Surpass Steamboats

Railroads began to challenge steamboats in the Midwest as early as the 1850s. Abraham Lincoln successfully defended a rail line that had constructed a bridge across the Mississippi. A steamboat company sued the railroad when its steamboat crashed into the bridge, but ruling for the rail company opened the way to expanded track development. Where cargo from steamboats had to be unloaded and carted on land past river rapids, like those between Ft. Madison and Burlington, rail shipments faced no such problems. Likewise, with rising and falling water levels sometimes leaving docks stranded in shallow or flooded waters, trains could always pull up to established points at their stations. Barge traffic was never eliminated by the rails and still plays an important role in getting midwestern grains to New Orleans. From there to distant ports, steamboats never regained their supremacy that they had once experienced pre-railroads.

Rail lines extending across Iowa and the Great Plains often preceded significant American settlement. Towns in western Iowa were usually located and platted by the rail companies to establish refueling stations and collecting points for passengers and cargo. The rail companies themselves cooperated in producing materials in the native languages of Europeans providing information on how to immigrate and how to book transportation on the rails. Once farms and towns were established, railroads carried crops and livestock back to eastern cities and returned with manufactured goods. The first transcontinental rail line had Omaha/Council Bluffs as its eastern terminus, linking the west coast firmly to the rest of the country and doing much to open up the west to further settlement.

The federal government greatly aided rail transportation with land grants to four companies building trunk lines across Iowa. Three of these ended in Council Bluffs, the fourth in Sioux City. For every mile of track they laid, the railroad companies were granted six sections (square miles) along the line. They sold the land to finance their operations. From their starting points on the Mississippi River, all four of the lines connected with Chicago which made the "Windy City" the hub of the Midwest economy. The new arrangement undercut commerce with St. Louis and points south.

Western Migration with Automobiles

The introduction of the automobile in the early 1900s also impacted westward migration. Many families were now able to travel by themselves, unrestricted by train tickets or schedules. Visitation to national parks greatly increased.

During the Great Depression, displaced farm families loaded everything they could onto their Model T Fords or other early makes and headed west to California in search of jobs. Author John Steinbeck recreated their struggles in his classic novel, "The Grapes of Wrath." Trucks cut into the dominance of rail transport for livestock, as automobiles reduced sales of passenger tickets. Commercial bus lines further provided travelers a choice in how to get from one point to another. Passenger train service declined rapidly, as did overall rail business. Government support of the interstate highway system began in the 1950s and greatly facilitated cross-country travel.

Americans have been cited as a people on the move. Whether by steamboat, railroad or automobiles, Americans have freely traveled and become familiar with the world beyond our own borders.

Supporting Questions

What role did waterways play in transportation advancements?

- [Petition about Navigation Rights of Mississippi River, 1793 \(Document\)](#)
- [Letter from Robert Fulton to George Washington about Canal Building, February 5, 1797 \(Document\)](#)
- ["The Des Moines Rapids of the Mississippi River, and Its Improvements" Essay from *The Annals of Iowa*, 1870 \(Document\)](#)
- ["A Great Work Completed" Newspaper Article, August 24, 1877 \(Document\)](#)

What effect did transportation advancements have on the economics of various regions of the country?

- ["New York Canals" Newspaper Article, December 21, 1849 \(Document\)](#)
- ["From Grays Ferry Looking South," 1858 \(Image\)](#)
- [Railroad Map of Iowa, 1881 \(Map\)](#)

In what ways did transportation advancements encourage westward settlement?

- ["Great Central Route, and U.S. Mail Line" Broadside, 1856 \(Document, Map\)](#)
- ["Growth of the Steamboating Business —The Season of 1856" Newspaper Article, November 20, 1856 \(Document\)](#)
- [C.C. Andrews' Letters about his Trip to Minnesota and Dakota Territory, 1857 \(Document\)](#)
- ["Documentary. Iowa — Developments — Resources" Essay from *The Annals of Iowa*, 1869 \(Document\)](#)

What conflict has occurred because of transportation advancements?

- ["The Importance of the Mississippi River to the State of Iowa and the North-West," Essay from *The Annals of Iowa*, 1871 \(Document\)](#)
- [Address to State of New York to Improve and Maintain the Erie Canal, December 29, 1885 \(Document\)](#)

[*Printable Image and Document Guide](#)

Additional Resources

[Illustrated Historical Atlas of Lee County](#): This document is available through the University of Iowa Libraries and shows a map of Lee County in 1874. Lee County, which is located at the southeastern most part of the state show two transportation ports along the Mississippi River: Montrose and Keokuk.

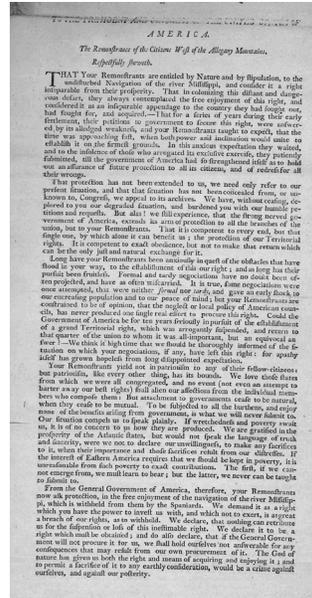
[Iowa Highway Map](#): This online resource is a detailed highway and road map of Iowa with cities and towns.

[Comparative Table of Population](#): This data set shows state population information for the United States, according to the seventh U.S. Census. The population numbers are shown from 1790 to 1850.

[Railroad Map of Iowa](#): The Iowa Department of Transportation (DOT) website has a map of Iowa's current railroads, as well as other related maps.

[Iowa Road Map](#): This map, available through the Iowa Department of Transportation (DOT), features the roadways of Iowa. The map includes highways, exit numbers, mileage between exits and points of interest.

Petition about Navigation Rights of Mississippi River, 1793



Courtesy of Library of Congress, "To the President and Congress of the United States of America..." 1793

Description

This petition from 1793 was from Americans living west of the Allegheny Mountains, which is a mountain range in West Virginia. These petitioners were concerned about navigation rights on the Mississippi River. The citizens felt that they should have free navigation of the Mississippi to help them successfully settle the country west of the Allegheny Mountains.

[Full Transcript of Petition about Navigation Rights of Mississippi River](#)

[Transcribed Excerpts from Petition about Navigation Rights of Mississippi River](#)

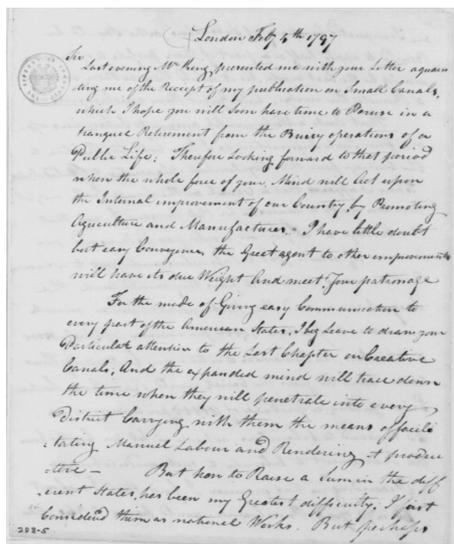
Text-Dependent Questions

- What reasons do the citizens west of the Allegheny Mountains give for wanting free navigation of the Mississippi River? How could you categorize those reasons?
- What do the petitioners imply they will do if the federal government fails to help them gain access to the Mississippi? Cite evidence from the text in your answer.
- Analyze the barriers to free navigation of the Mississippi, according to the petitioners. Recommend possible solutions to the problem.

Citation Information

"To the President and Congress of the United States of America. The remonstrance of the citizens west of the Allegheny mountains respectfully sheweth [concerning the navigation of the Mississippi]," 1793. [Courtesy of Library of Congress](#)

Letter from Robert Fulton to George Washington about Canal Building, February 5, 1797



Courtesy of Library of Congress, Fulton, Robert, "George Washington Papers, Series 4, General Correspondence: Robert Fulton to George Washington, February 5, 1797," 5 February 1797

Description

Robert Fulton wrote this letter to George Washington about 10 years before his steamboat "Clermont" changed how water transports were powered. This letter is part of a correspondence between the two men regarding the building of canals throughout a newly-established United States. Fulton predicts that if his vision came true, every American would live within 14 miles of a canal.

[Full Transcript of Robert Fulton's Letter to George Washington](#)

[Transcribed Excerpts from Robert Fulton's Letter to George Washington](#)

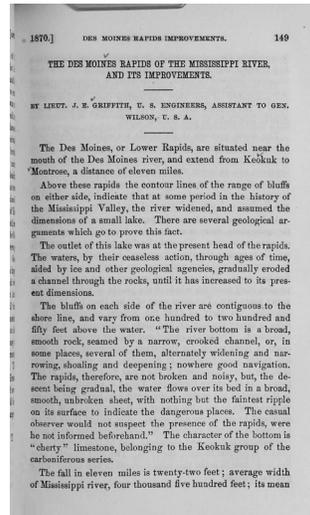
Text-Dependent Questions

- In 1797, what did Robert Fulton think was the best way for Americans to transport people and things? How can you tell? Cite evidence from the text to support your answer.
- Explain how Fulton defends his belief that systems of canals should be built throughout the country. Think about reasons some may oppose Fulton's ideas.
- What transportation modes does Fulton compare canals to? What is his opinion of those modes?
- Compare this letter to the [Railroad Map of Iowa from 1881](#). What is the more viable way to transport people and things within a state or out of state — building railroads or canals? Explain the reasons for your answer.

Citation Information

Fulton, Robert, "George Washington Papers, Series 4, General Correspondence: Robert Fulton to George Washington, February 5, 1797," 5 February 1797. [Courtesy of Library of Congress](#)

“The Des Moines Rapids of the Mississippi River, and Its Improvements” Essay from *The Annals of Iowa*, 1870



Courtesy of University of Iowa Libraries and Archives, Griffith, J.E., "The Des Moines Rapids of the Mississippi River, and Its Improvements," *The Annals of Iowa*, Vol. 1870, No. 2, pp. 149-154, 1870

Description

This essay appeared in *The Annals of Iowa* in 1870. The author gives details about canal construction to aid boats in bypassing rapids on the Mississippi River between Keokuk, Iowa and Montrose, Iowa. The author urges the completion of the canal as soon as possible to avoid the increase of costs. He also makes connections between the advancement in transportation technologies and population increases.

[Full Transcript of "The Des Moines Rapids of the Mississippi River, and Its Improvements" *Annals of Iowa* Essay](#)

[Transcribed Excerpts from "The Des Moines Rapids of the Mississippi River, and Its Improvements" *Annals of Iowa* Essay](#)

Text-Dependent Questions

- What advantages does the author see in the construction of the canal to bypass the rapids on the Des Moines River? Why might these be advantages?
- Who does the author say would benefit from improving navigation on the Mississippi River? What benefits would they receive?
- The author states that the first survey regarding this canal project was conducted in 1830. What can you infer about the factors that could influence the completion of the canal?
- What does the author predict about the workers who are building the canal? How does this prediction help to understand how transportation advancements encouraged westward settlement?"

Citation Information

Griffith, J.E., "The Des Moines Rapids of the Mississippi River, and Its Improvements," *The Annals of Iowa*, Vol. 1870, No. 2, pp. 149-154, 1870. [Courtesy of University of Iowa Libraries and Archives](#)

“A Great Work Completed” Newspaper Article, August 24, 1877



Courtesy of Library of Congress, “A Great Work Completed,” *The State Journal*, pp. 8, 24 August 1877

Description

This newspaper article appeared in *The State Journal* in Jefferson City, Missouri, in 1877. It announced the completion of a canal constructed to help boats bypass the rapids on the Mississippi River between Keokuk, Iowa and Montrose, Iowa. The article highlights the excitement surrounding the completion of the canal in the town of Keokuk.

[Transcript of “A Great Work Completed” Newspaper Article](#)

[Printable Excerpt of “A Great Work Completed” Newspaper Article](#)

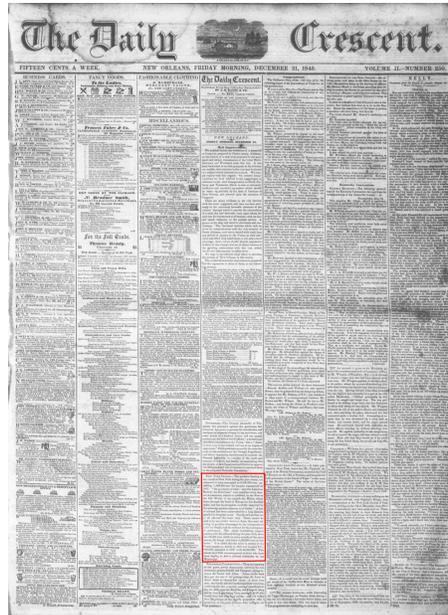
Text-Dependent Questions

- Compare this article to the [Des Moines Rapids of the Mississippi River, and Its Improvements](#). The articles were written only seven years apart, what changed during that time frame?
- The author states that the canal is “the most important [improvement] on the Mississippi above New Orleans.” Use evidence from the text to show how the author supports this statement.
- According to the article, how is the city of Keokuk, Iowa, planning to acknowledge the completion of the canal? What do these plans indicate about the importance of the canal?

Citation Information

“A Great Work Completed,” *The State Journal*, pp. 8, 24 August 1877. [Courtesy of Library of Congress](#)

“New York Canals” Newspaper Article, December 21, 1849



Courtesy of Library of Congress, “New York Canals,” *The Daily Crescent*, 21 December 1849

Description

This article appeared in a New Orleans newspaper in December of 1849. It highlights the growth of shipping on the Erie Canal and the revenue it created. The short article also compares canal shipping with rail shipping alluding to conflict between the two industries.

[Transcript of “New York Canals” Newspaper Article](#)

[Printable Excerpt of “New York Canals” Newspaper Article](#)

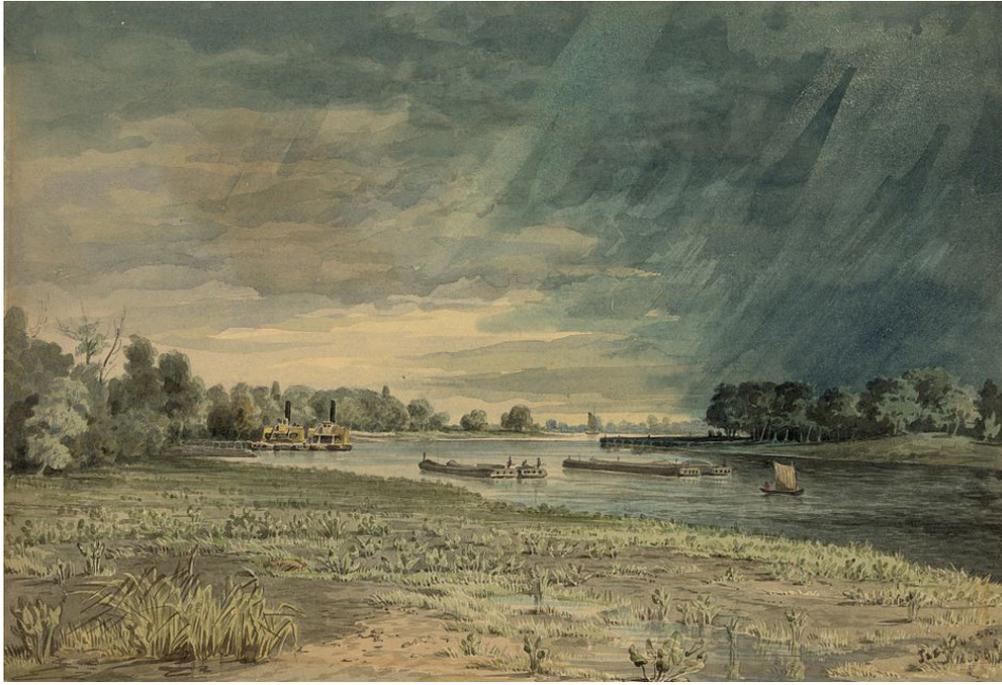
Text-Dependent Questions

- What does the author of the article use to support the quote used from *The American Review*?
- What does the author say about competition between the canal and the railroad that parallels it? How does the author’s opinion about competition between the canal and the railroad support or take away from the idea that there was conflict over advancements in transportation?
- What do the statistics the author uses tell you about the use of the Erie Canal from 1843 to 1848? Support your answer with evidence from the text.
- What does the author imply about a proposed railroad from New York to the Mississippi River? How is the implication supported by the author?

Citation Information

“New York Canals,” *The Daily Crescent*, 21 December 1849. [Courtesy of Library of Congress](#)

“From Grays Ferry Looking South,” 1858



Courtesy of Library of Congress, Queen, James F., “From Grays Ferry looking south,” 1858

Description

This painting by James Queen shows a scene on the Schuylkill River in Pennsylvania in 1858. The painting shows that many different types of boats could be used for transportation on rivers for different purposes. The painting shows two steamboats in the background and barges on the river. Sailboats also can be seen.

Text-Dependent Questions

- What forms of river transportation do you see in this painting? What does the artist’s inclusion of so many types of river transportation tell you about the importance of rivers in moving people and things?
- Think about the importance of river transportation expressed by early Americans by their [petition regarding the navigation rights of the Mississippi River](#). How does this painting help to illustrate the desires of the people who write the petition?
- Other people expressed desire to rid rivers of obstructions, as discussed in “[The Des Moines Rapids of the Mississippi River, and Its Improvements](#)” essay and “[A Great Work Completed](#)” article. Imagine how the obstructions described in those articles might affect the methods of transportation in this painting.

Citation Information

Queen, James F., “From Grays Ferry looking south,” 1858. [Courtesy of Library of Congress](#)

Railroad Map of Iowa, 1881



Courtesy of University of Iowa Libraries and Archives, Western Litho Co., 1881

Description

This 1881 map of Iowa shows the railroads that criss-crossed Iowa. Townships and counties are also shown on the map. The railroad tracks are color-coded to show the numerous rail companies that were operating in Iowa in 1881.

[Transcript of 1881 Railroad Map of Iowa](#)

Text-Dependent Questions

- Look closely at the map, each railroad company is represented by a different color. How many railroad companies were operating in Iowa in 1881? What railroad company had the most lines in Iowa?
- Locate where you live in Iowa. Do the railways that serviced your community in 1881 still exist? Use this [map of current rail lines](#) to help you answer the question. Study the 1881 map and develop a theory as to why the rail lines in your area are either still being used or have been abandoned.
- Compare this map with the [1856 map](#). What do you observe about the number of railways in Iowa? Investigate historical events between 1856 and 1881 and propose two or three reasons why the number of railways in Iowa changed over that time period.

Citation Information

"Railroad map of Iowa, 1881," Iowa Board of Railroad Commissioners, Western Litho Co., 1881. [Courtesy of University of Iowa Libraries and Archives](#)

“Great Central Route, and U.S. Mail Line” Broadside, 1856

Courtesy of Library of Congress, “Great central route, and U.S. Mail line...” 1856

Description

This broadside advertises the new central railroad route to Chicago in 1856. It highlights the shorter travel time achieved by this new railroad route. The advertisement also claims that it will help people get to all points on both the Mississippi and the Missouri rivers. The claims are supported by a map showing the railroad routes.

[Transcript of “Great Central Route, and U.S. Mail Line” Broadside](#)

Text-Dependent Questions

- According to this advertisement, what is the best reason to use this route to get to Chicago? How do you know?
- When you look at the map, where do the rail routes seem to stop? Why?
- The advertisement claims that the “Great Central Route” is the fastest way to the west. Looking at the map, would passengers be able to ride the train all the way to the westernmost point on the map? How would this information have an effect on movement westward?

Citation Information

“Great central route, and U. S. Mail line. 6 hours saved! The shortest, quickest, and in all respects the most reliable route to Chicago and all cities and towns in Michigan, Wisconsin, Minnesota, Missouri, Illinois, Iowa, Indiana, Kansas,” 1856. [Courtesy of Library of Congress](#)

C.C. Andrews' Letters about his Trip to Minnesota and Dakota Territory, 1857

LETTER II.
REGARDING THE RAIL.

Refers to the Wheeling-Des Moines group in the appendix—
The late Western-Union of the Memphis-Des Moines—
Group of routes.

St. Paul, October 1856.

How short a time it is since a railroad to the Min-
nesota was thought a wonder! And now within
the space of Illinois four terminus on its banks.
Of course I started on one of those roads from Chi-
cago to get to Des Moines. I think it is called the
Galena and Chicago Union Road. A good many
people have expressed Galena to be situated on the
Mississippi river, and indeed railroad map makers
have had it so located as long as to visit their con-
science—for they have a remarkable facility in
amalgamating distances and in making crooked ways
straight—yet the town is some twelve miles from
the great river on a narrow but straight stream.
The extent and importance of Rockford, Galena,
and Des Moines seem to me to make a strong impres-
sion on the traveler. They are towns of recent
growth, and will illustrate that steam-engine sort of
progress peculiar now-a-days in the west. After
proaching Galena we leave the region of level prairie.

Courtesy of Library of Congress, Andrews, Christopher C., "Minnesota and Dacotah..." pp. 20, 22, 25, 27, 29-30, 33, 52-53, 158-167, 1857

Description

Christopher Columbus (C.C.) Andrews wrote a series of letters on a trip to the Minnesota and Dakota (Dacotah) territories during the fall of 1856. He traveled by rail, steamboat and stagecoach from the East Coast to St. Cloud, Minnesota. His letters describe the economy and development of the territories he travels through.

[Transcript of C.C. Andrews' Letters about his Trip to Minnesota and Dakota Territory](#)

Text-Dependent Questions

Letters I and II

- To what does the author attribute Chicago's growth? Cite evidence from the text.
- Infer from the text why the author's letters would encourage people to move westward.
- How does the author's trip west reflect advancements in transportation?
- What does the author predict about the future of the West? What words does he use to tell you this? Would you say that his predictions came true?

Letters III and V

- Pretend you have received these letters personally from C.C. Andrews. Construct a response to him about his predictions about the growth of Minnesota.
- Would his words convince you to move west? Why or why not?
- Think about the modes of transportation the author used during the part of his journey and the picture his words paint. Identify what you think are the most important things he describes that would motivate people to head west.

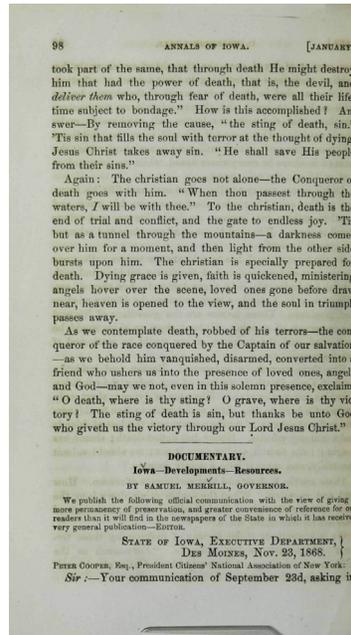
Letter XVI

- How do you think the author describes "progress?" What words does he use to justify his predictions?
- How would you describe the author's attitude toward the growth of the West? Cite evidence from the text.
- What importance does the author place on railroads? On roads? What impact does he believe these transportation innovations will have?

Citation Information

Andrews, Christopher C., "Minnesota and Dacotah: in letters descriptive of a tour through the North-west, in the autumn of 1856. With information relative to public lands, and a table of statistics," pp. 20, 22, 25, 27, 29-30, 33, 52-53, 158-167, 1857. [Courtesy of Library of Congress](#)

“Documentary. Iowa — Developments — Resources” Essay from *The Annals of Iowa*, 1869



Courtesy of University of Iowa Libraries and Archives, Merrill, Samuel, “Documentary. Iowa — Developments — Resources,” *The Annals of Iowa*, Vol. 1869, No. 1, pp. 98-104. 1869

Description

This letter appeared in *The Annals of Iowa* in 1869. It was written by Iowa Governor Samuel Merrill in response to a request from a New York man asking about what Iowa had to offer people who moved there. Merrill gives a lot of information regarding Iowa’s land, its resources and promising farm future. He also points out the importance of railroads across the state.

[Full Transcript of “Documentary. Iowa — Developments — Resources” *Annals of Iowa* Essay](#)

[Transcribed Excerpts from “Documentary. Iowa — Developments — Resources” *Annals of Iowa* Essay](#)

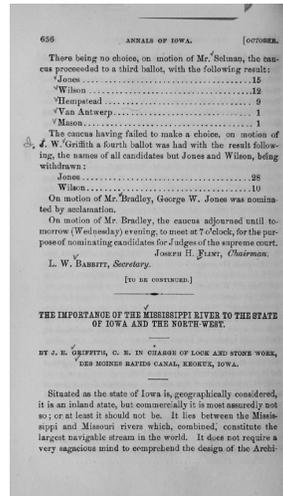
Text-Dependent Questions

- What was Governor Samuel Merrill’s purpose in writing this letter? Why do you think an important publication like *The Annals of Iowa* would decide to publish this private letter from Iowa’s governor?
- What picture do the governor’s words paint about Iowa? How might Merrill’s portrait of Iowa encourage people to move west to the state?
- What importance does the governor give to the railroads in Iowa? Cite evidence from the text.

Citation Information

Merrill, Samuel, “Documentary. Iowa — Developments — Resources,” *The Annals of Iowa*, Vol. 1869, No. 1, pp. 98-104. 1869. [Courtesy of University of Iowa Libraries and Archives](#)

“The Importance of the Mississippi River to the State of Iowa and the North-West,” Essay from *The Annals of Iowa*, 1871



Courtesy of University of Iowa Libraries and Archives, Griffith, J.E., “The Importance of the Mississippi River to the State of Iowa and the North-West,” *The Annals of Iowa*, Vol. 1871, No. 4, pp. 656-664, 1871

Description

This article appeared in *The Annals of Iowa* in 1871. The author makes the point that removing obstructions to allow full navigation of the Mississippi will benefit all states. The author points out how the cost of shipping crops via the Mississippi River versus over land would decrease dramatically, giving farmers more profit. The author lays some of the blame for high shipping costs at the foot of monopolistic railroad corporations, who can set their prices at will.

[Full Transcript of “The Importance of the Mississippi River to the State of Iowa and the North-West” *Annals of Iowa* Essay](#)

[Transcribed Excerpts from “The Importance of the Mississippi River to the State of Iowa and the North-West” *Annals of Iowa* Essay](#)

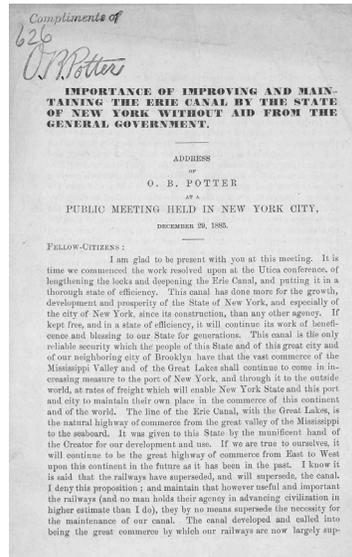
Text-Dependent Questions

- What is the author’s opinion about the railroad corporations and how they affect shipping prices? Cite evidence from the text.
- Who does the author think will benefit from clearing obstructions from the Mississippi River? How do you think these obstructions made life difficult for farmers?
- Give two or three specific examples of how the author thinks farmers will benefit if the Mississippi River were free of obstructions.
- What conflicts does the author allude to regarding funding regarding the Mississippi? What solution(s) to the conflict posed by the author do you think would be most effective? Why?

Citation Information

Griffith, J.E., “The Importance of the Mississippi River to the State of Iowa and the North-West,” *The Annals of Iowa*, Vol. 1871, No. 4, pp. 656-664, 1871. [Courtesy of University of Iowa Libraries and Archives](#)

Address to State of New York to Improve and Maintain the Erie Canal, December 29, 1885



Courtesy of Library of Congress, Potter, O.B., "Importance of improving and maintaining the Erie canal by the state of New York without and from the general government..." 29 December 1885

Description

This address in New York City in 1885 was a call urging the state of New York to maintain and improve the Erie Canal. The author claims that the canal is one of the greatest innovations in New York's history and has led to its growth and development making New York City a trading hub. The author also addresses the relationship between railroads and canals.

[Full Transcript of an Address to State of New York to Improve and Maintain the Erie Canal](#)

[Transcribed Excerpts from an Address to State of New York to Improve and Maintain the Erie Canal](#)

Text-Dependent Questions

- How does the author support the idea that improving the Erie Canal will also improve the railroads?
- What effect does the author say the Erie Canal has had on New York? On the Mississippi Valley?
- The author has written a lot about the relationship between canals and railroads. Compare this address to the ["New York Canals" newspaper article](#). How did the newspaper article characterize the relationship between the Erie canal and railroads? What differences are presented 36 years later in this address?
- Citing evidence from the text, do you think O.B. Potter believes that canals and railroads can coexist? If you were listening to Potter, would you be convinced by his argument? What questions would you ask to challenge his opinion?

Citation Information

Potter, O.B., "Importance of improving and maintaining the Erie canal by the state of New York without and from the general government. Address of O. B. Potter at a public meeting held in New York City, December 29, 1885," 29 December 1885. [Courtesy of Library of Congress](#)