

SECTION TWO: ENTERPRISE AND INDUSTRIALISATION

Why are we learning about this?

In this section, we are finding out how Andrew Carnegie, a poor Scottish immigrant, became one of the most successful businessmen in the USA, the 'King of Steel'.



Image: Andrew Carnegie (left) 16 years old, with his younger brother Thomas. By Cargo's Photographic Galleries, Allegheny City, Pittsburgh, around 1851.

2.1. First Jobs and Road to Riches

Andrew Carnegie's rise to fortune through business success happened very quickly, but like many Scottish immigrants, at first, he and his family had to face many hardships when they arrived in Allegheny, Pittsburgh, Pennsylvania, USA.

When once again, Andrew's father William had little success as a handloom weaver after the family arrived in the America, Andrew had to go to work to help support the family. Aged 12, he earned his first wage, \$1.20 (about 80 pence) a week working in a cotton factory as a **bobbin boy**. Working conditions were poor. Andrew would work 12 hour shifts, six days a week.



Image: Andrew Stefanik, a bobbin boy, Massachusetts. Photographed by Lewis Hine, 1911. Retrieved from the Library of Congress, Prints & Photographs Division, National Child Labor Committee Collection, <https://www.loc.gov/item/ncl2004002810/PP/> [Accessed June 2017]

Watch this video to learn what life in the mill (in the UK) was like:

<http://www.bbc.co.uk/education/clips/zsdw2hv>

KEY WORDS:

- * Enterprise
- * Industrialisation
- * Bobbin Boy

Task 1:

Read the text and look at the pictures above

1. Give one reason why Andrew Carnegie had to go to work to help support the family at the age of 12.
2. Describe the working conditions in the cotton factory where Andrew worked as a bobbin boy. (Mention at least two points from the passage above)

Extension Task 1/Homework:

You are a 12 year old Scottish immigrant now living in America. You have been sent to work in a textile factory. (Read source A below for additional information.)

A) Write a letter to describe a typical day's work in the factory.

OR

B) Draw a cartoon strip to describe your working day – you can use short captions.

In either case, you should include the following:

1. **Explain** why you have to work instead of going to school.
2. **Describe** what the working conditions are like in the factory, (number of hours you work in a day, the dangers involved, how much you are paid).
3. **Describe** how you feel about working in the factory.

“Boys generally started as bobbin boys. Girls were more likely to start out as spinners. [Bobbin boy’s] job was occasional work with long pauses for rest (or play) in between. Their task was to change over every bobbin on every spindle as quickly as possible so that spinning could start again.

In contrast to bobbin boy’s work, spinning was continuous work. It was considered light work in that it did not require great physical strength. But it did require endurance and constant attention. Spinners worked ten to twelve hours each day. They had short breaks when bobbin boys changed over bobbins.”

Source A: Hugh Hindman, *The World of Child Labor: An Historical and Regional Survey* (2009), pp. 474-475

2.2. Telegraphy and Morse Code

Andrew Carnegie used to say: “You cannot push anyone up a ladder, unless they are willing to climb”. With the chance to make more money and leave the cotton factory, Andrew became a messenger boy in a **telegraph** office, delivering telegrams for the salary of \$2.50 per week.

He was promoted quickly when he spotted an opportunity to impress his boss. Using his initiative and the skills he learned by memorising what he read as a boy in Dunfermline, he taught himself to translate **Morse Code** messages by ear; just by listening to the different clicking sounds that came through the telegraph key machine! Operators normally had to write down the different codes before translating a message. He became a telegraph operator, earning \$4 per week.

At the age of just 16 he was one of only three people in America able to decipher Morse Code by ear.



Image: Postal telegraph messengers, Indianapolis. Photographed by Lewis Hine, 1908. Retrieved from the Library of Congress, Prints & Photographs Division, National Child Labor Committee Collection: <https://www.loc.gov/resource/nclc.03222/> [Accessed June 2017]

KEY WORDS

- * Telegraphy
- * Morse Code

The first World Wide Web!

Electrical telegraphy is a communication method that uses a set of symbols and sounds. It was the first communication method that enabled sending messages across long distances almost instantly. For example, before telegraphy was invented, it took about a month to dispatch news and letters from Crimean peninsula (Ukraine) to London!

Morse Code was one of the many different fixed sets of symbols and sounds used to send messages via telegraph lines. It was named after Samuel F.B. Morse (1791-1872), an American inventor.

To learn more about telegraphy, watch video '**First Telegraph Message**':
<http://www.history.com/topics/inventions/telegraph> . [Accessed June 2017]



Image: The old building at the corner of Third and Wood Streets, Pittsburgh (now demolished) where Andrew Carnegie became a telegraph messenger in 1849. Photographed in 1904. Photographer unknown. ACBM collection

Task 1:

Read the passage on page 3, as well as sources A and B below to answer the following questions:

1. Working at the age of 12 as a bobbin boy, Andrew earned \$1.20 per week. How much had he increased his wage by at the age of 16?
2. Describe how Andrew Carnegie gained promotion from telegraph messenger boy to telegraph operator so quickly.
3. What made him almost unique in America when working as a telegraph operator? (In your answer, explain what advantages you think this gave him).

“It was then the practice for us to receive the messages on a running slip of paper, from which the operator read to a copyist, but rumours had reached us that a man in the West had learned to read by sound and could really take a message by ear. This led me to practice the new method [and soon I] began taking the message by ear.

The operating-room of a telegraph office is an excellent school for a young man. He there has to do with pencil and paper, with composition and invention. Knowledge is sure to prove useful in one way or another.”

Source A: Andrew Carnegie, *My Own Story* (1920), pp. 57-58

“Early Morse Code receivers made small dots and longer dashes in a paper tape that was read by a telegraph agent. However, as telegraphers became more skilled, the tapes were eliminated, and telegraph operators learned to decipher the Morse Code by ear.”

Source B: Paul B Janeczko, *Double Cross: Deception Techniques in War* (2017), p. 115

Extension Task 1:

Use the Morse Code table to below to create your own telegraph message to send. Swap your message with a partner (or another group, if task is completed as a group activity) and use the table to decipher the messages.

A	.-	J	.----	S	...	1	-----
B	....	K	---	T	-	2	--- --
C	.... .	L	....	U	...-	3	... --
D	...	M	--	V	...-	4-
E	.	N	--.	W	---	5	.....
F	... .	O	---	X	....-	6	.....
G	--- .	P	.... .	Y	--- --	7	---
H	....	Q	--- --	Z	.... .	8	---
I	..	R	... .	0	-----	9	---

Extension Task 2:

Although no longer common in Europe and the United States of America, children in many other countries are still forced to work. See section 14 (pages 60-67) of the UNICEF report to find out more. Then, complete the task on page 68 of the UNICEF report.

UNICEF Report: https://www.unicef.org.uk/rights-respecting-schools/wp-content/uploads/sites/4/2016/09/Thinking_Rights_Dec12_LR.pdf [Accessed August 2017]

These links will explain to you how child labour laws changed in the UK in the 19th century:

<http://www.nationalarchives.gov.uk/education/resources/1833-factory-act/>

<https://www.bl.uk/romantics-and-victorians/articles/child-labour>

2.3. Railroads and First Investment

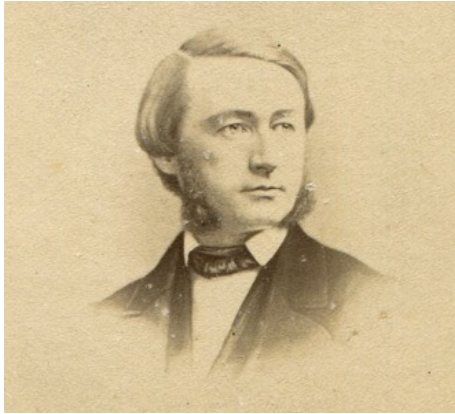


Image: Thomas Scott. Photographed by J.E. McClees, Philadelphia, around 1855. ACBM collection

Aged just 17, Andrew went to work for **Thomas Scott, superintendent** of the Pennsylvania **Railroad** for \$35 per month as his telegrapher and personal assistant. Through working with Scott, Andrew Carnegie learned all about the railroad industry and about how businesses work. He would later take over from Scott as superintendent of the railroad himself.

Scott also taught Andrew about **investing capital in the stock market**. By learning to make money work for him, he soon became rich. He invested in railroads, railroad sleeping cars, bridges and oil. At the age of 33 Andrew earned \$50,000 a year.

“[After] Father’s death, Mother kept on mending shoes, Tom went to school and I continued with Mr. Scott in the service of the railroad company. Just at this time ‘Fortunatus’ [luck] knocked at our door. Mr. Scott asked me if I had five hundred dollars. If so, he said he wished to make an investment for me. [...] I had no money saved, but I was not going to miss this chance. So I said boldly I thought I could manage that sum. He then told me that there were ten shares of Adams Express stock that he could buy.”

SOURCE A: Andrew Carnegie, *My Own Story* (1920), p.79

“I shall remember that check as long as I live...it gave me the first penny of revenue from capital. Something that I had not worked for with the sweat of my brow. 'Eureka!' I cried. 'Here's the goose that lays the golden eggs'”

SOURCE B : Andrew Carnegie, *My Own Story* (1920), p.80

Carnegie was learning a great deal from superiors like Thomas Scott about managing an organisation. But the most important lesson he learned at the Pennsylvania Railroad Company was how to use the business information he sent and received through the telegraph to make money for himself.

SOURCE C: Paraphrased from David Nasaw, *Andrew Carnegie* (2006), pp. 59-60

Task:

Read the paragraph 2.3. and sources A, B and C above.

1. Explain how Thomas Scott influenced Andrew Carnegie, helping him to early business success? (Mention at least two points from source A in your answer)
2. 'Eureka! Here's the goose that lays the golden egg' What important discovery did Andrew believe he had made about making money when he used these words? (Use source B – You may want to discuss as a class what you think the quote means)
3. In source A, Andrew Carnegie says that his first investment was just by luck ('Fortunatus'). Is this true? Was he lucky to get a job as a telegraph operator? Was he lucky to have access to business information?

Extension Task:

Create a graph showing how Andrew Carnegie's wage increased between the age of 12 and 33. This will help you see how quickly he made the journey from poor immigrant to wealthy businessman.

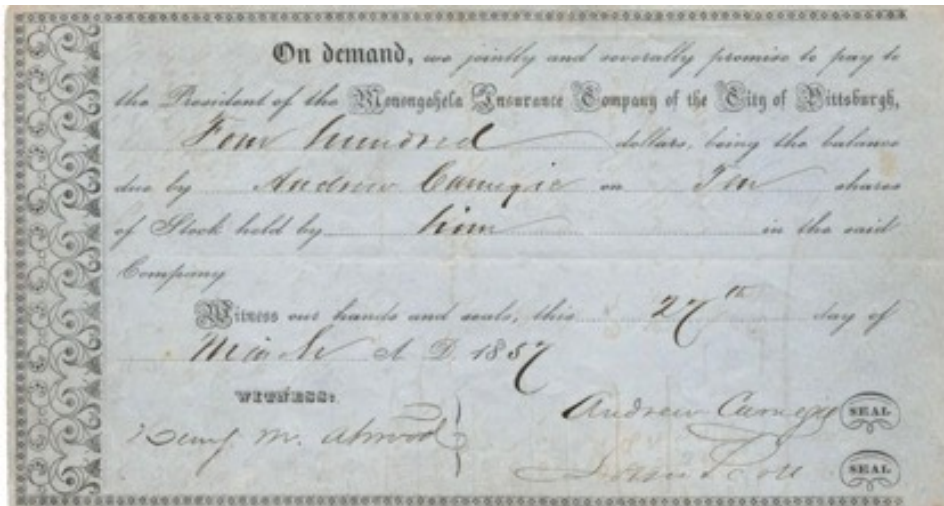


Image: Monongahela Insurance Company Stock Note, 1857. This was his second major investment after buying shares in the Adams Express Company a year earlier. Instead of spending the profits, Andrew Carnegie reinvested the money to grow his capital. ACBM collection.

KEY WORDS:

- * Investing Capital
- * Stock Market
- * Railroads

2.4. King of Steel

Once he had saved up enough money from stock revenue, Andrew Carnegie was able to set up his first business, producing iron rails for building bridges, buildings and railway tracks. Eight years later, in 1872, he met English inventor Henry Bessemer, who introduced him to a new method of making steel. The **Bessemer process** meant steel could be made quicker and cheaper than before. In 1875 Andrew formed the Carnegie Steel Company. By using the Bessemer process in his factories, he became the largest mass producer of steel in America.

Andrew Carnegie decided to focus his business interests on steel. He knew that steel would become the metal of the future: it was stronger than iron and would last longer. Steel allowed to create longer bridges and railroads, taller buildings, and stronger ships.



Andrew Carnegie believed in working hard and taking calculated risks. After many years of failures and testing different chemical formulas, he succeeded in producing steel.

Over time, by driving other iron and steel manufacturers out of business, Carnegie was able to have a **monopoly** (exclusive control) on the steel market in America.

Image: Skyscraper in New York, around 1902. Built with Bessemer Steel. Image published by the Detroit Publishing Co. Retrieved from the Library of Congress: <https://www.loc.gov/resource/det.4a09478/> [July 2017]

KEY WORDS:

- * Bessemer Process
- * Monopoly

Task 1:

Study sources A, B and C below and answer the following questions:

1. What made Andrew Carnegie believe that steel was the metal of the future?
2. According to source A, what were the advantages of the new Bessemer process as a method to make steel?
3. Look at source A and source B. Give two reasons why Andrew Carnegie was able to limit his competition and dominate the steel industry to become the 'King of Steel' in America. (You should give one reason from each source).
4. Evaluate the usefulness of source C as an example of public opinion on Andrew Carnegie's approach to business at the time.

"The man who most affected Carnegie was Henry Bessemer. The Bessemer converter allowed for mass production of steel.

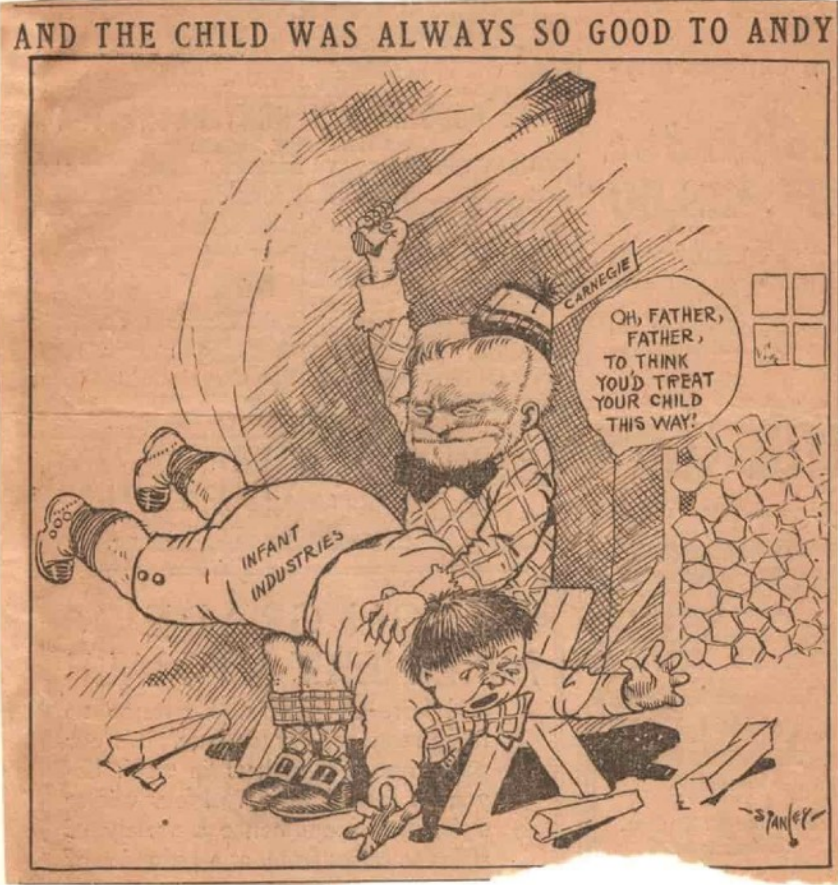
Bessemer steel represented a major breakthrough. The old furnace could produce a ton of steel in eight hours at a cost of \$300 per ton, while Bessemer converter could produce 25 tons of steel in eight hours at a cost of \$60 per ton."

Source A: Quentin R. Skrabec, Jr., *Henry Clay Frick: The Life of the Perfect Capitalist* (2010), pp. 55-56

"Carnegie's business methods also had an effect on his competitors; his ability to undercut their prices forced them to cooperate with his companies, or face being taken over by the rapidly growing Carnegie Steel."

"To keep up, other firms were forced to expand or merge. An industry dominated by small companies gave way, by the end of the century, to corporations."

Source B: Kevin Hillstrom and Laurie C. Hillstrom, *The Industrial Revolution in America: Iron and Steel* (2005), pp. 87, 89



Source C: A late-19th century satirical cartoon by Lee Stanley showing Andrew Carnegie. Source unknown. ACBM collection.

Task 2:

Andrew Carnegie is not the only person to have become very successful, despite not going to university. Find out more about these modern day people (separate handout) and answer the questions below (this can be formatted as a writing frame):

- * How old were they when they left school?
- * What was their first job?
- * How did they become successful?
- * What advice do they give to (young) people starting their careers?

Extension Task/ Homework:

Dragon's Den: Tycoon! (Class activity/groups)

- **You could have an image of the real 'Dragons' on the smart board and play the opening theme/intro!**

Andrew Carnegie was a very successful Entrepreneur. He knew how to sell his product and persuade people to buy whatever he was selling.

In groups, create your own '**sales pitch**' for your 'product' (your teacher will supply each group with a 'product' – this can be anything the teacher chooses)

On a large sheet of paper, as a group you will have to create a 'sales pitch'. You should think about including the following:

- Choose a company name
- Make up a name for your 'product' to draw attention to it
- Think up a slogan to sell your 'product'
- What makes your product unique? (what makes it stand out)
- Who is your product aimed at?
- How would you advertise your product?
- Where would you sell it?
- How much would you sell it for?

Each group must present their 'sales pitch' to the other groups (The Dragons). The groups can give feedback and a score for each presentation. You can decide how you want to score. The group with the highest score wins!

2.5. The Homestead Steel Mill Strike

Andrew Carnegie bought the Homestead Steel Mill in Allegheny, Pittsburgh, in 1883. At this time in the 19th century **Trade Unions** were still few in number. However, many of Andrew Carnegie's employees at the Homestead Steel Mill were members of the steel workers union, The Amalgamated Association of Iron and Steel workers (AA). In the past, Andrew Carnegie had expressed sympathy for workers' rights.

The Union was angry with the plans to cut workers' wages but Andrew Carnegie and his business partner, Henry Clay Frick, believed it was the only way to lower the cost of running the mill and increase the profits. The disagreement between the workers and their employers soon turned violent. However, it is clear from *The Pittsburgh Survey, Vol. 3* (1910), written by John A. Fitch, that wages in the steel industry had a long history of being unstable. The ups and downs were usually caused by major economic downturns between 1870 and 1900. Lowering wages was therefore common practice. Business owners did what they had to to keep their business running.

Why did the Strike turn violent?

Andrew Carnegie left his business partner, Henry Clay Frick in charge at the Homestead Steel mill. He relied on Frick (who was known to be strongly against the existence of organised workers unions) to break the Union strike. On 30th June 1892, Frick locked the striking workers out of the steel works and aimed to replace them with non-union workers. The confrontation between the workers and the Carnegie Steel Company lasted 143 days. It ended with a battle between the strikers and The Pinkertons (private security guards hired by Frick) on 6th July 1892.

Who was involved?

Employees at the Homestead Steel Mill (Members of the AA) **against** Andrew Carnegie, Henry Clay Frick and the Pinkerton Private Security Guards.

KEY WORDS:

- * Strike
- * Trade Union



Source A: Illustration from Frank Leslie's Illustrated Weekly magazine showing the Homestead strike 1892. Image shows the strikers' attack on the surrendered Pinkertons.

Drawn by Miss G.A. Davis, 1892. Retrieved from the Library of Congress:

<https://www.loc.gov/item/96507002/> [Accessed July 2017]

From: Pitlochry, Scotland

Sent: 7 July 1892

Cable just received. All anxiety gone since [I] know you stand firm. Never employ one [of] these rioters. Let grass grow over works. Must not fail now. You will win easily next trial, only stand firm, law & order. Wish I could support you in any form.

Source B: Transcript of a telegram sent by Andrew Carnegie to Frick. Sent the day after the Homestead battle, 7 July 1892.

Original in Helen Clay Frick Foundation Archives, 1892-1987, AIS.2002.06, Archives Service Center, University of Pittsburgh



PUCK.

PUCK SUGGESTS A SUITABLE TABLEAU FOR THE PROCESSION IN HONOR OF THE UNCROWNED KING OF THE G. O. P.

Source C: Cartoon 'Puck Suggests a Suitable Tableau for the Procession in Honor of the Uncrowned King of the G.O.P (Gross Operating Profit)' by Samuel D. Ehrhart for Puck Magazine, 1888. ACBM collection

Task 1:

Class Debate

Use sources A, B and C to research the two different points of view of those involved in the Homestead Strike.

- **THE CARNEGIE STEEL COMPANY (Andrew Carnegie and Henry Clay Frick)**
- **THE HOMESTEAD STEEL MILL EMPLOYEES**

You could, write down these points of views on A3 posters (complete as a group task) or you could create a table with headings to record their different arguments: **These will form the basis for organising your class debate.**

THE CARNEGIE STEEL COMPANY (Andrew Carnegie and Henry Clay Frick, Pinkerton Detectives	THE HOMESTEAD STEEL MILL EMPLOYEES
We had no choice but to lower wages and increase working hours because of the falling price of steel.	We are working 12 hour days, 6 days a week. A pay cut is unacceptable.

Other points to consider for class discussion following your research:

1. Where was Andrew Carnegie during the Homestead Strike?
2. What actions did he take?
3. What were the consequences of the strike for Andrew Carnegie?
4. Find out what the term 'robber baron' means.

The class, having written down and discussed the different points of view of those involved on both sides of the strike, can be split into two: One side to represent the views of The Carnegie Steel Company and the other group to represent the views of The Homestead Steel Mill Employees. This debate can be held 'in role'.

Following the debate, the class can discuss their opinion on which point of view they support. Do they think Andrew Carnegie and Henry Clay Frick could have handled the strike in a different way?

Extension Task:

Teacher-led game: Ten Chairs