

Andrew Carnegie
The Archetypal Hero of the Age

Background

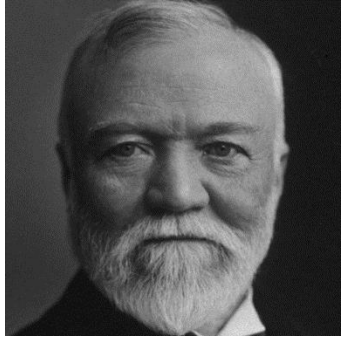


- Scotsman, a child emigrant;
- small, thin, spry
- knew hardship, lived in Allegheny slum in PA;
- 12 hour work day; \$1.50 a week;
- became telegraph messenger for Western Union; by 23, the Pittsburgh office superintendent;
- saved his money and invested it;

The Young Man



- overjoyed when he got his first dividend check for his holding in telegraph stock;
- invested in railcars and oil;
- at 28, income of \$47,860.00 of which only \$2,500 was his salary; the rest were profits on his savings;
- thought working for other people was unprofitable; looked for an enterprise where he could specialize and be his own boss;



Steel

In 1856, Sir Henry Bessemer discovered a new and efficient way of making steel. (**Bessemer Method**)

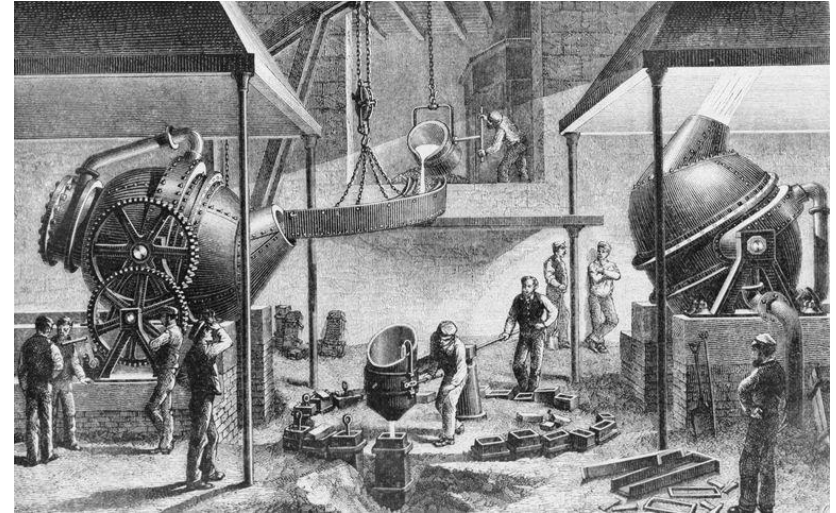
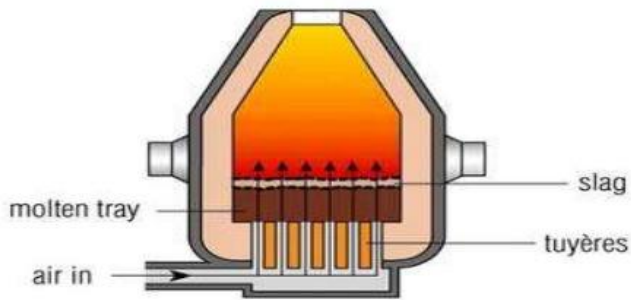
Carnegie discovered that the fundamental chemistry of these and other processes was imperfectly understood; US steel producers didn't actually know what happened inside a blast furnace; Carnegie put the lab technicians to work; **married chemistry to steel production;**

As a result, Carnegie will dominate the industry;

Bessemer Process

Bessemer process

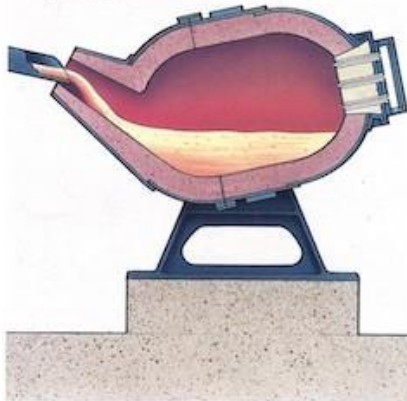
- The Bessemer process was the first inexpensive industrial process for the mass-production of steel from molten pig iron prior to the open hearth furnace. The key principle is removal of impurities from the iron by oxidation with air being blown through the molten iron.



BESSEMER'S TILTING CONVERTER

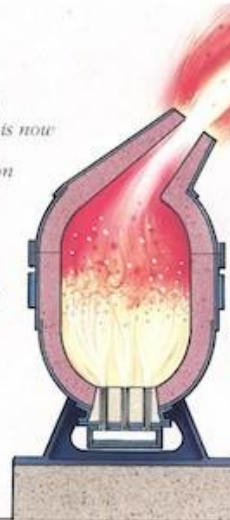
1 CHARGING

The converter is now charged with molten pig iron from another furnace.



2 THE BLOW

The converter is now turned to the upright position and air is forced up through the molten iron causing all the unwanted materials to be burned off creating pure steel.



3 TAPPING

The converter is now tipped back to its original position and the steel poured firstly into a ladle and then into different size ingots.



Steel Production Increases

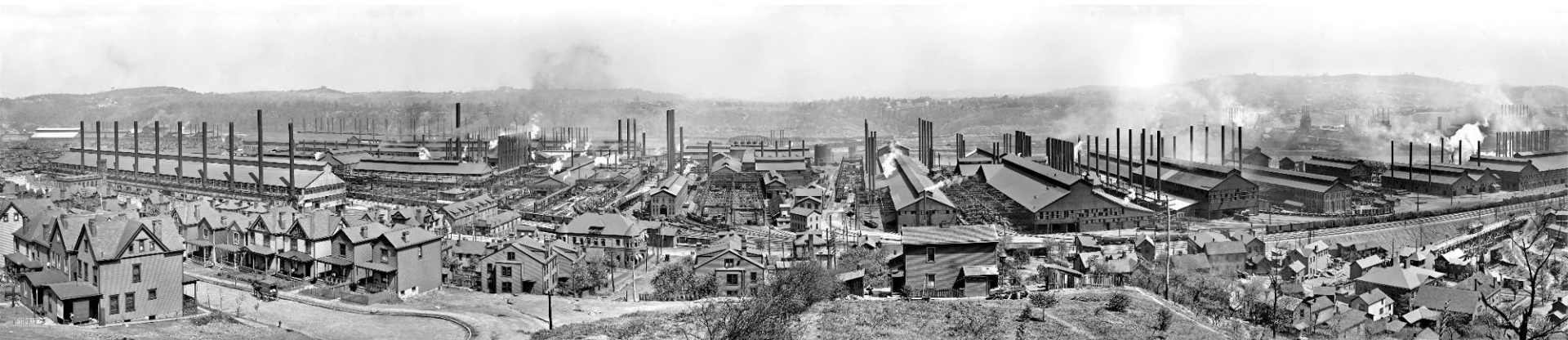
At the beginning of the Civil War, America produced no steel rails – all had to be imported.

By 1873, the US was producing 115,000 tons and steel was rapidly **replacing iron rails**.

Between 1880 and 1900, US steel production rose from 1.25 million tons to over 10 million tons annually.

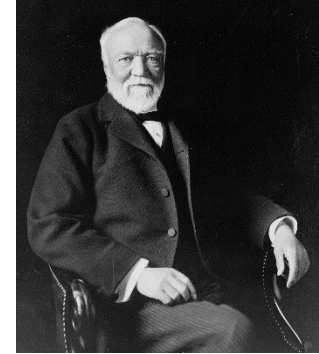
Carnegies furnaces produced **nearly 1/3 of America's output** and they set the standards of quality and price.

Carnegie Steel Mills



Blast Furnaces





Efficiency!!! Productivity!!!

Carnegie also stressed the importance of unit costs.

insisted every stage in the steel making process be properly accounted;

unit costs explain productivity(output per man-hour or capital used)

by raising productivity, you could slash prices;

Vertical Integration

The purchase of companies at all levels of production.

Pittsburgh mills



Railroads and steamships to transport



Land with Iron ore deposits

Modern World is Made of Steel

Carnegie argued that steel was at **the heart of the modern industrial economy**

If you could get steel costs down, you ultimately reduced the price of everything, and so raised living standards.

The 4,000 men at Carnegie's steel works in Pittsburgh made **three times** as much steel as the 15,000 men at the Krupps mills in Essen, Germany.

Price of steel rails from \$160.00 a ton in 1875 to \$17 a ton in 1898.

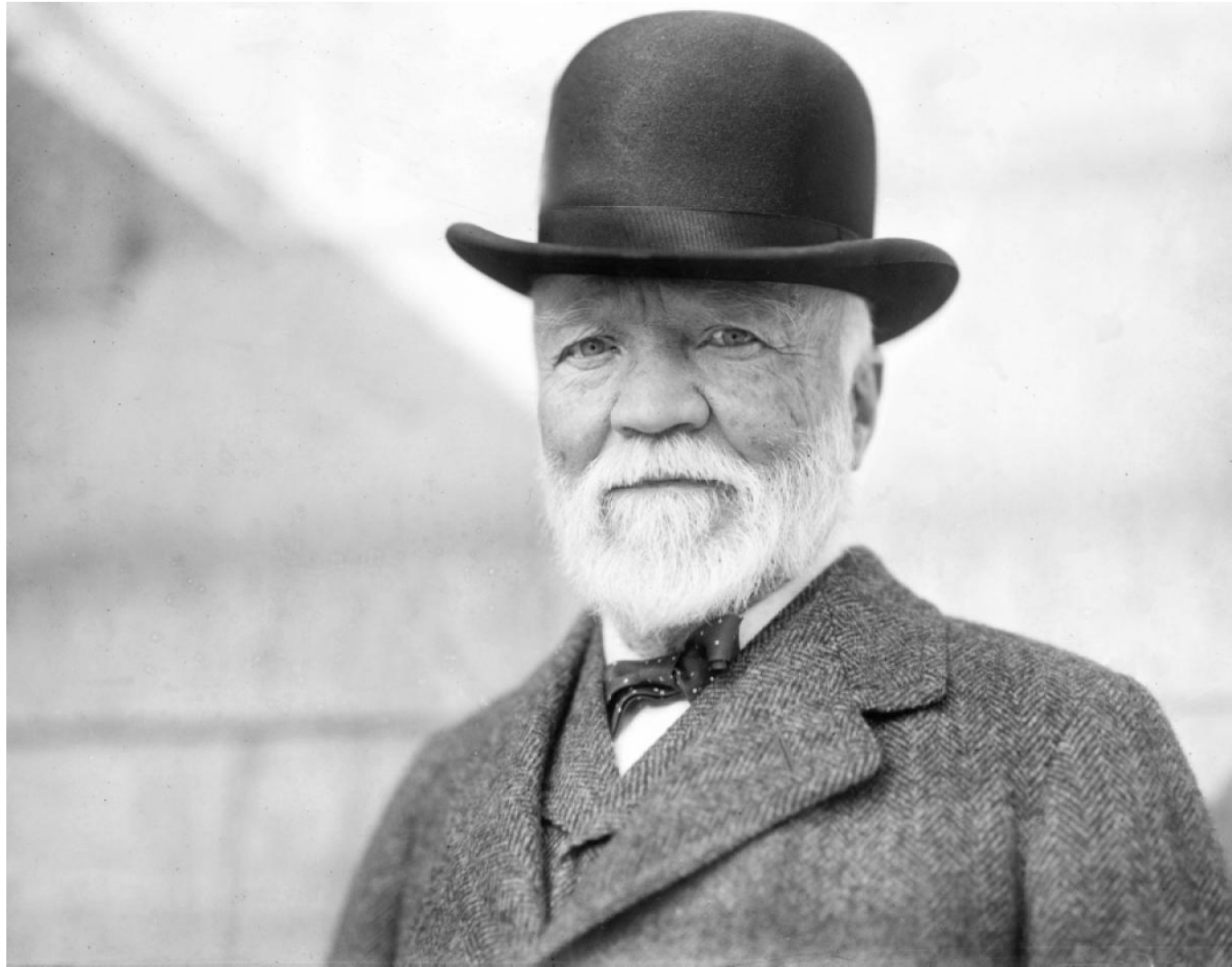
Cities and Skyscrapers

- growth of cities; **industrialization and urbanization** always go together.
- opportunities presented by the **new high-rise buildings;**
- supplied **steel girders for skyscrapers;**
- made the steel for the Brooklyn Bridge(longer spans, heavier loads)
- the modern US Navy
- nuts and bolts

Carnegie Sells

- By 1900, Carnegie Steel profits were \$40 million a year;
- 1901 sold entire business to J.P. Morgan's new giant creation – the corporation US Steel;
- Sale price: \$480 million

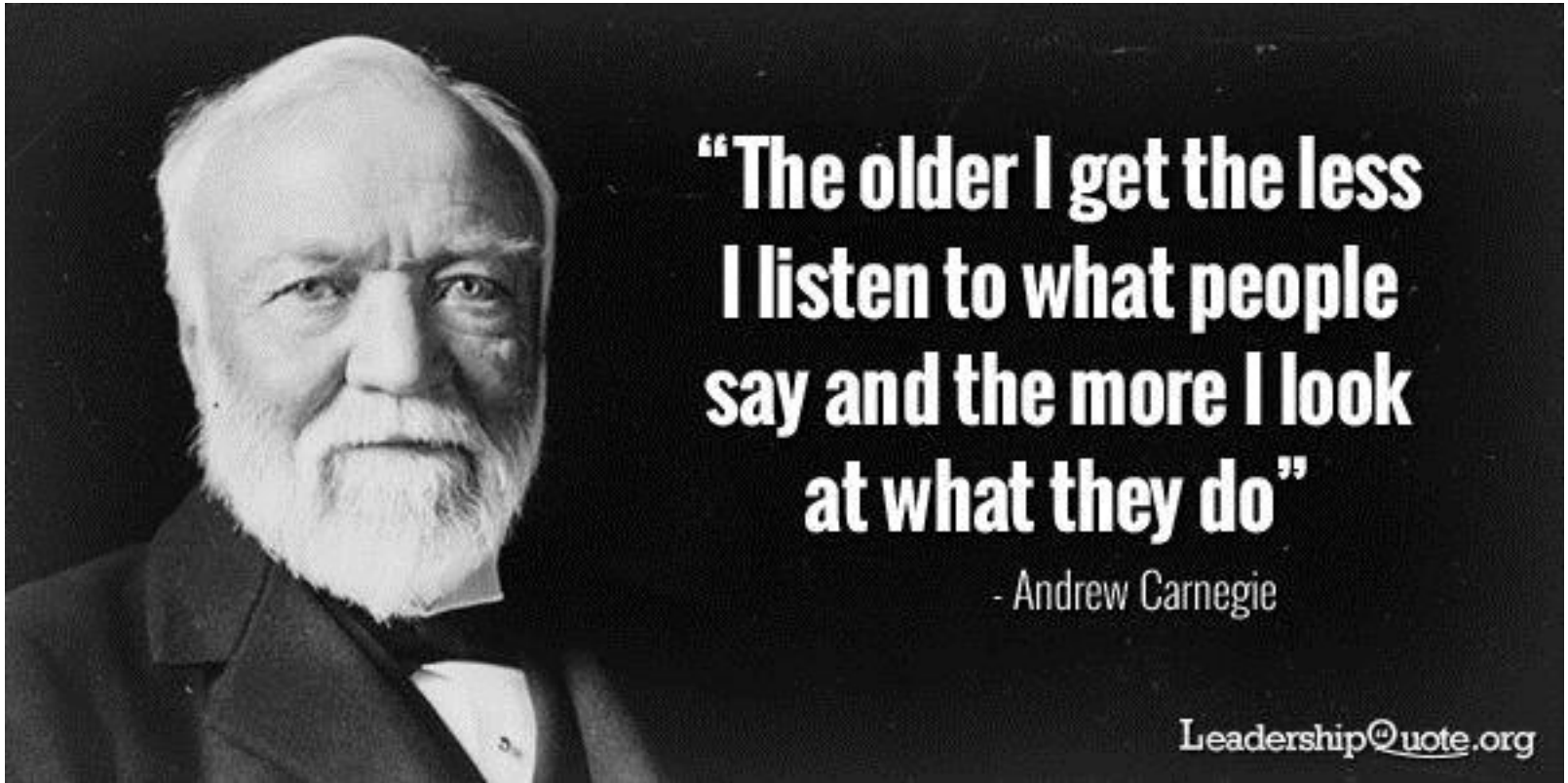
Carnegie would now focus his energies **on giving away most of his fortune.**



Managers

- Carnegie believed in hiring the very best men as his managers.
- He paid them the highest salaries.

Sayings

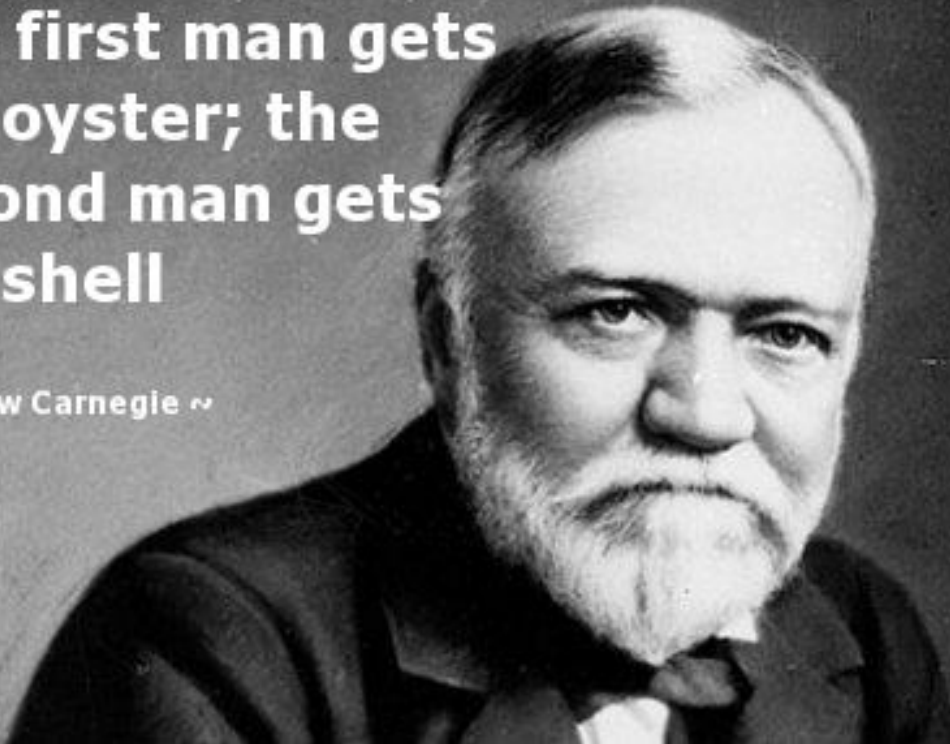


Sayings

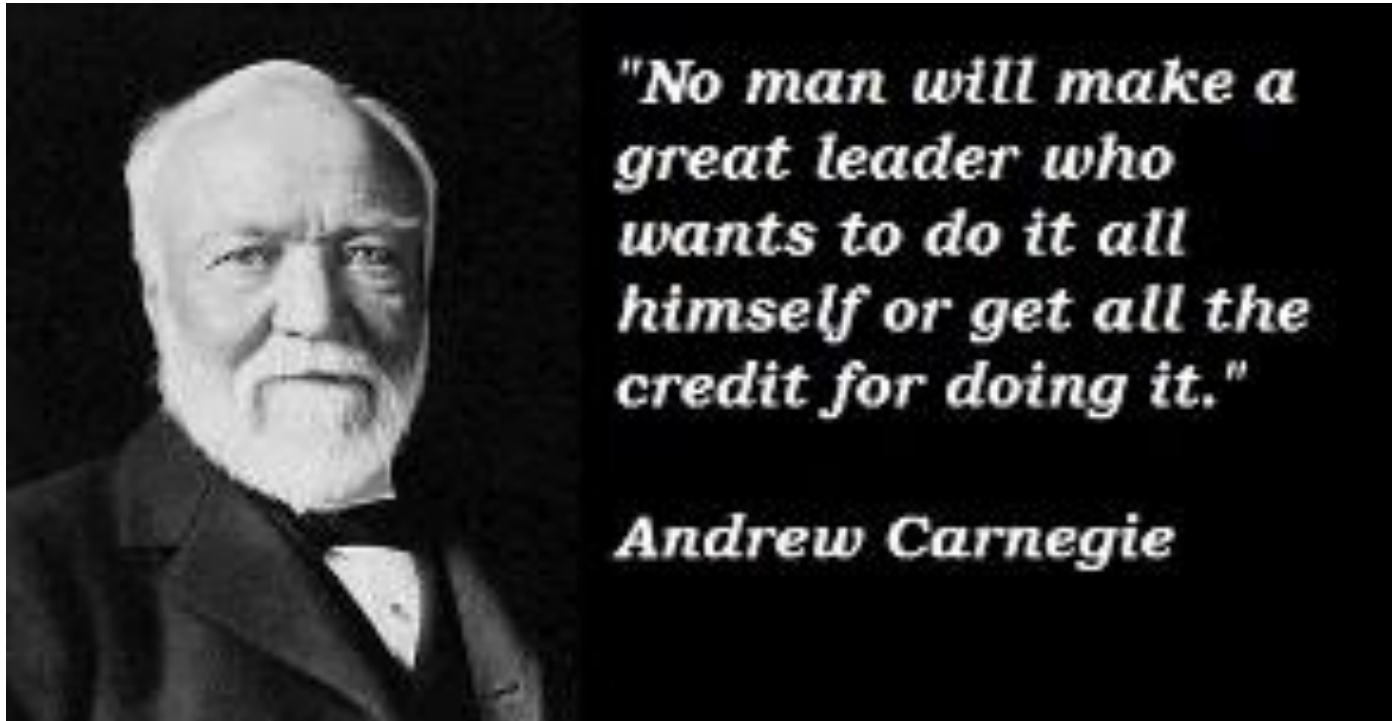
**The first man gets
the oyster; the
second man gets
the shell**

~ Andrew Carnegie ~

www.StatusMind.com



Sayings



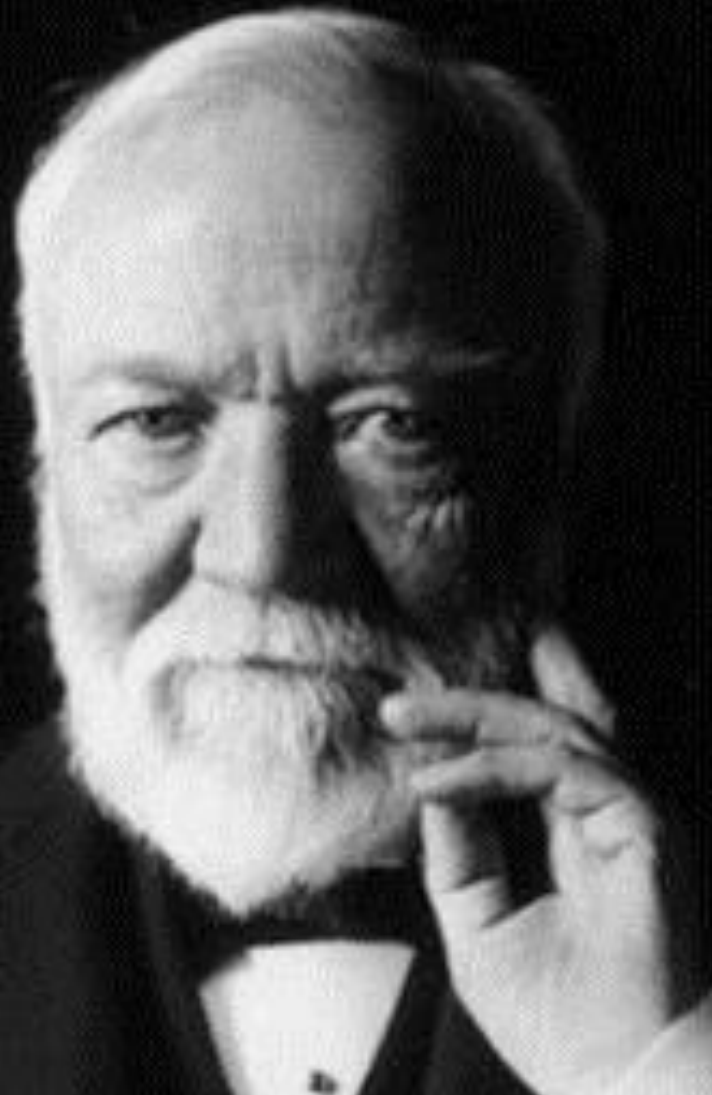
"No man will make a great leader who wants to do it all himself or get all the credit for doing it."

Andrew Carnegie

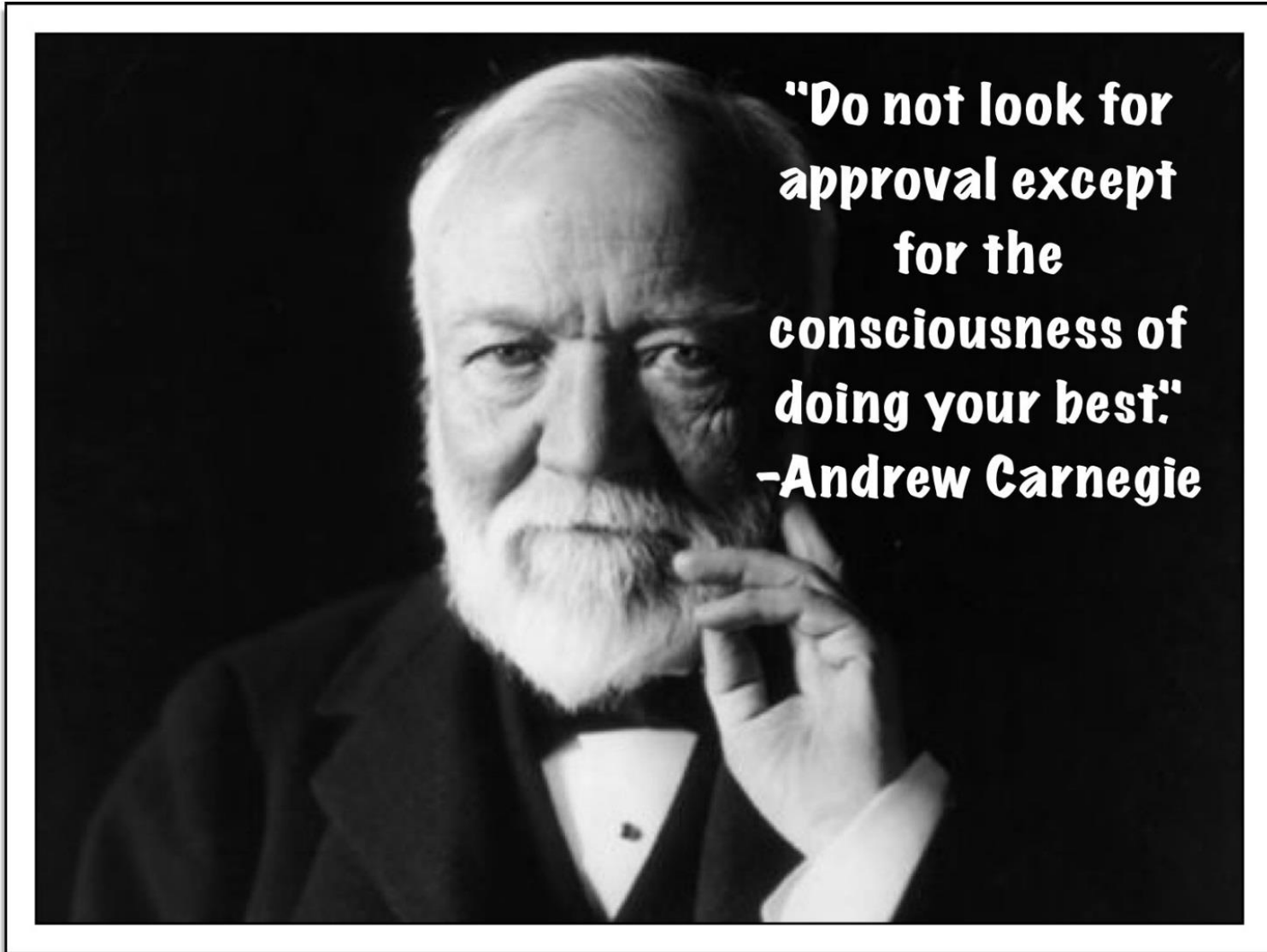
Sayings

**If you want to be happy,
set a goal that commands
your thoughts,
liberates your energy,
and inspires your hopes.
~Andrew Carnegie**

sayingsplus.com



Sayings



**"Do not look for approval except for the consciousness of doing your best."
-Andrew Carnegie**