

Relation of Invention to Progress

H. G. Tulloss - '99

Outline

Introduction
Advantages
Important Inventions
most important ones

1. Compass
2. Printing
3. Powder and Fire-Arms

Comparison, Past and Present
Conclusion

Toward some unseen goal
man's ingenuity is ever leading
him. Progress is the uni-
versal desire of the race

Nations and men eagerly grasp
every means of advancement

Wonderful are the faculties of
man but none equal in depth of
interest or scope of utility his in-
ventive genius. "To invent is

to create. To create, the prerogative
of divinity."

In physical
power man as compared the brute
creation is far inferior; but man,
by his marvellous genius, can
command the fiercest brute, or
invent tools to tunnel the very
depth of the universe. He harnesses
wind and fire, and drives them
his tireless steed over continents
and seas.

One of the most
strongly marked characteristics of the
English speaking people,

standing out prominently in their past history, and as strikingly characteristic of them to day as at any former period is their spirit of industry.

It is the spirit which brought this country to its present standing among the great powers of the world.

Perhaps no other thing has advanced civilization, or has had so much influence on the business of daily life as invention.

Invention is the lever that moves the world, and the very power that moves the wheels of industry,

the record of the painstaking labor of the great inventor who by his genius, grasps the possibilities of God's gift to man. He has contributed more to comfort, industry and progress than any other man and is too often consigned to oblivion

Already, nearly all other interests appear to cluster around invention and its results. Nearly all capital of this country is said

to be bound up in Patents or drifting in that direction.

The most useful inventions are so much a part of our every day life that we so forget that the comforts of the home, the conveniences of the merchant, the implements of the farm are due to the inventive mind of man.

We do not often stop to think how little man has or enjoys that is not the fruit of invention.

The air we breath, the water we drink, are the result of nature: but the very cup out of which we drink, and clothes and dwellings which protect us from the winter blasts, are but the results of the inventor's efforts to aid in bringing his brother to a better standing in the scale of life.

If it were not for inventions man would be existing in the same stage as he did centuries ago, without any aim or purpose in life except the immediate demands, or needs

at the present moment.

But invention has instilled within him new desires, exalted purposes, and ambition for success and progress, both for himself and his fellow comrades.

A little thought will show that invention has its origin in desire to get something new, or a desire to get something cheaply.

It was the former that actuated primitive man to increase his powers and standing, by having been the one to introduce the new article.

But as we draw nearer to the present time, the main motive in man is to get something cheaper or reap a financial benefit from his enterprise.

The poet writes the songs of a nation, the novelist her romance, the historian her records, but the inventor has a more useful mission. As an architect of nations, he lays

plans by which nations build
 The "sunrise continent" leads
 the world in two great inventions
 The compass ~~was~~^{and} the printing
 were both known among the
 Chinese, centuries before the
 Christian era. But China
 kept her compass within the
 land and printed almanacs
 with the press. Finally the
 wandering Arabs obtained the
 Chinese secret, and used the
 compass to guide them across the
 trackless desert.

Desetofore, the mariner had
 avoided with dread the vast ex-
 -panse of the ocean; but with
 this companion he launched
 boldly out, and made ~~many~~ voyages
 and discoveries, never before
 dreamed of by man.

"Within twelve years, Diaz
 doubled the cape of storms. De Gama
 found his route to the East Indies
 Columbus trod the Bahamas.
 Magellan circumnavigated

the globe: commerce was revolutionized: a new continent offered freedom from the oppressions of the old.

Had it not been for this invention, it is quite probable that we as a nation would not be occupying the place we do in history.

This country as well as many others within a few years swarmed with people seeking new homes, some for wealth and gold, then to return to their native land; but the majority went with desire to increase the advantages that God had given them, and to influence a progress unsurpassed in the history of the world.

But the invention which has so completely revolutionized man's thoughts and actions, instilled and implanted in the masses the advantages of education, demonstrated to all the world that all men were created equal and should, in accordance with

this, enjoy the same advantages of education and progress was the printing press. From the hands and brains of an inventor a new servant was introduced.

Gutenberg in the middle of the 15th century invents printing with a movable type, and the modern age is ushered in.

Within half a century, in every country in Europe presses were multiplying books.

"Without the press, the revival of learning would have languished and the reformation could not have been a fact in history;"

for to accomplish the one, intelligence must be distributed; to achieve the other, the common must read the truth.

The press having been greatly improved, it stands to day in point of utility one of the greatest inventions recorded on the annals of mankind. By slow and painful steps, nature's secrets

have been mastered. Longingly
had man gazed upon the heavens.

Wistfully had he peered into
the organism of physical life.

But the mysteries of space and
minutiae were yet unsolved.

In man's extremity Galileo
brought forth an invention
breathing the very poetry of science.

The telescope seems to have been
more of a revelation of God to man
than a creation of man's mind.

With this wonderful instrument,
the human eye is able
to sweep the boundless extent
of space, where to man's unaided
eye all is darkness, and as void
as on creation morn.

The telescope was the parent
of the microscope. By the
power of the microscope, the dark
abodes of the unseen worlds are
lighted up for our contemplation.

Organization of transcendent beauty
arouse our wonder. Wonders of
all kinds. the seas, earth, and planets

give us untold fields for study and research.

— The telescope reveals a "system in every star" The microscope reveals a world in every atom.

The one demonstrates that the world is but a grain of sand,

The other peoples that grain of sand with unseen worlds, with new life and beauty." —

For some time now man's inventive genius lies dormant with but few new inventions of any marked importance, but with the completion of such marvellous inventions as Watts steam engine.

This was but the completion of an invention which had been growing for ages, and which completely changed the machine motive power of the world, and gave the man that which he continually strives for — power —

The decade between 1830-1840 has been called the cradle of the new epoch

During this period, three of the greatest inventions marking human progress are brought to perfection, and the New Age, the age of material Progress is ushered in.

Hitherto man could only use the great streams in floating traffic down stream. But with Fulton's great invention and application of steam to the ship. Another great victory was achieved by invention, and commerce bids defiance to wind and gale and ships laden with fruits of commerce plow the seas in face of all difficulties.

(But not till Stevenson brings forth the locomotive is the full value of steam realized. Soon the nations are bound together with bands of steel, and the iron horse laden with commerce and its precious burden of human life, is speeding on its way.

Then the greatness of man's genius is realized, when we have before our eyes every day.

the marvelous deeds and work that is accomplished by the steam engine

Traffic is carried on, enormous factories propelled, machinery moved, and nearly all of man's additional powers except those given by God at his birth, are direct or indirect benefits derived from the application of steam.

It has been stated that the nineteenth century should be called the steam century, as with the beginning of this century we have the first successful application of steam and has continued in direct ratio with the succeeding years, until it has reached the present high standard in the industrial world. The close of the

century will be accompanied by a decline in the steam appliances and will be succeeded by a more efficient and useful agent—electricity.

The electric bolt, formerly a thing of fear and awe, has been chained, and its power made a servant

To day, Morse's great silent highway sends messages clicking over the wires from one end of the continent to the other, and we may, in a few seconds, find out what may have happened to our friends in a far distant land.

By means of the electric current, messages are sent diving under the deep from one continent to the other and to-day we know what happened in the Philippines yesterday, and are kept better posted in the United States regarding the exact condition of things, than the vast majority of the soldiers, who are there in actual conflict.

By it, transmission of intelligence and transactions of business have been revolutionized, and the electric current sets the locomotive aside, and "drives the train with a thread of wire".

By the mystic power of the phonograph, the words of the living even the inflexions of

their voices are recorded, and may be produced long after they are in their tomb.

The telephone enables friends separated by hundreds of miles, to carry on a conversation as if sitting side by side. The many advantages gained and the innumerable steps saved by this apparently small instrument, may be clearly seen in our own city and college.

The invention of gunpowder placed within the hands of the peasant and serf, a weapon against which the armor of the knight was of no avail. It gave might to sight, and was a potent factor in quelling forever the galling feudal yoke of Southern Europe.

But of all inventions of man's mind, the little spinning wheel, representing the greatest industry, best illustrates the relation of invention to progress: best points out that "in the warp and woof of time invention has ever woven

the golden threads of peace and prosperity."

But what if we were required to go back to the age and condition of industry from which all the marvelous inventions have resulted?

Instead of a land of plenty of refined and cultured homes, supplied with every convenience that human skill could design, instead of a country with miles of railroad tracks, with countless factories that belch forth flames of smoke and dust in producing and supplying the many needs of mankind, one which the very laws of nature themselves have made a land of wealth and plenty - Instead of all these what would we have?

Untill we are deprived of all this marked development, we cannot conceive what it would mean to be without them.

Without man's inventive genius, we would have a land of desolation

and want, one of mountains and forests, one in which would be lacking in such articles - as the telegraph, telephone, cables, monitors, hot-air engines, screw propelling boats, machine shops kitchen appliances, harvesting-machinery, subter industry, cold-storage, disease preventions and remedies, newspapers, typewriters, gas and oil explosion engines, ball and socket-joints, sewing machines, surgical instruments, carpenter's tools, fire-arms, nails, screws, axes, clocks, fire-engines, wagons bicycles, electric lights, - "monopolies and trusts" - safety-lamps, cradles photography, labor saving devices, bridges, architectural triumphs electrical carriages & etc & etc.

Can we estimate the benefits afforded by such inventions?

Can we realize what increase in power it has given to man; made greater his chances in lines of success? More than

all the warriors and statesman who have flourished since the commencement of the christian era ? Here seems to be no fear that man will exhaust the field of invention or industry, for with man's development and progress comes a corresponding increase or demand in man's needs.

Have we gleaned the truth from history ? Does she not unmistakably prove that the inventive mind of man is the greatest factor in human progress ? It is the miracle worker of the age. Such are the achievements of the past and present. —
 — What of the future ? —