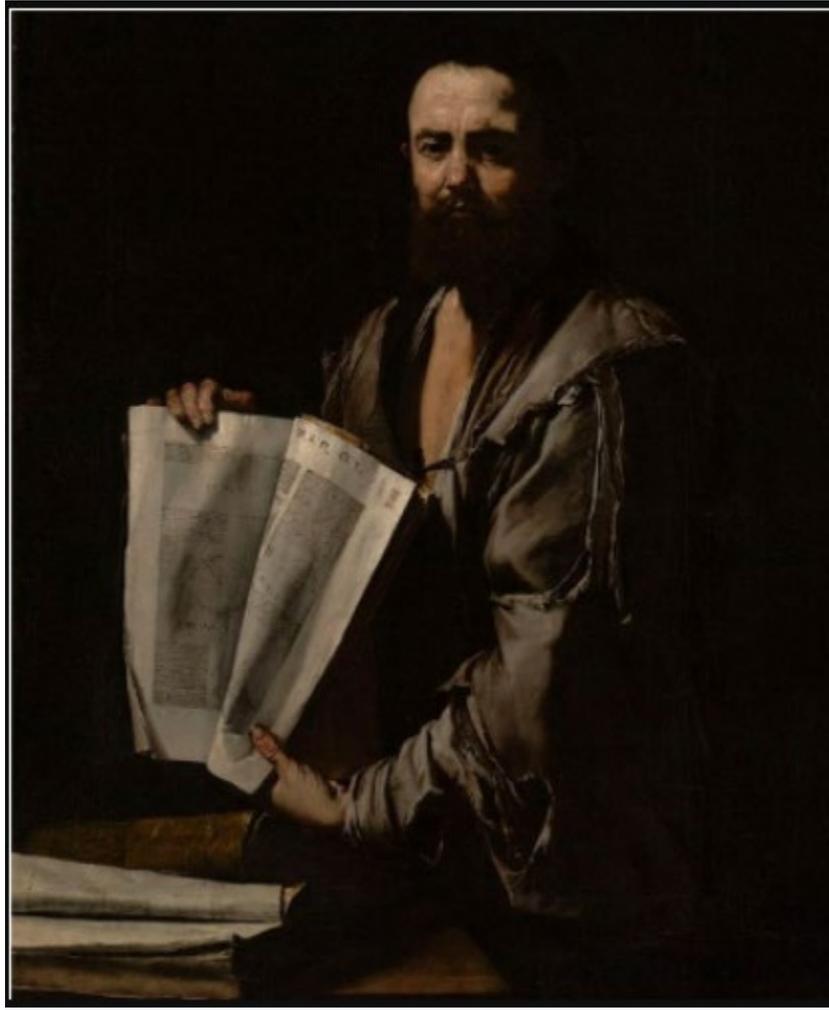The knowledge of their creation is used for existence by millions of people around the globe. They are not the only 4 known for their creative genius intelligence. What brought them in my Rushmore is:
a) their genius mind, genius wisdom beside genius intelligence,
b) it is *my* Rushmore.

Euclid

"The father of geometry", chiefly known for the **Euclid's Elements** treatise, which established the foundation, over 2,300 years ago:

Publication date	c. 300 BC

foundation of the first type of geometry, **Euclidean geometry** (see it … nicer **here**) that open the door for … **non-Euclidean geometry**!
He showed his genius wisdom when he decided on **which** axiom propositions to base his creation! I'll explain.
First, I explain Euclid's **need** to use **axioms**; he called them … **postulates**; these days there is no room for confusion using the word axiom or postulate!
WHY he needed to set at least one axiom?
As a mathematician Euclid was active as a **geometer** and **logician**. As a logician he knew the famous quote: "We cannot reason in a *vacuum*"! Euclid knew that **IF** he had a true (or false)

grammatical statement, called, in the science of logic, a **statement (logic)** or **statement** or **proposition** about a point, a line, a plane (to name a few of the elements of what it was working to create, his geometry) **THEN** he could prove the truth (or falsity) of other **statements** about its elements (point, line, plane etc.), he could have proved his **propositions**.

This is the natural way of thinking "IF - THEN" when we want to find **new** truths! So, there is a need for a **1st statement** to prove the 2nd **statement**! This is the exit from a *vacuum*!

To exit from the *vacuum*, Euclid chose not 1, not 2, but 5 **statements**, taken to be true, to serve as a premise or starting point for further reasoning and arguments, **5** *Postulates*, **5** axioms:

Postulate 1

To draw a straight line from any point to any point.

which in other words is:

Postulate 1 Through any **two points**, there is **exactly one straight line**.

Postulate 2

To produce a finite straight line continuously in a straight line.

Postulate 3

To describe a circle with any center and radius.

Postulate 4

That all right angles equal one another.

Postulate 5

That, if a straight line falling on two straight lines makes the interior angles on the same side less than two right angles, the two straight lines, if produced indefinitely, meet on that side on which are the angles less than the two right angles.

Euclid chose the **5** *Postulates* after he defined the entities point, line, plane, etc., published in:

Euclid's Elements
, his **Elements**,
not how you see them there; that is the creation of Professor of Mathematics and Computer Science **David E. Joyce**, at Department of Mathematics and Computer Science **Clark University**.
I asked Google to search for **Euclid's elements** and I picked Clark University's Professor Joyce creation.

Here are just a few of the **definitions** and **common notions** from
Book 1

Definition 1	*Definition 2*	*Definition 3*
A point is that which has no part.	A line is breadthless length.	The ends of a line are points.
point	*line*	

Definition 4
A straight line is a line which lies evenly with the points on itself.

straight line

Definition 5	*Definition 6*
A surface is that which has length and breadth only.	The edges of a surface are lines.
surface	

Definition 7
A plane surface is a surface which lies evenly with the straight lines on itself.

plane surface

A circle is a plane figure contained by one line such that all the straight lines falling upon it from one point among those lying within the figure equal one another.

circle

Rectilinear figures are those which are contained by straight lines, trilateral figures being those contained by three, quadrilateral those contained by four, and multilateral those contained by more than four straight lines.

Rectilinear figures

Parallel straight lines are straight lines which, being in the same plane and being produced indefinitely in both directions, do not meet one another in either direction.

Parallel *straight line*   ***do not meet***

Common Notions

1. Things which equal the same thing also equal one another.
2. If equals are added to equals, then the wholes are equal.
3. If equals are subtracted from equals, then the remainders are equal.
4. Things which coincide with one another equal one another.
5. The whole is greater than the part.

Let's have some fun watching another brilliant presentation of Euclid's creation, Khan Academy's "**The father of geometry**", getting this way closer to the point of Euclid's genius wisdom; so far we have seen his genius intelligence.
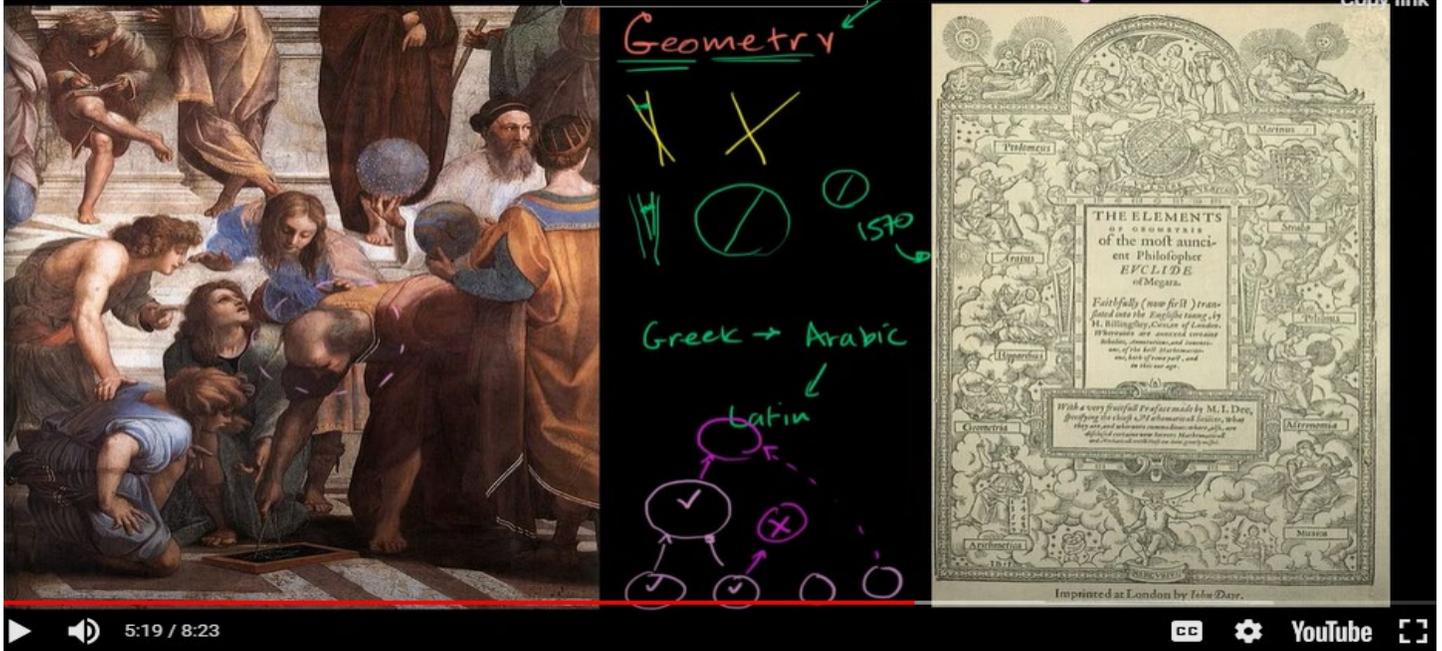
Let' stop for a few moments at `3:37` min. in the video, where *Khan starts reading Euclid's mind*, how Euclid used the **5** *Postulates* (*Khan* shows the viewer just 4 of them, hahahaa, calling them *basic assumptions*, *axioms, postulates*):

to prove the rest of Euclidean geometry propositions (theorems). You can see that, viewing until 5:19 min.

In less than 2 mins. Khan explained *the mechanism* of Euclidean geometry.

Here are **two examples** that completes Khan presentation showing how Euclid used his postulates, the foundation of his creation to prove something new.
The first one, the **proposition** "If two lines **intersect**, then they intersect in only **one** point" must have been proven somewhere (I could not find where) in Euclid's Elements because is

not one of the 5 *Postulates* and it is everywhere in Euclidean geometry. Here I will prove it! I am not sure, Euclid or my math teacher in geometry class proved it for me, using for proof only **one** of Euclid's postulates and the form of proof called **proof by contradiction**.
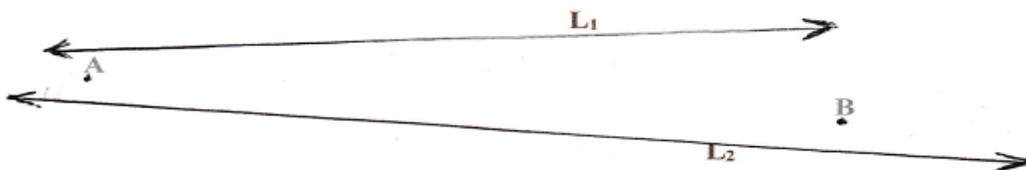
   1) **Proposition**: If two lines **intersect**, then they intersect in only **one** point.
Given:
a) two lines L_1 and L_2.
b) L_1 and L_2 **intersect**, they have **common** points.
Proof:
Suppose they intersect in two (or more) points. So, there are two points somewhere **A & B** such that points **A** and **B** $\in (L_1 \cap L_2)$; easy to imagine:

Then **A & B** are elements of L_1. Also, **A & B** are elements of L_2.

Postulate 1 does not explicitly say so, there is a **unique line** between the **two points**

A & B, but that's exactly what **it says!**
So, L_1 and L_2 are the **same line.**
What it was supposed for **Proof**, that L_1 and L_2 intersect in **two** points, concluded with L_1 and L_2 are the **same line**, which **contradicts** what was **Given**: a) **two** lines L_1 and L_2.

So, assuming that L_1 and L_2 intersect in **two** points, the **falsity** of what we want to prove "they intersect in only **one** point" and proving that this leads to a **contradiction**, L_1 and L_2 are the same line, proves, , the **Proposition**:

<div align="center">If two lines **intersect**, then they intersect in only **one** point.</div>

<div align="center">**Q.E.D.**</div>

Without *Postulate 1* this proposition would **not** exist, nor would all the others that used it for **proof**s.

2) **Proposition**: Given a straight **line**, and **a point** not on that line, there is only **one** straight line through that point **parallel** to the given line.

Given:
a) BC straight line.
b) point A not on that line.

Proof:

I just copy it from Proposition 31:

1) *Postulate 1*, **I.Post.1**
2) Proposition 23, **I.23**
3) *Postulate 2*, **I.Post.2**
4) Proposition 27, **I.27**.

All four, 2 postulates and 2 propositions, are together in Proposition 31!

<div align="center">**Q.E.F.**</div>

Without those two *Postulates* this proposition would **not** exist, nor would all the others that used it for **proof**s. Any geometry teacher can show you how Euclid used each *Postulate* to prove a Proposition!

I would like to show you something about *Postulates* that I hope will make you laugh with joy!?

Postulate 5 says exactly what **MathByThePioxel** shows about EUCLID'S 5TH POSTULATE (using the terminology lines intersect for having **common** points; *Euclid* used lines **meet**):
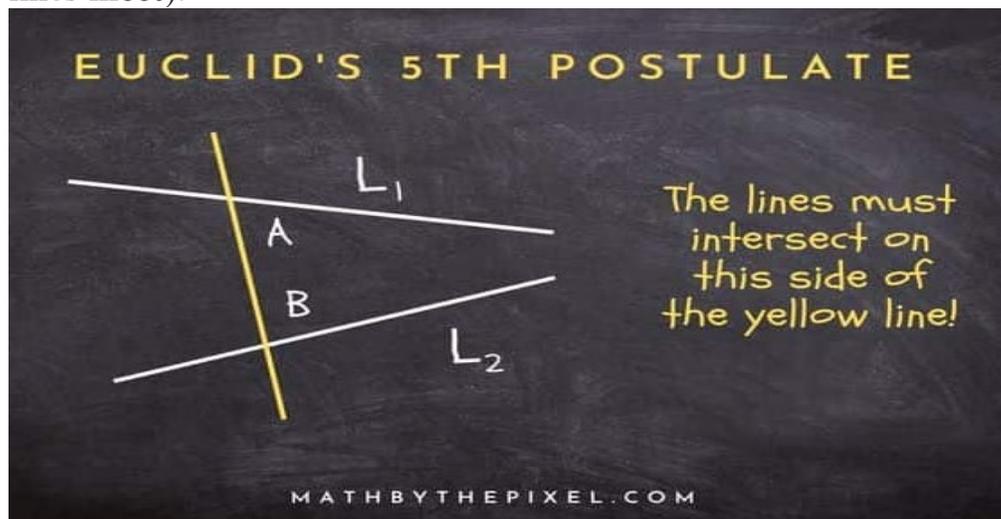
But, **MathByThePioxel** also says that exist a

Such a **P A R A L L E L   P O S T U L A T E** does **not** exist:

Let the following be postulated:

Postulate 1.
 To draw a straight line from any point to any point.

Postulate 2.
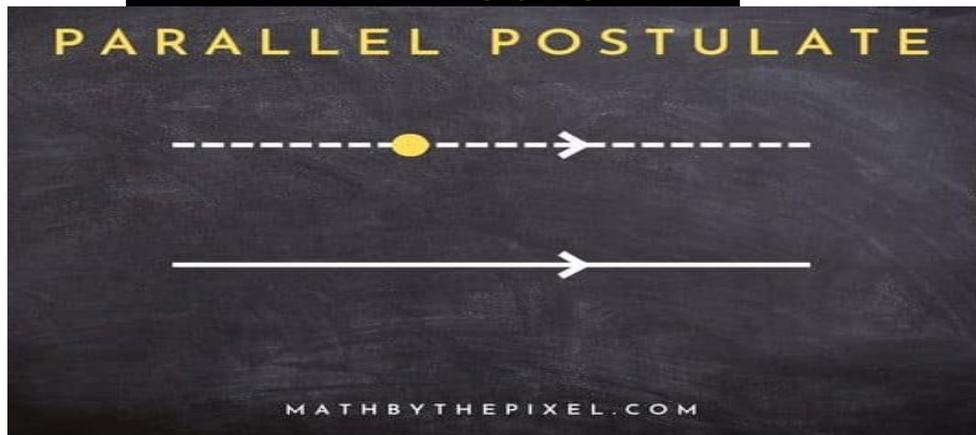 To produce a finite straight line continuously in a straight lin

Postulate 3.
 To describe a circle with any center and radius.

Postulate 4.
 That all right angles equal one another.

Postulate 5.
 That, if a straight line falling on two straight lines makes the
 less than the two right angles.

What created this confusion, "**parallel postulate**" for **parallel lines**?
Proposition 31 says:

 *To draw a straight line through a given point **parallel** to a given straight line*

Euclid develops the theory of parallel lines in propositions through Proposition 31 which means:
 "Given **a point** and **a line**, there is only **one line** through that point **parallel** to the given line".

The Proposition 31's *Guide* explains why **I.Post.5** is called the "**parallel postulate**".

This is why *Postulate 5* is called the "**parallel postulate**" because it can be used to prove

the properties of **parallel lines**.
 "Given **a point** and **a line**, there is only **one line** through that point **parallel** to the given line"
is a **proven proposition** NOT a Postulate, axiom, how a lot of *experts* calls it!
MathByThePioxel excluded from those *experts*, it helped clarified!
Did that make you laugh with joy?
If yes, then you might do it again: if you know somebody that wants to make a living using
Geometry than recommend David's creation: **Euclid's Elements**!
All:
***Definitions**
***Postulates**
***Common Notions**
***Propositions**
are linked like in a nice **Love story.**
IF it's a nice young girl / boy, she / he might ask to **marry you**!

<div align="center">

Here is the postulates *problem*,

which shows us Euclid's genius wisdom beside his genius intelligence**!**

</div>

IF a **single** postulate chosen by him, truth **accepted without proof**, at some point in the construction, or later use of his geometry was **NOT** true, **THEN** the whole system, the whole of Euclidean geometry, **would have collapsed**!

It did not happen, thus proving the genius wisdom of Euclid and placed him in *my* Rushmore!

<div align="right">

Q.E.D.

</div>
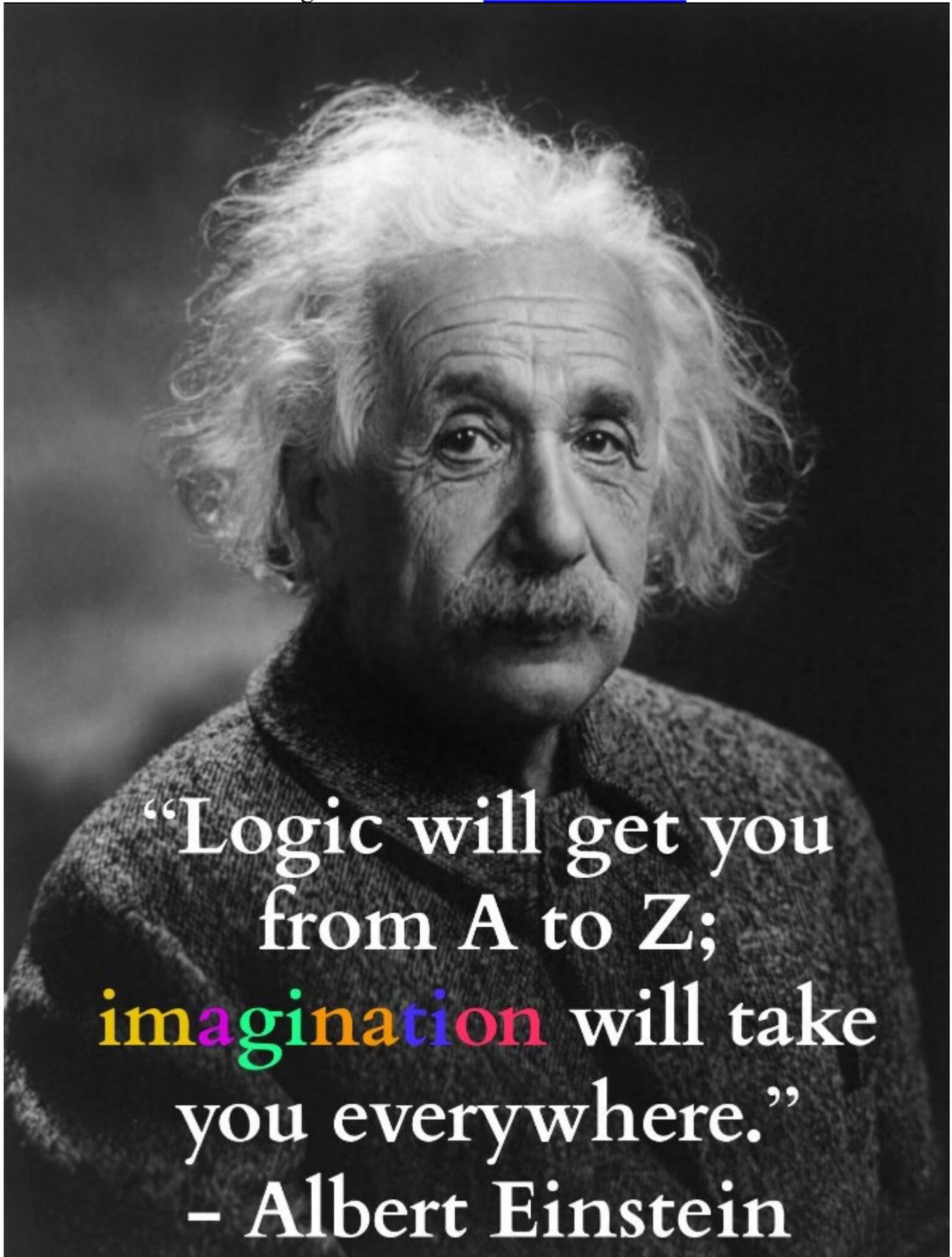
"Logic will get you from A to Z; imagination will take you everywhere."
– Albert Einstein

Albert Einstein's **name** has become a synonym for **genius**: discoverer, educator, revolutionary and creative, **Albert Einstein: an infinite influencer – Campaign**!

Once he said: "Any intelligent fool can make things bigger and more complex… It takes a touch of genius – and a lot of courage to move in the opposite direction."

His [mass–energy equivalence](#) formula **$E = mc^2$**, which arises from relativity theory, has been called "**the world's most famous equation**" which states that **energy** and mass (**matter**) are the same thing, just in different forms!

Here are some interesting facts about Albert Einstein's life, you can read them now or later:

[Einstein House](#) · **[Elsa Einstein](#)** · **[Einstein family](#)** · **[Religious and philosophical...](#)**!

But this **[Fact](#)** you better read it now and from here let's go to **[The Nobel Prize in Physics 1921](#)**:

* The Nobel Prize in Physics 1921 was awarded to Albert Einstein "for his services to Theoretical Physics, and **especially** for his discovery of the law of the **photoelectric effect**".

"Albert Einstein received his Nobel Prize one year later, in 1922. During the selection process in 1921, the Nobel Committee for Physics decided that none of the year's nominations met the criteria as outlined in the will of [Alfred Nobel](#). According to the Nobel Foundation's statutes, the Nobel Prize can in such a case be reserved until the following year, and this statute was then applied. **Albert Einstein** therefore **received his Nobel Prize for 1921 one year later, in [1922](#)".**

His **[mass–energy equivalence](#)** formula **$E = mc^2$**, which arises from relativity theory, has been called "the world's most famous equation"!

That's why Albert Einstein is in your Rushmore you wonder? There are hundreds of scientists with [Nobel Prizes in Physics](#); why Albert, not the winner of … **two** Nobel Prizes **[John Bardeen](#)**?

I entered alone *in the mouth of the world*; I must come out alone!

Since Einstein concluded that mass (**matter**) and **energy** are the same thing, just in different forms, his imagina**tion** led him to wonder **if** somehow, somebody were to find matter (**substance**) and the **process** by which substance can be *converted* in **energy**, **then** how much energy will result? He proved that a quantity **m** of a substance will generate that much **energy**: **$E = mc^2$**, where **c** is the **[speed of light](#)** [**c** = 299,792,458 meters per second (approximately **300,000,000 m/sec.**; 186,000 miles per second; 671 million miles per hour].

In 1905, in the scientific journal **[Annalen der Physik](#)**, in the fourth of the four papers considered *[Annus mirabilis](#)* papers, Einstein first published what became the famous equation **$E = mc^2$**!

A few physicists immediately calculated that **1** kilogram of a substance will generate approximately $E = 1 * 300{,}000{,}000^2 = [3 * 10^8]^2 = 9 * 10^{16}$ Joules. They could not even imagine how much energy is that, close to ∞ energy, but next day they were working to find the substance and the process that can *convert* it in energy!

[Robert Oppenheimer](#), **[Enrico Fermi](#)** and [a lot more](#) other physicists found the **[substances](#)** and **[processes](#)** to **[convert](#)** mass in energy, nuclear **[fission](#)**, nuclear **[decay](#)** and nuclear **[fusion](#)**.

Einstein hoped that $E = mc^2$ will open the doors only **[for the good](#)**!

40 years after he published in **1905** *the famous equation*, "**[Little Boy](#)**" and "**[Fat Man](#)**", in **[6 and 9 of August 1945](#)** proved that $E = mc^2$ is the result of his imagina**tion** at its best, but **not** only for the good!

The relationship between Oppenheimer, often called "*father of the atomic bomb*" with Einstein is best described here:

Albert Einstein and J. Robert Oppenheimer were both prominent physicists, but their relationship was not very close. They did meet and communicate on a few occasions, but they were not collaborators or close associates.

Albert's **imagination** from 1905 became a reality **40 years later**, thus proving Einstein's genius wisdom; that's why he is in *my* Rushmore!

Q.E.D.

Larry Page and **Sergey Brin**

1) *Without* Larry Page and Sergey Brin, you would **not** be reading this book and many more!

2) *Without* Larry Page and Sergey Brin, you would **not** know this ***History of Algebra*** and this ***History of Zero***, because no one but Larry and Sergey would bring them to you from the bottom of the net!

3) After many sleepless nights searching for *the kernel*, the nucleus of … **Google**, God gave Larry a ***dream in his sleep***: "What if **we could download** the **whole web**, and just **keep** the **Links …**"! Larry knew that When a really great dream shows up **grab it!** He woke up from his dream and **grabbed a pen and started writing!** Larry shared his dream with Sergey and then:
   "Larry came up with the concept of **weighted ranking,**
   Sergey figured out the ***PageRank* math".**

4) Only Larry Page and Sergey Brin's **Google** could allow ***Arthur Blessitt*** to show us how he did what he did to be a **Guinness record holder**!

What Arthur Blessitt did inspire millions of people to know they are not alone and somebody loves them:

"At the Cross the Worst of Man met the Best of God"

The Longest Walk! This is the 56th year of me carrying the cross around the world in every nation. 1968-2023. The Guinness World Record for the longest walk/pilgrimage. Over 43,340 miles (69,748 km) in 324 countries, island groups & territories. 86 million steps and over 19 billion pounds of total weight carried. Sharing Jesus, the cross and the gospel message. My wife Denise has driven in front with supplies and has been with me in 294 countries. We are just pilgrims, donkeys lifting up the cross and Jesus. God bless you.

Also, what he did inspired someone to *steal from the web* everything he thought was aiming for a new Guinness record; you will see him in a few minutes!

Here is what we do not need to believe happened, but rather … watch:

The Cross, The Arthur Blessitt Story, posted by Arthur and Denise Blessitt.

The rest is history!

Thanks Larry, thanks Sergey, this work shows that thanks to both of you

"I am a **FREE MAN**"!