

# History Of World Wars

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## Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>The Struggle</b>	<b>2</b>
<b>3</b>	<b>Later Years</b>	<b>5</b>

## 1 Introduction

World War II or the Second World War, often abbreviated as WWII or WW2, was a global conflict that lasted from 1939 to 1945. The vast majority of the world's countries, including all of the great powers, fought as part of two opposing military alliances: the Allies (lead by the Soviet Union, United Kingdom, United States and China) and the Axis (lead by Germany, Japan, and Italy). Many participants threw their economic, industrial, and scientific capabilities behind this total war, blurring the distinction between civilian and military resources. Aircraft played a major role, enabling the strategic bombing of population centres and the delivery of the only two nuclear weapons ever used in war.

World War II was by far the deadliest conflict in human history; it resulted in 70 to 85 million fatalities, mostly among civilians. Tens of millions died due to genocides (including the Holocaust), starvation, massacres, and disease. In the wake of the Axis defeat, Germany and Japan were occupied, and war crimes tribunals were conducted against German and Japanese leaders.

## 2 The Struggle

The concept of analogy was initially used in mathematics, more specifically in the plane geometry studies in order to designate an identity of proportions, relations between terms. In the Pythagorean School, the term analogy designated a proportion be it arithmetic or geometric or harmonic:

“Une proportion est arithmétique quand le premier terme excède le second, autant que le second excède le troisième ( $a-b = b-c$ ), géométrique quand le premier se rapporte au second comme le second au troisième ( $a/b = c/d$ ), harmonique quand le premier excède le second par une partie de lui-même, et le second le troisième par le même partie ( $a-b = a/x$ ,  $b-c = c/x$ )” (Paris).

“3. A ratio is a sort of relation in respect of size between two magnitudes of the same kind 4. Magnitudes are said to have a ratio to one another which can, when multiplied, exceed one another. 5. Magnitudes are said to be in the same ratio, the first to the second and the third to the fourth, when, if any equimultiples whatever are taken of the first and third, and any equimultiples whatever of the second and fourth, the former equimultiples alike exceed, are alike equal to, or alike fall short of, the latter equimultiples respectively taken in corresponding order. 6. Let magnitudes which have the same ratio be called proportional. 7. When, of the equimultiples, the multiple of the first magnitude exceeds the multiple of the second, but the multiple of the third does not exceed the multiple of the fourth, then the first is said to have a greater ratio to the second than the third has to the fourth” [3]

”Socrates And now I will endeavour to explain to you more clearly what I mean: The soul and body being two, have two arts corresponding to them: there is the art of politics attending on the soul; and another art attending on the body, of which I know no single name, but which may be described as having two divisions, one of them gymnastic, and the other medicine. And in politics there is a legislative part, which answers to gymnastic, as justice does to medicine; and the two parts run into one an-

other, justice having to do with the same subject as legislation, and medicine with the same subject as gymnastic, but with a difference [...]. Cookery, then, I maintain to be a flattery which takes the form of medicine; and tiring, in like manner, is a flattery which takes the form of gymnastic, and is knavish, false, ignoble, illiberal, working deceitfully by the help of lines, and colours, and enamels, and garments, and making men affect a spurious beauty to the neglect of the true beauty which is given by gymnastic. I would rather not be tedious, and therefore I will only say, after the manner of the geometricians (for I think that by this time you will be able to follow):

as tiring : gymnastic :: cookery : medicine;  
or rather,  
as tiring : gymnastic :: sophistry : legislation;  
and  
as cookery : medicine :: rhetoric : justice” [4]

Speaking, in *The Republic*, about the “Absolute Good”, the great philosopher does not define Good directly, but uses an analogy: what is the sun to the surrounding world in relation to perception and the objects of perception, so is the Good to the world of ideas and objects connected to this idea. The Sun is the source of light and Good is the source of truth and knowledge. Sun is not the same as light, as well as Good is not the same as truth and knowledge. Both the Sun and the Good outweigh the effects they produce.

The analogical principle will be increasingly used in the allegories of *The Cave*, *The Sun* and *The Divided Line*, real “focus points” of this method which, in fact, is present everywhere in this work. Thus, besides the analogy with Sun, “the child of the Good”, we have the analogy with Line divided into four divisions (the four forms of knowledge that correspond to the four levels of being), the analogy with Cave (philosophy “makes the soul return” to the contemplation of the Good, but after having contemplated enough, the philosopher must “go back into the cave” in order to rule the city) or fundamental analogy between the individual’s soul and the City, the State, as well as between the character-

logical constitution of the first and the political constitution – ” Politeia ” – of the second (man, his soul, is like a fortress in that it can be like this: free or subject to bondage)[5]

In the dialogue called Timaeus, Plato, following in the footsteps of the Pythagoreans, sets up a coherent system of explaining the world: for him, the Universe is created by the participation of four bodies to which correspond the essential elements: earth, fire, air and water; out of the earth, to be solid (the cube); out of fire, to be observable (tetrahedron); out of water (icosahedron) and out of air (octahedron), so that there should be a harmony as a result of proportion. Chaos was a part of the universe where reasoning was missing, where the elements had no ratio and individualized, they were floating – already made up – in firmness, but the whole did not yet take any shape. The one who starts the order of the world is the Demiurge. By the correspondence between objects and elements that he initiated, gave an impetus to order, making the elements become participating because he gave them shape and ordered them by using numbers. Plato seeks the connecting relation of the elements that cause so much harmony in Universe and he finds it in what is called the golden section which represents the basis for the ”Divine Proportion”:

“God placed water and air in the mean between fire and earth, and made them to have the same proportion so far as was possible (as fire is to air so is air to water, and as air is to water so is water to earth); and thus he bound and put together a visible and tangible heaven. And for these reasons, and out of such elements which are in number four, the body of the world was created, and it was harmonised by proportion, and therefore has the spirit of friendship; and having been reconciled to itself, it was indissoluble by the hand of any other than the framer”[6]

### 3 Later Years

The dispute between the Analogists and Anomalists will also reach Rome, where "the controversy" will not only be continued, but also commented on by the Latin grammarians, and, of these, we mention Varro (116- 27 BC), a famous encyclopedist and man of letters, the first important author in Latin linguistics, who presents the dispute in three of the books of his work entitled *De lingua latina* (On the Latin language) one of the main sources of the details as regards the controversy between the Analogists and Anomalists). From his presentation, we can conclude that some irregularities and lexical exceptions confirmed through spoken language must be accepted, but the subject of concern of any grammarian must be the organization of language description so as to include in grammar rules (as generalizations) as much of the language as possible.[7]

"Many have raised the question whether in the inflections of words the art of speaking ought to follow the principle of unlikeness or that of likeness. This is important, since from these develop the two systems of relationship: that which develops from likeness is called Regularity, and its counterpart is called Anomaly. Of this, in the first book, I gave the arguments which are advanced in favour of considering unlikeness as the proper guide; in the second, those advanced to show that it is proper rather to prefer likeness. Therefore, as their foundations have not been laid by anyone, as should have been done, nor have their order and nature been set forth as the matter demands, I shall myself sketch an outline of the subject. I shall speak of four factors which limit the inflections of words: what likeness and unlikeness are; what the relationship is which they call *logos*; what "by comparative likeness" is, which they call "according to *logos*"; what usage is. The explanation of these matters will make clear the problems connected with Regularity and Anomaly: whence they come, what they are, of what sort they are"[8]

## References

- [1] *Dictionary of Romanian Language* (1913-1949), published by the Romanian Academy.
- [2] *Encyclopédie philosophique universelle. L'univers philosophique* (1991). Paris: PUF (1 ère éd. 1989), 80.
- [3] Euclid, *Elements*, Book V, available online at: <http://aleph0.clarku.edu/~djoyce/java/elements/bookV/bookV.html>props
- [4] Plato, *Gorgias*, translated by Benjamin Jowett, available online at: <http://classics.mit.edu/Plato/gorgias.html>
- [5] Plato, *The Republic*, Book VI, translated by Benjamin Jowett, available online at: <http://classics.mit.edu/Plato/republic.7.vi.html>
- [6] Plato, *Timaeus*, translated by Benjamin Jowett, available online at: <http://classics.mit.edu/Plato/timaeus.html>
- [7] See R.H. Robins, op. cit., 56-58.
- [8] Varro (1938), *De lingua latina / On The Latin Language*, with an English translation by Roland G. Kent, PhD, in two volumes, Cambridge, Massachusetts: Harvard University Press, London: William Heinemann Ltd, vol. II, Book X.1, 534

Table 1: Student Data

<b>Name</b>	<b>Division</b>	<b>MIS</b>	<b>Year of Birth</b>	<b>Branch</b>
Abhinav	8	112103004	2002	Computer
Akshay	1	112105002	2002	Instrumentation
Kevin	9	112107035	2003	Electrical
Rakesh	6	112106071	2003	Electronics
Aakash	3	112102009	2004	Civil

Table 2: Movie preferences

<b>Name</b>	<b>Genre</b>	<b>Fav. Actor/Actress</b>	<b>Fav. Film</b>
Snehasish	Suspense,thriller	Benedict Cumberbatch	Manchester by the sea,Whiplash
Sahil	Rom-coms	Shahrukh Khan	DevDas
Indraneel	Sci-Fi	Tom Cruise	Arrival
Bhavika	Action	Keanu Reeves	John Wick

## Section : Matrix Applications

1. Find the rank and bases for the row and column spaces of following matrices:

$$A = \begin{pmatrix} 1 & 3 & 4 \\ 2 & -6 & 9 \\ 2 & -6 & 9 \\ -1 & 3 & -4 \end{pmatrix}$$

2. Show that the three points  $(x_1, y_1), (x_2, y_2), (x_3, y_3)$  in a plane are collinear if and only if the following matrix has rank less than 3.

$$M = \begin{bmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{bmatrix}$$

3. Determine whether B is in the column space of A, and if so, express B as a linear combination of the column vectors of A:

$$A = \begin{pmatrix} 1 & 1 & 2 \\ 1 & 0 & 1 \\ 2 & 1 & 3 \end{pmatrix}, B = \begin{pmatrix} -1 \\ 0 \\ 2 \end{pmatrix}$$



## Section : Figure Insertion



Figure 1: Leisure Strolling



Figure 2: AMG

"what"	"diameter"	"moving"	"nearly"	"has"	"bag"
"them"	"military"	"diameter"	"dangerous"	"beautiful"	"had"
"look"	"invented"	"factor"	"before"	"cause"	"recent"
"pipe"	"you"	"blind"	"carbon"	"rough"	"excellent"
"realize"	"blood"	"running"	"watch"	"production"	"mix"
"gate"	"pure"	"character"	"blue"	"mountain"	"hunt"
"piano"	"hurry"	"therefore"	"elephant"	"lunch"	"combine"

# Tutorial 1

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(1) Find the set of critical points and determine the absolute maximum and minimum values of each function on the given interval.

$$(a) f(x) = \frac{-1}{x+3-2}, \quad -2 \leq x \leq 3 \quad (b) f(x) = \sqrt[3]{x}, \quad -1 \leq x \leq 8$$

$$(c) f(x) = -3x^{\frac{2}{3}}, \quad -1 \leq x \leq 1 \quad (d) f(x) = \sin \theta, \quad -\pi/2 \leq \theta \leq \frac{5\pi}{6}$$

(2) Identify the largest possible domain of the following functions. Find the extreme values of the functions and where they occur.

$$(a) f(x) = 2x^2 - 8x + 9 \quad (b) f(x) = x^3 - 2x + 4$$

(3) Solve the following.  $\int_{-\infty}^{\infty} e^{-x^2} dx = \sqrt{\pi}$

$$A = \begin{bmatrix} 2 & 3 & 4 \\ 5 & 6 & 7 \\ 8 & 9 & 10 \end{bmatrix}$$

- (a) The order of the matrix
- (b) The number of elements

(4) Find the values of x, y and z from the following equations.

(a)

$$\begin{bmatrix} 4 & 3 \\ x & 5 \end{bmatrix} = \begin{bmatrix} y & z \\ 1 & 5 \end{bmatrix} \quad (1)$$

(b)

$$\begin{bmatrix} x+y & 2 \\ 5+z & xy \end{bmatrix} = \begin{bmatrix} 6 & 2 \\ 5 & 8 \end{bmatrix} \quad (2)$$

(c)

$$\begin{bmatrix} x + y + z \\ x + z \\ y + z \end{bmatrix} = \begin{bmatrix} 9 \\ 5 \\ 7 \end{bmatrix} \quad (3)$$

(5) Find the 17th term from the end of the AP: 1, 6, 11, 16 ..... 211, 216.

(6) Find the 9th term from the end (towards the first term) of the AP: 5, 9, 13, ..... , 185.

(7) Show clearly that

$$\log_a (36) + \frac{1}{2} \log_a (256) - 2 \log_a (48) = -\log_a (4)$$

(8) Given that  $y = \log_2 x$ , write each of the following expressions in terms of  $y$ .

$$(a) \log_2 (x^2)$$

$$(b) \log_2 (8x^2)$$

# Some Information

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## Contents

### 1 Section A - Reading

#### 1.1 Part-1

Read the passage given below.

War is an intense armed conflict[a] between states, governments, societies, or paramilitary groups such as mercenaries, insurgents, and militias. It is generally characterized by extreme violence, destruction, and mortality, using regular or irregular military forces. Warfare refers to the common activities and characteristics of types of war, or of wars in general.[2] Total war is warfare that is not restricted to purely legitimate military targets, and can result in massive civilian or other non-combatant suffering and casualties.

Keeley describes several styles of primitive combat such as small raids, large raids, and massacres. All of these forms of warfare were used by primitive societies, a finding supported by other researchers.[13] Keeley explains that early war raids were not well organized, as the participants did not have any formal training. Scarcity of resources meant defensive works were not a cost-effective way to protect the society against enemy raids

#### 1.1.1 Que-1

The scenic beauty of Srinagar makes the writer feel   A. awestruck  
B. nostalgic  
C. cheerful  
D. confused

#### 1.1.2 Que-2

A collocation is a group of words that often occur together. The writer says that Jibhi valley remained clouded in anonymity. Select the word from the options that correctly collocates with clouded in.   A. doubt  
B. anger  
C. doubt  
D. terror