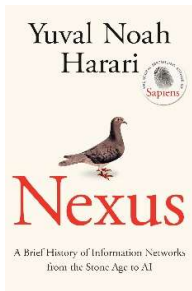


Human Information Networks

మానవ సమాచార నెట్వర్క్లు



teaching notes extracted from Part I of Yuval Noah Harari's NEXUS

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1 WHAT IS INFORMATION?

1.1 Introduction

History is not just the memorising (*kantastham cheyadam* / కంఠస్థం చేయడం) dizzy details of dates, places and events about when, where and what happened.

History is the study of change.

Of course, it is important to know what changed and how things changed.

Along with that, we need to know why things changed.

Such an understanding of history will help us understand what is happening today, in our present-day society.

At the same time, History is not deterministic (*niyativadam* / నియతివాదం).

There is no set formula that says that “if this happens, then that” or “after this, that”

History is determined by the choices (*empikalu* / ఎంపికలు) that people make.

Sometimes these choices are learned and informed; sometimes not.

At other times they are subconscious, determined by factors and forces (*karakalu mariyu shaktulu* / కారకాలు మరియు శక్తులు) we may not even be aware of.

Sometimes by tragic mistakes that come from our choices.

1.2 Definition

Fundamental concepts (*pradhamika bhaavanalu* / ప్రాథమిక భావనలు) are tricky to define.

Information (*samacharam* / సమాచారం) is the most basic building block of Reality (*vastavikatha* / వాస్తవికత).

We will focus on the definition and role of Information in the past and future development of Human societies – i.e. History.

In everyday usage, Information is associated with human-made symbols like spoken or written words.

In 1918, in a trench (*kaluva* / కాలువ) on a battlefield, British soldiers were fighting for their lives.

40 kms away, British artillery guns were shooting long-range cannon (*phirangi thopu* / ఫిరంగి) to help them.

The enemy German soldiers were between the British artillery guns and British soldiers trapped in a trench.



But the cannon balls were landing on their own soldiers who were trapped in the trench.

A pigeon called Cher Ami flew 40 kms to give a message tied to its leg.

The message was to tell the British artillery that they had their GPS coordinates wrong.

The message asked them to shorten their range by about 25 feet to land on the enemy German soldiers who were slaughtering the British trapped in that trench.

The pigeon did not know what Information it was carrying.

The coded writing on the piece of paper tied to its leg was the Information.

For Astronomers (*Khagola Sastravettalu* / ఖగోళ శాస్త్రవేత్తలు) the shape and movement of galaxies is crucial Information to plan and execute space flights.

Astrologers (*Jyootishkulu* / జ్యోతిషులు), on the other hand, “read” the same stars to make future predictions.

A sailor sees a seagull and knows that land is nearby; the seagull is the Information.

Any object can be Information – or not. That is the difficulty.

The British invaded the Ottoman Empire in 1917; they were stopped at Gaza.

Pro-British Gazan Jews set up a code-named NILI using window shutters.

Opening and closing the shutters gave the British ships vital messages.

Even then, for more than one year, the British could not land.

So, when is a shutter just a shutter and when is it Information?

NILI also used carrier pigeons to send messages to the British ships on the sea.

One of the pigeons, by mistake, landed on the house of an Ottoman officer.
The officer found the coded message but could not understand it.
But he knew that spies were using carrier pigeons to send vital Information to the British.
In this case, the pigeon itself was crucial Information.
(NII agents quickly killed all their pigeons and ate them)

So, when is a pigeon a pigeon and when is it Information?

- When a homing pigeon carries a piece of paper on its leg = Pigeon
- When the Ottoman officer sees the carrier pigeon = Information
- When the sailor sees the seagull = Information
- When British ships see window shutters = Information

1.3 The Naïve View of Information

The naïve (*amayakamaina* / అమాయకమైన) view of Information argues that the main role of Information is to seek Truth (*satyaniki anveshana* / సత్యం కోసం అన్వేషణ) and represent Reality (*Vaastavam suchistayi* / వాస్తవం సూచిస్తాయి)

The naïve view says that there is a Reality “out there” and Information helps us learn about Reality.

Does Information represent Reality (*vastavikathanu suchistayi* / వాస్తవికతను సూచిస్తాయి)?

Most Information in Human society does not represent anything.

1.4 What is Truth?

“Truth” is understood as something that accurately represents certain aspects (*konni amsaalu* / కొన్ని అంశాలు) of Reality.

The idea is that there exists only one single Reality; a universal Reality (*saarvatrika vastavikatha* / సార్వత్రిక వాస్తవికత).

Therefore, the search for Truth is supposed to be a single, universal project.

But different people, nations, cultures, have completely different beliefs and feelings.

Each of them have their own ideology/religion that promotes its own particular universal Reality.

Anyone who rejects that particular universalism (*saarvatrikavadam* / సార్వత్రికవాదం) rejects Truth.

However, there cannot be contradictory Reality (*paraspara viruddhamaina vastavikatha* / పరస్పర విరుద్ధమైన వాస్తవికత).

What we understand is that Truth and Reality are two different things.

However truthful our Information is, it can never represent Reality in all aspects.

Let us once again look at the NILI window shutters and pigeons.

If a message says there are 10,000 Ottoman soldiers waiting to attack any ship that lands in Gaza, is that Reality?

Does it tell the British that 500 are experienced soldiers and 9,500 are young boys who received only one week of training?

Does it even tell the Truth?

What if there are 20,000 soldiers and the NILI agents did not know that?

1.5 Objective Level of Reality

This does not mean that there are many Realities; there is only one.

But it is complex (*sanklishtamaina* / సంక్లిష్టమైన).

Let us try to understand.

Reality includes an Objective Level (*vastunista sthaayi* / వస్తునిష్ఠ స్థాయి) with objective facts that do not depend on people's beliefs.

The Earth is round and it rotates around the Sun.

This is a fact.

Many cultures and beliefs did not agree, but that doesn't matter.

The Earth is still round and it rotates around the Sun, whether they believe or not.

If there is a huge Asteroid that is coming at great speed towards the Earth, it does not matter whether we see it or believe it or not.

The Reality that it is happening right now is an Objective fact.

Many beliefs and cultures can say that COVID-19 is god's curse or punishment and say that prayer and sacrifice will overcome it.

But the objective fact is that it is caused by the SARS-CoV-1 virus.

1.6 Subjective Level of Reality

We have, just now, seen that Reality is complex (*sanklishtamaina* / సంక్లిష్టమైన).

This is because Reality also includes a Subjective Level (*aatmaasraya sthaayi* / ఆత్మాశ్రయ స్థాయి) with subjective facts like beliefs and feelings of different people.

Here too, there are facts (*vastavalu* / వాస్తవాలు) and errors.

The Zionist Israelis believe that God gave them authority to live in Palestine, ignoring the existing population there.

The British recognized this Subjective Reality and, on 2 November 1917, made that an international Reality through the Balfour Declaration.

The Palestinians see this as illegal.

That is also a Subjective Reality.

Now we have two subjective realities about the same Fact – the same piece of land on planet earth called Palestine and/or Israel.

1.7 Accurate Depiction of Reality

But all Israeli Jews are not Zionists.

Every single Jew in Israel does not believe that it is “all right” to kick out the native Palestinians.

In fact, a large number of Christians in America and Europe are Zionists.

A thousand years back, the Catholic Church believed in the “promised land” and attacked Muslims in the middle east for 300 long years – the crusade wars.

Not all people belonging to a particular religion believe that the Sun rotates around the Earth.

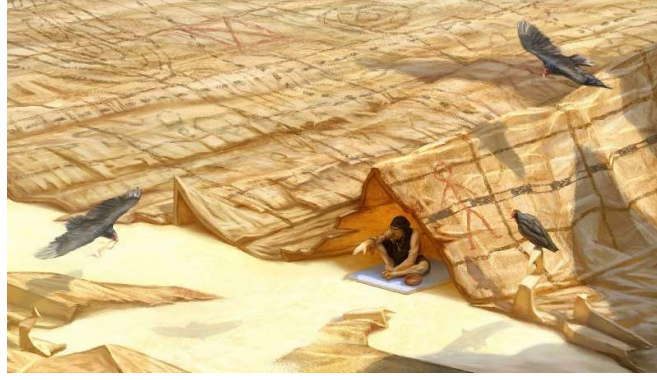
Therefore, in order to accurately represent Reality, should we understand Truth on a one-to-one scale (*okatiki-okati nishpatti* / ఒకటికి-ఒకటి నిష్పత్తి)?

Let me tell you a story told by Jorge Luis Borges in 1945 “On Exactitude in Science” to show how silly and ludicrous this is (*asambaddhamaina mariyu hasyaspadamaina* / అసంబద్ధమైన మరియు హాస్యాస్పదమైన):

“An ancient empire was obsessed with producing an accurate map of its territory.
So, it commissioned a map on a one-to-one scale.
The entire empire was covered with a map of the empire, showing every street, gully,
house, stone and tree...
So much resources were wasted on this ambitious project and the empire collapsed.
Very soon, the map also began to disintegrate.”

Borges' story ends with this line:

“In the western Deserts,
tattered fragments
(*chirigipoyina mukkalu* /
చిరిగిపోయిన ముక్కలు) of
the map are still to be
found, sheltering an
occasional beast or
beggar.”



A one-to-one map may look like the ultimate representation of reality.

The point is that even the most truthful accounts of reality can never represent it in full.
Instead, Truth is something that brings our attention to certain aspects of Reality, while
ignoring other aspects (*ithara amsalanu vismarinchadam* / ఇతర అంశాలను విస్మరించడం).

No account of Reality is 100% accurate.

1.8 What does Information do?

The naïve view (*amayakapu drukpatham* / అమాయకపు దృక్పథం) sees Information as an
attempt to represent Reality.

It knows that this cannot be.

So, it dismisses the mistakes as “misinformation” or “disinformation”.

- Misinformation is an honest mistake (*tappudu samacharam* / తప్పుడు సమాచారం)
- Disinformation is a deliberate lie (*dushpracharam* / దుష్ప్రచారం)

The naïve view believes that the solution to this problem is more Information.

In 1927, the US Supreme Court famously said, “the remedy to false speech is more
speech that, in the long term, free discussion will surely expose falsehoods.”

According to the naïve view, Astronomers find “real information” from the stars.

Astrologers imagine to read the stars in constellations are arrive at “misinformation” or “disinformation”.

If people were given more and more Information on the universe, surely, they will abandon Astrology.

But the fact is that this does not happen.

Millions of people still check the stars before making important decisions.

In 2021, the Astrology market was valued at US\$ 12.8 billion (₹ 1.22 lakh crore)!

We may not believe in astrology, but it connects lovers and even entire empires.

What these examples show is that errors, lies, fantasies and fiction are all Information (*tappulu, abaddhalu, kalpanalu mariyu kalpita gaadhalu* / తప్పులు, అబద్ధాలు, కల్పనలు మరియు కల్పిత గాథలు).

Information has no link to Truth.

Information presents aspects of truth to the people.

Based on this, people make choices.

1.9 Information Connects

What Information does is to create new Realities.

The main role of Information is therefore to connect.

It connects different points of views into a network.

Information does not necessarily inform us about things.

It puts things in Order (*Krama* / క్రమ).

Take the example of Music.

Most tunes and melodies do not represent anything (*praatinidhyam vahinchavu* / ప్రాతినిధ్యం వహించవు).

It makes no sense to ask if they are true or false.

People can create a lot of bad music; but not fake (*nakili* / నకిలీ) music.

Nevertheless, music connects large numbers of people, synchronizing emotions and movement:

Soldiers march in formation
Fans sway in Mexican waves
Clubbers dance together
Churchgoers clap in rhythm

Sometime, a truthful representation of Reality can connect Humans:

In July 1969, 600 million people sat in front of their TV sets to watch Neil Armstrong and Buzz Aldrin walk on the moon. They felt awe, pride and brotherliness.

Sometimes, false representation of Reality can also connect:

Millions watch a conspiracy theory on YouTube and claim that the moon landing never happened; it was trick photography produced in Hollywood.

Sometimes, networks can be connected without representing Reality – neither accurate nor false (*khacchitamainadi kadu, asatyamainadi kaadu* / ఖచ్చితమైనదీ కాదు, అసత్యమైనదీ కాదు):

Stirring music connects thousands of Humans (*udvegabharitamaina sangeetham* / ఉద్వేగభరితమైన సంగీతం).

1.10 Information in Human History

Seeing Information as a social nexus (*samajika anusandhanam* / సామాజిక అనుసంధానం) helps us understand many aspects of Human history.

History is not so much about what changed and how things changed; this is, of course, important.

History is about why things changed.

Such an understanding of history will help us understand what is happening today, in our society.

It explains the historical success of Astrology and the Bible.

If the main job of Information is to accurately represent Reality, it will be hard to explain the popularity of the Bible.

The Bible makes so many serious mistakes in its description of Human affairs and natural processes:

- i. Creationism (*srustivadam* / సృష్టివాదం).
- ii. Claims that all Human groups descend from a single family in the Middle East 4,000 years ago.

In fact, the ancestors of the San people lived in Africa for hundreds of thousands of years.

Ancestors (*purvikulu* / పూర్వీకులు) of the Aborigines settled Australia more than 50,000 years ago.

- iii. The Bible shows epidemics (*mahammarulu* / మహమ్మారులు) as punishment for Human sins and can be stopped by prayers and rituals (*prarthanal mariyu aacharala dwara* / ప్రార్థనలు మరియు ఆచారాల ద్వారా).

Though the Bible does a poor job in representing the Reality of Human origins, migration and epidemics, it is very effective in connecting billions of people and creating the Jewish and Christian religions.

Just like a single cell cannot do anything, a network of cells creates organs like eyes (to see), ears (to hear) lungs (to breathe), heart (to circulate blood), alimentary canal (to digest food), etc.

So too, a religious network can do things that an individual Human cannot.

Sometimes, Information represents Reality; sometimes it does not.

But it always connects (*kaani adi ellapudu anusandhan-istundi* / కానీ అది ఎల్లప్పుడూ అనుసంధానిస్తుంది).

So, the wrong questions to ask are, “How well does it represent Reality? Is it true or false?”

Instead, our correct questions should be:

“How well does it connect people?

What new network does it create?”

The naïve view believes that *Homo sapiens* succeeded in conquering the world because we are talented at turning Information into an accurate map of reality.

Instead, the secret of our success is that we are talented at using Information to connect lots of individuals.

Unfortunately, this goes hand in hand in believing in lies, errors and fantasies (*abaddhalu, porapatlu mariyu kalpanalu* / అబద్ధాలు, పొరపాట్లు మరియు కల్పనలు).

2 STORIES: UNLIMITED CONNECTIONS

Homo sapiens means “the wise man”.

Homo sapiens do not rule the world because we are so wise (*gnani* / జ్ఞాని).

We rule because we are the only animals that can cooperate flexibly in large numbers (*soukarya-vantanga sahakarincha-galaru* / సౌకర్యవంతంగా సహకరించగలరు).

2.1 Human-to-Human Bonds

There is a limit to the number of animals that can group together.

Unlike animals, there is no upper limit to the number of *Homo sapiens* who can cooperate with one another.

Some animals, like Ants and Bees, group in very large numbers.

But they only perform instinctive (*saha-jatanga* / సహజాతంగా), repetitive and pre-determined tasks.

None of them can establish empires (*samrajyalu* / సామ్రాజ్యాలు), religions or trading (*vaanijya* / వాణిజ్య) networks.

This is strange because Humans cannot form long-term intimate bonds (*antarangika bandhalu* / అంతరంగిక బంధాలు) with more than a few hundred individuals.

Humans need to know each other; whether to trust or not to trust.

If Human networks were connected only by personal Human-to-Human bonds, our bonds would also remain very small.

Like chimpanzee communities that are normally 20-60 (on rare occasions, 150-200) individuals who know each other and trust each other.

Ancient Human species like *Homo Neanderthals* were just like that.

Different Bands rarely cooperated (*aruduga sahakarincharu* / అరుదుగా సహకరించారు).

2.2 Human-Stories-Human Chains

About 70,000 years ago, *Homo sapiens* Bands began to cooperate with one another.

Evolutionary changes (*parinama-paramaina marpulu* / పరిణామపరమైన మార్పులు) in brain structure and speech ability gave Sapiens the ability to tell and believe fictional stories (*kalpita kathalu; kadambari* / కల్పిత కథలు; కాదంబరి).

And also, be deeply moved by them (*gadhangā chalinch-ipoyāaru* / గాఢంగా చలించిపోయారు).

Human-to-Human chains slowly changed to Human-Stories-Human chains.

In order to cooperate, *Homo sapiens* no longer need to know each other personally.

They just had to know the same story.

A story thereby served like a central connector (*kendra anusandhanika* / కేంద్ర అనుసంధానిక) with an unlimited number of outlets into which an unlimited number of people could plug into.

- 1.4 billion members of the Catholic Church are connected by the Bible.
- 1 billion non-Catholics by the same Bible.
- 2 billion Muslims connected by the Qur'an.
- 1.4 billion citizens of China are connected by stories of communist ideology and Chinese nationalism.
- 7-8 billion members of the global trade network are connected by stories about currencies, corporations and brands.
- Charismatic leaders have millions of followers.

This was not possible through flesh-and-blood Human-to-Human contact.

It could happen only through Human-Stories-Human chains.

It is the Story that everyone believes in and put their faith and hopes in (*viswasam mariyu aashalu* / విశ్వాసం మరియు ఆశలు).

2.3 Brands

Let us look at present day leaders and social media influencers.

The social media accounts are run by a team of experts and every single image and word is professionally created to manufacture a Brand.

Branding campaigns may be disinformation (*dushpracharam* / దుష్ప్రచారం).

Disinformation is easier to believe than scientific information due to unashamed claims to be certain and infallible (*nischayam-aina mariyu dosharahitam-aina* / నిశ్చయమైన మరియు దోషరహితమైన).

A “Brand” is a specific type of story.

To brand a product means to tell a story about that product, which may have little to do with the product's actual qualities.

Nevertheless, consumers learn to associate with that brand.

Coca-Cola is associated with fun, happiness and youth.

In reality, it is tooth decay, obesity and plastic waste.

A corrupt billionaire can be branded as champion of the poor.

An idiot can be branded as a genius.

A guru who sexually abuses his followers as a Saint.

In all these cases, people think they connect to the person.

But actually, they connect to the story told about the person (*aa vyakthi gurinchi / ఆ వ్యక్తి గురించి*).

Let us look at the Jesus story:

After 2,000 years of storytelling, he has been encased in a thick cocoon of stories (*manda-pati kohsam / మందపాటి కోశం*) that it is impossible to understand the real, historical person.

Our guess (*maa anchanaa / మా అంచనా*) is that the real Jesus was a typical Jewish preacher (*bodhakudu / బోధకుడు*) who built a small following, gave sermons (*prasangaalu / ప్రసంగాలు*) and gave comfort to the sick.

He was executed as a common criminal – a fraud who questioned and challenged the dominant Jewish religion.

Many years after his death, the story was that he was the cosmic god who created the universe (*viswa devudu / విశ్వ దేవుడు*).

2.4 Familial Bonds

Most of the really big stories like the Bible, Ramayana, Qur'an, etc. are a result of emotional projections (*bhavo-dvega prakshe-panalu / భావోద్వేగ ప్రక్షేపణలు*) and wishful thinking (*aasaavaadam / ఆశావాదం*).

Stories like the one about Jesus and Rama are a way of stretching biological bonds (*jeeva-sambandha bandhaalanu saaga-diyadam / జీవసంబంధ బంధాలను సాగదీయడం*).

The writers of the Bible did not want to deceive or cheat anyone.

They simply projected their own hopes and feelings on the figure of Jesus (*vaari swantha aashalu mariyu bhavalu / వారి స్వంత ఆశలు మరియు భావాలు*).

Just like many of us project our feelings on our parents, lovers, children and leaders.

Family is the strongest bond known to Humans.

Stories (*kādambari* / కాదంబరి) build trust between strangers by making these strangers re-imagine each other as family:

“Brothers/Sisters in Christ”, “Children of God”, “Bhai, bhai”, etc.

2.5 Pool of Family Memories

They create a pool of shared family memories of things that supposedly happened thousands of years ago (*kutumba gnapakala* / కుటుంబ జ్ఞాపకాల).

They get together and “remember” all these memories; they create, re-enact artificial memories:

- Christians: The Last Supper & Crucifixion on the cross (*siluva veyadam* / సిలువ వేయడం)
- Jewish Passover: The forced Exile from Egypt led by Moses.
- Muslim Muharram: The suffering and defeat at Karbala.
- Hindus: One crore and one stories.

Telling the stories to one another is not enough.

Each person must personally witness (*swayamgaa kallaaraa chuudatam* / స్వయంగా కళ్లారా చూడటం) and personally suffer (*swayamgaa anubha-vinchadam* / స్వయంగా అనుభవించడం).

They don’t imagine it (*vaaru danini oohinchu-koru* / వారు దానిని ఊహించుకోరు).

They remember it (*vaaru danini gurtu-chesukuntaru* / వారు దానిని గుర్తుచేసుకుంటారు).

This is what makes them know that they were together, thousands of years ago, as a single family.

Every year Jewish families sit together on the eve of Passover to eat and recollect about “their” exodus from Egypt.

They are supposed not only to tell the story of how the descendants of Jacob escaped slavery in Egypt.

They must “remember” how they personally suffered at the hands of the Egyptians.

How they personally saw the Red Sea part (*renduga vidipovadam* / రెండుగా విడిపోవడం).

How they personally received the Ten Commandments from Jehovah at Mount Sinai.

If anyone objects that this is fiction, and that they didn't personally come out of Egypt, Jewish sages have a ready answer.

They claim that the souls (*aatmalu* / ఆత్మలు) of all Jews throughout history were created by Jehovah long before they were born.

All these souls were present at Mount Sinai.

So, every year, in the most important celebration of the Jewish calendar, millions of Jews put on a show that they "remember" things that they did not witness and that, in all probability, never ever happened.

2.6 Intersubjective Entities

We spoke about Objective Reality (*vastugata vastavikatha* / వస్తుగత వాస్తవికత) and

Subjective Reality (*aatmaasraya vastavikatha* / ఆత్మాశ్రయ వాస్తవికత).

Now let us look at entirely new realities that stories create – Intersubjective Realities (*antar-vyaktigata vasthavikatha* / అంతర్-వ్యక్తిగత వాస్తవికతలు).

These are the most important realities that shaped the history of *Homo sapiens*.

Before *Homo sapiens* learnt to tell stories, the universe had only two levels of Reality.

Stories added a third level (*sthaayi*).

- Objective Reality are stones, mountains and asteroids – thing that exist whether we know of them or not.
- Subjective Reality are things like pain, pleasure and love that are not "out there", but they are "in here" ("*akkada*" *kadu*, "*ikkada*" / "అక్కడ" కాదు, "ఇక్కడ").

Subjective realities exist in our awareness of them (*maa avagahana* / మా అవగాహన).

There is no such thing as an unfelt ache.

Some powerful stories are able to create a third level of Reality.

- Intersubjective Reality: Whereas subjective things exist in a single mind (*manassu* / మనస్సు), Intersubjective things like laws, gods, nations, corporations, currencies, etc. exist in the nexus (*anusandhanam* / అనుసంధానం లేదా సంబంధం) between large numbers of minds.

They exist in stories people tell one another.

The exchange of Information creates these things (*samachara marpidi veetini srustistundi* / సమాచార మార్పిడి వీటిని సృష్టిస్తుంది).

The Information Humans exchange about Intersubjective things does not represent anything that already existed before the exchange of Information.

The exchange of Information *created* these things.

Let us look at this a little closer:

- When I tell you I am in pain, telling you about it does not create the pain.
If I stop talking about the pain, it does not make the pain go away.
- When I tell you I saw an asteroid, this does not create the asteroid.
The asteroid exists whether people talk about it or not.
- But when lots of people tell one another stories about laws or gods or currencies, this is what creates these laws and gods and currencies.
If people stop talking about them, they disappear.

Intersubjective things exist in the exchange of Information.

The calories in a pizza does not depend on what we believe.

It is an Objective Reality that it has between 1,500 to 2,500 calories.

The financial value of pizzas depends entirely and only on our beliefs.

In 2010, Laszlo Hanyecz bought 2 pizzas for 10,000 bitcoins.

This was the very first commercial transaction using bitcoins.

In 2021 a single bitcoin was valued at US\$ 69,000.

So, his 2 pizzas were worth US\$ 690 million in 2021.

While the Objective Reality of the pizza remained the same for 11 years, its financial value changed dramatically.

Because bitcoin is an Intersubjective Reality ((*antar-vyaktigata vasthavikatha* / అంతర్-వ్యక్తిగత వాస్తవికతలు).

Do ghosts and spirits and monsters really exist?

Some people believe that they do.

Others dismiss the idea as a fantasy or a joke.

Many attempts have been made to resolve this argument once and for all, using scientific methods like solar scans and DNA surveys.

It was scientifically proven that there are no Monsters.

But many people continue to believe that they do exist.

The Objective Reality does not change their Intersubjective belief.

Many people and governments refuse to believe that Israel is a country.

29 countries refuse to recognise Israel.

Even today, India, Brazil and China say that both, Israel and Palestine exist as separate countries.

USA and Cameroon recognize only Israel and say that Palestine does not exist as a country.

Did the United States of America come into existence only on 4 July 1776?

Or when countries like UK and France finally recognized USA?

Between 1776 and 1783, some people like George Washington believed that USA existed.

People like King George III violently rejected this idea and called it a colony of Great Britain.

Disagreements on the existence of countries cannot be solved through objective, scientific tests.

Because countries are not an Objective Reality.

They are Intersubjective realities that exist only if enough people agree that these countries exist.

Of all the different types of Stories, those that create Intersubjective Realities (*antar-vyaktigata vasthavikathalu* / అంతర్-వ్యక్తిగత వాస్తవికతలు) are the most important for the development of large-scale Human networks.

Creating fake (*nakili* / నకీలీ) family memories is helpful.

No religion or empire managed to survive for long without a strong belief in the existence of a god, a nation, a law, or a currency – i.e. Intersubjective Realities.

In order to create the Christian Church or Islam, it was not enough to remember the Last Supper and Karbala.

It needed to make people believe that Jesus was son of god and Mohammed was a messenger of god.

Intersubjective things like laws, gods and currencies are extremely powerful within a particular Information Network.

Utterly useless and meaningless outside it.

Imagine the fate of a billionaire on a deserted island or forest, with a suitcase full of banknotes...

2.7 The Power of Stories

Story-based networks, and not wisdom (*gnanam* / జ్ఞానం), made *Homo sapiens* the most powerful of all animals.

Whether it is through fake memories, fictional family relationships, or creating Intersubjective realities, stories produce large-scale Human networks.

When large numbers of people cooperate, they achieve big things (*okari-kokaru saharinchu-kovadam* / ఒకరికొకరు సహకరించుకోవడం).

Early Humans lived in small isolated Bands that cooperated with one another only rarely and weakly.

After that, Bands were connected by stories about things like ancestors (*poorvikulu* / పూర్వీకులు), totem animals (*chihnam jantuvulu* / చిహ్నం జంతువులు) and guardian spirits (*samrakshaka aatmalu* / సంరక్షక ఆత్మలు).

Bands that shared the same stores and Intersubjective realities (*antar-vyaktigata vasthavikatha* / అంతర్-వ్యక్తిగత వాస్తవికతలు) became a Tribe (*tiga* / తెగ).

Each Tribe was a network connecting hundreds or even thousands of individuals.

This had many advantages:

- Protection against enemies (other Tribes) and larger animals.
- Allowed migration out of their footprint (normal habitat) during droughts and calamities (*vipattulu* / విపత్తులు).
- Sharing information to find flint (silica) and make tools, using herbs (*mulikalu* / మూలికలు) to heal wounds.
- Sharing innovation like the use of needles to sew clothes
- Etc.

3 POPULISM

3.1 Populist View on Information

Populists view (*prajaa-karsha-kavadam* / ప్రజాకర్షకవాదం) on Information says that all Information is only for Power – i.e. in order to exploit and oppress others and get material benefits.

Populism views all Information as weapons used by the elite to confuse and control the population (*gandara-golaaniki gur-icheyadam mariyu niyan-trinchadam* / గందరగోళానికి గురిచేయడం మరియు నియంత్రించడం).

According to this world view, Power is the only Reality (*adhikarama ekaika vasthavi-kata* / అధికారమే ఏకైక వాస్తవికత) and all social interactions are power struggles because Humans are only interested in power.

Talk about Truth and Justice is nothing more than a smoke screen (*poga tera* / పొగ తెర) to gain power.

They ask, “Whose Facts and whose Truth are you referring to?” (“*evari vasthavalu, evari satyam?* / ఎవరి వాస్తవాలు, ఎవరి సత్యం?”)

QAnon are far-right conspiracy theories (*kutra siddantalu* / కుట్ర సిద్ధాంతాలు) and a movement used by Donald Trump using the populist view of Information.

It claims that a global cabal of Satan-worshipping elites operates a child sex-trafficking ring and that U.S. President Donald Trump is secretly fighting them.

But I want to comment on a less silly and more serious aspect – Marxism.

3.2 Marxist View on Information

Ironically (*vichitram-emitante* / విచిత్రమేమిటంటే), Marxists also share the populist view on Information (*prajaa-karshaka druk-patham* / ప్రజాకర్షక దృక్పథం).

Marxists view stories as just a smoke screen for power relations and material interests (*bhautika prayojanalu* / భౌతిక ప్రయోజనాలు).

The power of stories is often missed or denied by materialist interpretations of history (*charitraku bhautika-vada vyaakya-nalu* / చరిత్రకు భౌతికవాద వ్యాఖ్యానాలు).

They say that people are always motivated by material interests (*bhautika prayojanalu* / భౌతిక ప్రయోజనాలు).

There is no room for religious, nationalist or liberal ideals.

This is true in the recent case of Venezuela.

Donald Trump's taking control of Venezuela's petroleum is an example of solely gaining economic benefit.

No Western Christian soldiers were asked to attack a Western Christian nation.

"Operation Absolute Resolve" was a simple, cowardly, 2 hours 28 minutes long kidnapping operation of just one person – President Madura.

Immediately after, a deal was struck with Madura's successor/subordinate, Delcy Rodriquez.

The above example justifies the populist view on information.

All the propaganda, true or false, was only to take control of Venezuela's oil reserves.

But this Marxist view is only partly true; it is incomplete (*asam-urna* / అసంపూర్ణ).

3.3 Material Interest plus Intersubjective Aspects

Material interests certainly played a role in the Crusade Wars (1095 to 1291 AD), World Wars I & II, Iraq-Kuwait war (1990-91), the Iraq War (2003 to 2011), US/Israel-Iran war (2026), and most other human conflicts.

But that does not mean that religious, national, and liberal ideals (*udara-vada bhavalu* / ఉదారవాద భావాలు) did not play any role.

The crusaders did not know anything about petroleum in the middle east.

Then why did millions of soldiers go on 8 or 9 campaigns to the holy land?

Why did they slaughter and get slaughtered for 300 long years?

What other reason was there other than a fanatical hatred for Muslims? (*ati teevram-aina dvesham* / అతి తీవ్రమైన ద్వేషం)

What we today call Islamophobia.

Moreover, materialist interests alone cannot explain the identities of rival camps.

If it is only economic interests, why are they trying to conquer oil fields in the Middle East and not Norway?

Why not more "Operation Absolute Resolves"?

Like, for example, their Greenland acquisition plan?

Recall how, in Tribal societies, a guarantee of good afterlife (*para-lokam* / పరలోకం) was given to those who went to hunt dangerous mammoths and tigers?
These stories gave them the courage to go out in the face of almost certain death.
The same is true in all wars.

Let us accept that it is greed and material interests that make the rulers (under the directions of rich capitalists) attack another country and take their natural resources.

But what does the ordinary soldier get out of it?

Surely, she/he did not go out to fight a war where she/he could get killed, believing that she/he would get richer.

Hitler used the Intersubjective realities of nationhood and *Lebensraum* or “living space” (*bhujaalu kadilinchadaniki tagina sthalam* / భుజాలు కదిలించడానికి తగిన స్థలం).

The Iraq war was certainly for USA and Europe to get a firm grip on middle east petroleum.

But it was the need to abolish the “Axis of Evil” (*dushta kootami* / దుష్ట కూటమి) that President Bush talked about that gave passion and energy to soldiers from the Christian West.

Israel and USA used the Intersubjective Reality of religion – Islamophobia – to motivate Jewish and Christian soldiers.

In fact, all relations between large-scale human groups (*bhaari sthaayi maanava samuhalu* / భారీ స్థాయి మానవ సమూహాలు) are shaped by stories.

Because the identities of the rival groups [nationalities (*paura-satvam* / పౌరసత్వం), religions, race, caste] are themselves defined by stories.

There are no objective definitions (*vastu-nista nirva-chanaalu* / వస్తునిష్ఠ నిర్వచనాలు) for who is British, American, Norwegian, Iraqi, or Irani.

All these identities are shaped by national and religious myths (*mata-param-aina puraanaalu* / మతపరమైన పురాణాలు).

They are not independent of stories (*kathalaku ateetam kaadu* / కథలకు అతీతం కాదు).

National and liberal ideals (*desam mariyu udara-vada aadarsalu* / దేశం మరియు ఉదారవాద ఆదర్శాలు) did play a role in World Wars, war on Iraq and the latest on Gaza and Iran.

3.4 Tragic Mistakes made by Harmful Stories

Contrary to Marxist thinking, large-scale identities and interests in history are always Intersubjective; they are never only objective (*eppudu lakshyam matrame kaadu* / ఎప్పుడూ లక్ష్యం మాత్రమే కాదు).

We cannot reduce our understanding of history to only objective reasons.

Nazism is an example of how objective and Intersubjective realities together shape history:

Bankruptcy and humiliation after their defeat in World War I (material interests) made millions of Germans support Hitler.

Hitler would never have come to power if not for the economic crisis of the early 1930s – that is an Objective Reality.

But he would never have continued to be in power if millions of Germans did not believe in the Nazi story – that is an Intersubjective Reality (*antar-vyaktigata vasthavigatha* / అంతర్-వ్యక్తిగత వాస్తవికతలు).

Granted, it was a mistake; but right or wrong, this Intersubjective Reality played a big role in keeping the 3rd Reich functioning.

12 years of Nazi rule did not make their material interest any better.

After that, Germans adopted liberal democracy and there was lasting improvement in their lives.

History is not shaped by deterministic (*niyatavadam* / నియతివాదం) power relations, but by tragic mistakes that come from believing mesmerizing (*mantramu-gdhulanu chese* / మంత్రముగ్ధులను చేసే) but harmful stories.

3.5 “The Noble Lie” to Maintain Order

Stories play a central role in the power of our species.

The naïve view says that Information leads to Truth and knowing the Truth helps people gain power and wisdom.

This is not true.

In history, power comes only partially (*paaksi-kanga* / పాక్షికంగా) from knowing the Truth.

It also comes from the ability to maintain social Order among a large number of people (*samajika krama-badhathanu kapada-taniki* / సామాజిక క్రమబద్ధతను కాపాడటానికి).

Only then can big achievements be made.

We obviously need accurate knowledge of physics to make the atom bomb.

But you also need millions of people to mine uranium ore, build nuclear reactors, provide food for workers, miners and scientists, etc.

You need to make millions of people cooperate.

Order is needed (*krama-badhata avasaram* / క్రమబద్ధత అవసరం).

Even in the Stone Age, hunters needed Truth – facts about mammoths and lions and deer.

But they also needed both, cowards and brave people, to go out and hunt.

They had to cast a spell (*mantram veyadam* / మంత్రం వేయడం) to guarantee a good afterlife (*paralokam* / పరలోకం) for dead hunters.

Otherwise, neither coward nor brave would have gone out.

This is true about today's wars also.

Unless the soldier and her/his family know that they will be called *Shaheed* after they die, why should they go to war for the economic interest of the ultra-rich in their country? (*athyantha dhanika* / అత్యంత ధనిక)

Their salary alone is not a good enough economic motivation (*aardhika prerana* / ఆర్థిక ప్రేరణ).

Knowing things alone is not enough.

Power depends on both, Truth and Order (*satyam mariyu krama* / సత్యం మరియు క్రమ).

In the business of uniting people, Fiction has two advantages:

1. Fiction can be made as simple as we like, but Truth is complicated because reality is complicated (*vasta-vikatha sanklishtam-ainadi* / వాస్తవికత సంక్లిష్టమైనది)

The Truth about nations being an Intersubjective entity that exists only in our collective imagination (*samishti ooha* / సమిష్టి ఊహ) is very difficult to understand.

It is easier to believe that god made nations; the “Promised Land”, “Akhand Bharat”, “Motherland”, “Fatherland”, etc.

2. Truth is painful and disturbing (*badha-karam-ainadi mariyu kalavara-pettedi* / బాధాకరమైనది మరియు కలవరపెట్టేది).

If you make it comfortable and flattering (*soukarya-vantam-aina mariyu chakkagaa kani-pinche* / సౌకర్యవంతమైన మరియు చక్కగా కనిపించే), it will no longer be the Truth.

Israelis do not want to know about the suffering they cause on innocent Palestinians.
Indians do not want to know the Truth about what the caste system does to the majority of the population.

In order to maintain Order (*kramam* / క్రమం), Plato said the Nation State has to be based on “the Noble Lie”.

But the choice is not always between telling the truth and lying.

There is a third option (*moodava empika* / మూడవ ఎంపిక).

3.6 Creating Fiction without Lies

Telling a fictitious story (*kādambari* / కాదంబరి) is lying only when you pretend (*natin-chin-appudu* / నటించినప్పుడు) that the story is a true representation of reality (*vastavi-katha yokka nijamaina prati-bimbam* / వాస్తవికత యొక్క నిజమైన ప్రతిబింబం).

Telling a fictional story is not lying when you avoid the pretence (*natananu nivarinchin-atlayite* / నటనను నివారించినట్లయితే).

When you openly admit that you are trying to create a new Intersubjective Reality.

The best examples of this are the US and Indian Constitutions.

Our Constitutions did not reveal any pre-existing Truth about the world.

Neither is it a lie.

The Fathers of our Constitution did not deceive anyone by pretending that it came from some heaven, inspired by any god.

Instead, both our Constitutions start with the words, “We the People...”

Our Constitution is exactly like a musical tune that, without claiming to be anything, still brings crores of people together in Order.

3.7 Order

But let us be careful.

“Order” (*kramam* / క్రమం) does not mean Fair or Just (*nyayamainadi ledaa samuchitam-ainadi kadu* / న్యాయమైనది లేదా సముచితమైనది కాదు).

Order is needed to make large-scale human networks work.

Only then will different groups of people stay in their place, performing ascribed roles (*aapadhita paatralu* / ఆపాదిత పాత్రలు).

Without Order, the network will collapse.

Our Constitutions recognized this and admitted that it is a legal Fiction (*Nyaya Kalpana* / న్యాయ కల్పన) created by Human beings.

It provided mechanisms to amend and correct and improve.

The Indian Constitution has been amended 106 times; USA 27 times.

It did not pretend to be like the Torah (of the Jews), Bible (of Christians), Qur'an (of Muslims) or Vedas (of Hindus).

It did not claim any divine origin (*daivika muulam* / దైవిక మూలం).

All political systems are based on Fictions.

Some admit it, and some do not.

Being truthful about the origins of our social Order makes it easier to make changes and improve it.

Unfortunately, even today, in the 21st century, many political systems still claim superhuman authority and do not allow open debates, questioning, challenge and change.

3.8 A Complete Model of Information Networks

After we understand the role of Fiction in history, we get a more complete model of Information Networks.

Contrary to the naïve view, Information is not the raw material of Truth.

Human Information Networks are not geared only to discover the Truth.

Nor is it just a weapon to get power.

We now understand that in order to survive and flourish, every Human Information Network needs to do two things simultaneously, at the same time:

Discover Truth and create Order.

Human Information Networks have been developing two distinct sets of skills:

1. On the one hand, as the naïve view expects, the networks have learned how to process Information to gain a more accurate understanding of medicine, mammals and nuclear physics.

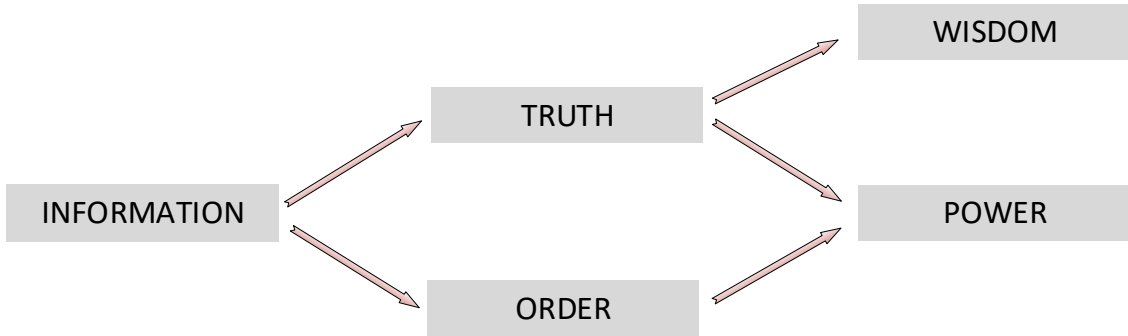
2. At the same time, networks have also learned how to use Information to maintain social Order among larger populations by using fictions, fantasies, propaganda, ad outright lies.



The Populist view of Information



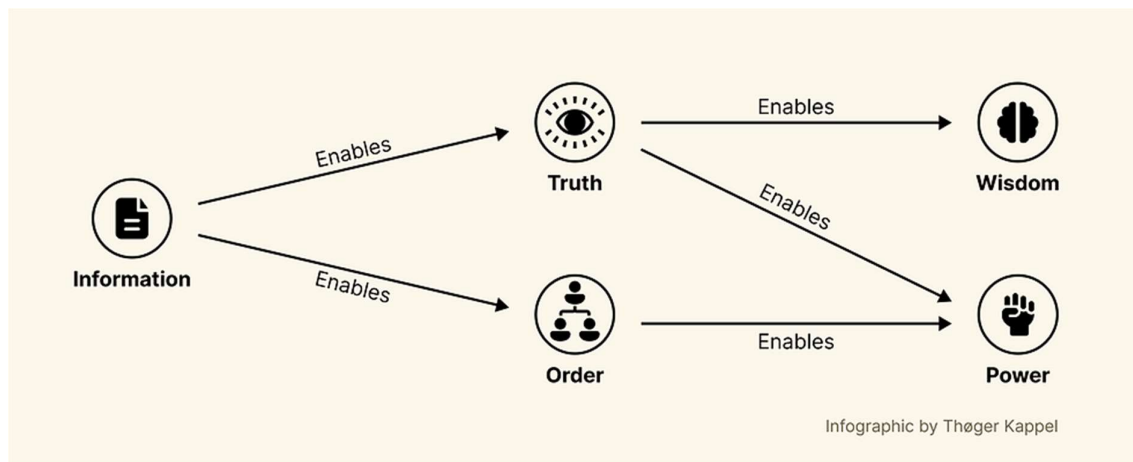
The Naive view of Information



A more complete Historic view of Information

The history of Human Information Networks is not a march of progress (*abhi-vruddhi disaga saage payanam kaadu* / అభివృద్ధి దిశగా సాగే పయనం కాదు).

It is a tightrope walk (*tigapai nadaka* / తీగపై నడక) trying to balance Truth with Order.



4 DOCUMENTS – THE LIMITATION OF STORIES

Stories were the very first important information technology developed by Humans.

They laid the foundation for all large-scale Human cooperation.

But as an information technology, Stories have their limitations.

4.1 Poets & Patriotism

Many nations were first conceived (*roopon-dincha-badindi* / రూపొందించబడింది) in the imagination of poets.

But dreams, songs, and fantasies (*kalpanalu* / కల్పనలు), however inspiring, are not enough to create a functioning nation-state.

Patriotism (*desabhakti* / దేశభక్తి) is not reciting stirring poems (*hrudayalanu kadilince kavitalu* / హృదయాలను కదిలించే కవితలు) about the beauty of the motherland.

Neither is it making hate filled speeches against foreigners and minorities and the “other”. Dreams, songs and fantasies can stir up a people; but cannot create a functioning nation-state.

You may remember Indira Gandhi’s famous slogan in 1980, “A Government that works!”.

Nahman Bailik (1890s) published poems about the weakness of European Jews and asked them to become more ferocious.

For that, you need Jewish fighters, an army, taxes to buy guns, etc.

Theodor Herzl wrote two books – *The Jewish State* (1896) and *The Old New Land* (1902); translated into Hebrew as *Tel Aviv*.

Zionism was born.

Both, poet Bailik and author Herzl conveniently ignored the fact that Palestine was already occupied.

Jews living there were only 6% to 9% of the population of about 6,00,000 people.

Patriotism means paying your taxes so that people enjoy the benefit of a sewage system, security, education, and health care.

To manage all these services and taxes have to be collected.

Information is needed about properties, payments, exemptions, discounts, debts, inventories, shipment, budgets, bills, and salaries.

4.2 Lists

This is not the kind of information that can be turned into a memorable poem (*maruvaleni kavitha* / మరువలేని కవిత) or a captivating myth (*aakattu-kune purana-gaatha* / ఆకట్టుకునే పురాణగాథ).

Tax records come in the shape of lists.

Simple item-by-item records, to more complex tables and spreadsheets.

Poets can afford to ignore these boring facts; but tax collectors cannot.

Lists are important for almost all complex financial institutions – corporations, banks, stock markets...

Even a church or a university or a library needs to balance its budget.

In addition to priests and teachers and poets, they also need accountants.

Lists and Stories are *inter alia* complementary (*pari-purakaram-aina* / పరిపూరకరమైన); one needs the other.

- National myths (*Purāṇasāstram* / పురాణశాస్త్రం) make the tax records legal.
- Tax records allow Stories to get converted into concrete schools and hospitals.

The dollar, pound sterling, euro and bitcoin come into being by making people believe in Stories told by bankers, finance ministers and investment gurus.

When startups want to attract investors, they turn to storytelling.

And to manage a bank, a budget or a startup, lists are essential.

The big problem with lists is that they are boring.

We easily remember stories but find it difficult to remember lists.

This is because evolution (*parinamam* / పరిణామం) has adapted the Human brain to be good at absorbing, keeping and processing very large quantities of information when that information is shaped into a story.

The Ramayana is 24,000 verses and 1,700 pages long but generations of Hindus remember and recite it by heart.

In 1987–88, a seventy-eight-episode version (running to about 2,730 hours) was the most watched television series in the world, with more than 650 million viewers.

During the 2020 COVID-19 lockdown the series was re-aired and again became the most watched show in the world.

Humans find it easy to follow intricate plots of epic drams, detective thrillers and soap operas, remembering each character and how they are related to all the others.

This is because long-term Human memory is adapted to retaining stories.

Human minds rely on stories and story architecture as the primary roadmap for understanding, making sense of, remembering, and planning our lives.

Lives are like stories because we think in story terms.

Stories are a highly effective vehicle for communicating factual (and false), emotional and unspoken/implied information (*cheppa-badani/suchincha-badina* / చెప్పబడని/సూచించబడిన).

Stories can be stored in our brains.

But complex national taxation and administration systems have required a unique nonorganic information technology in order to function.

This technology is the written Document.

4.3 Documents

The written document was invented many times in many places.

Learned Scribes (*racha-yithalu* / రచయితలు) wrote them down on clay tablets.

Just like stories, written documents did not necessarily represent Reality very accurately.

But true or false, written documents created new realities.

Documents changed the method for creating Intersubjective realities.

In oral cultures (*moukhika samskruthulu* / మౌఖిక సంస్కృతులు), Intersubjective realities were created by telling a story that many people repeated with their mouths and remembered in their brains.

But brain capacity placed a limit on the kinds of Intersubjective realities that Humans created.

Documents did not represent an objective practical reality.

The Reality was the documents themselves.

Consider ownership:

In oral communities, ownership was an Intersubjective Reality created through the words and behaviour of the community members.

To own a field meant that your neighbours agreed that this field was yours.

Ownership was created and maintained by people continuously saying or signalling to things to one another.

This made ownership the affair of a local community.

There was a limit on the ability of a distant central authority to control all land ownership. No king, minister or priest could remember who owned each field in hundreds of distant villages.

But wait! There is a down side to this also.

Your neighbours, the community, could also decide to whom you can sell/transfer the land to.

When you die, they could decide that the land goes to your daughter and not your son.

Or that you cannot sell/transfer to someone from a different Band or Tribe.

What is written on some clay tablet, bamboo strip, piece of paper, or silicon chip that you own the field is the new reality.

If a dog or white ants eat that document, the field is no longer yours.

Now, the new document itself is the new reality.



Ownership is still an Intersubjective Reality created by the exchange of Information.

But that Information now takes the form of a written document or computer file, instead of people talking to each other.

This allows a central authority like a king, minister or priest (whoever keeps that document), take control.

It also means that you can sell/transfer that field without our neighbour's permission.

In ancient Mesopotamia, a Loan contract could be “killed” when a debt was cleared by destroying the clay tablet or breaking its seal.

The Loan contract did not represent reality; *it was the Reality*.

If a dog or white ants eat that document, the Loan “died” and need not be repaid.

The same happens with money.

If a dog or white ants eat that US\$ 100 note, the money ceases to exist.

From ancient times till today, the writing of documents is most important because these pieces of writing have enormous power.

4.4 Retrieval

Every new information technology solves some old problems, but creates new ones.

As people produced more and more documents, finding them turned out to be very difficult.

How do you find the correct tax record, payment receipt or business contract when you need it?

The problem is called Retrieval (*puna-rudharana* / పునరుద్ధరణ).

The Human brain is very efficient in retrieving information stored in tens of billions of Neurons (brain cells) and trillions of Synapses (connectors).

The brain archives countless complex stories of our personal life, our national history, religious mythology, etc.

Healthy people can retrieve any of this information in less than a second.

Neuroscientists have studied memory (*gnapaka-sakti* / జ్ఞాపకశక్తి), but nobody understands what memories are or how exactly they are stored and retrieved.

But once Humans have outsourced memories from organic brains (*sendriya medallu* / సేంద్రియ మెదళ్లు) to inorganic documents (*asendreeya patraalu* / అసేంద్రియ పత్రాలు), retrieval can no longer depend on biological systems (*jeeva vyavasthalu* / జీవ వ్యవస్థలు).

Evolution (*parinamam* / పరిణామం) adapted Humans for finding fruits and mushrooms in a forest, but not documents in an archive.

Because evolution has organized forests according to an organic order (*sendriya kramam* / సేంద్రియ క్రమం).

Fruit trees need sunlight; mushrooms feed on dead organic matter.

So fruits grow further up and mushrooms usually grow in the ground.

Apples grow on apple trees; figs on fig trees.

When living in a forest, Humans learn this organic order.

Documents are not organisms (*jeevulu* / జీవులు) and do not obey any biological laws.

Evolution did not organize them for us.

Tax reports don't grow on tax report shelves; they need to be placed there.

For that, somebody has to come up with the idea of categorizing Information by shelves.

Bureaucracy (*adhikara yantrangam* / అధికార యంత్రాంగం) is the way people in large organisations solve the retrieval problem and create bigger and more powerful Information Networks.

But just like mythology, bureaucracy too sacrifices Truth for Order.

Bureaucracy twists and changes people's understanding of the world.

They ignore Human needs and feelings (*bhavalu* / భావాలు).

4.5 Bureaucracy and the search for Truth

The term literally means "rule by writing desk".



Bureaucracy solves the retrieval problem (*puna-rudharana samasya* / పునరుద్ధరణ సమస్య) by dividing the world into drawers and

knowing which document goes into which drawer.

It doesn't matter whether the document goes into a drawer, a shelf, a basket, a jar, or a computer file.

Divide the world into containers and keep the containers separate so that documents don't get mixed up (*veruga unchali* / వేరుగా ఉంచాలి).

Instead of focusing on understanding the world as it is, bureaucracy is busy imposing a new and artificial Order on the world (*oka kotha mariyu krutrima-maina kramanni vidhin-chadam* / ఒక కొత్త మరియు కృత్రిమమైన క్రమాన్ని విధించడం).

The various drawers are Intersubjective realities that do not look like any objective realities in the world.

Then the bureaucrats force the world to fit into these drawers.

And if the fit is not very good, the bureaucrats push harder.

Bureaucrats, scientists and technicians have a compelling need to show things to be precisely wrong, rather than approximately right.

(adhikarulu, sastravettalu mariyu sanketika nipunulaku vishayalu 'sumaruga sarainavi'ga kakunda, 'khacchitamga tappu'ga unnayani chuupimchaalsina balamaina avasaram untundi.

అధికారులు, శాస్త్రవేత్తలు మరియు సాంకేతిక నిపుణులకు విషయాలు 'సుమారుగా సరైనవి'గా కాకుండా, 'ఖచ్చితంగా తప్పు'గా ఉన్నాయని చూపించాల్సిన బలమైన అవసరం ఉంటుంది.)

Reducing the messiness of Reality (*vastha-vikathaloni gandara-golam* / వాస్తవికతలోని

గందరగోళం) into a limited number of fixed drawers helps bureaucrats keep Order, but it comes at the expense of Truth.

Bureaucrats develop a distorted, inaccurate understanding of the world (*vakri-karinchina, akha-cchitamaina* / వక్రీకరించిన, అఖచ్చితమైన).

Bureaucrats pursue narrow goals without bothering about the wider impact of their actions.

A bureaucrat entrusted with increasing industrial production ignores environmental considerations; he will allow toxic waste to be dumped into a nearby river.

A bureaucrat entrusted with the environment doesn't care if his work leads to economic ruin for communities.

Ideally, they should be willing to take a holistic approach, but that will need the abolishing of bureaucratic divisions.

Universities are organized similarly; history is separated from mathematics.

This too gives a distorted view of the Objective Reality.

COVID-19 was a historical, biological and mathematical event.

To fully understand COVID-19 all these have to be taken into account but academic bureaucracy doesn't encourage such a holistic approach.

Evolution cannot be easily contained in any bureaucratic schema (*vidhanam* / విధానం).

The whole point of evolution is that species continually change, which means that putting each species in one unchanging drawer distorts biological reality.

Below are examples of extremely important, lifesaving scientific Facts (objective realities) that will be lost with bureaucracy:

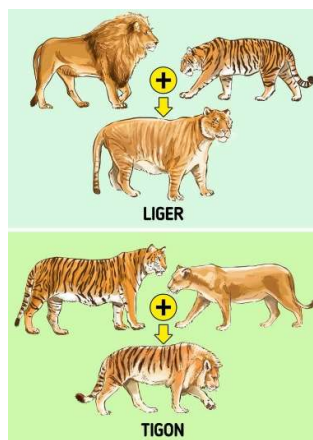
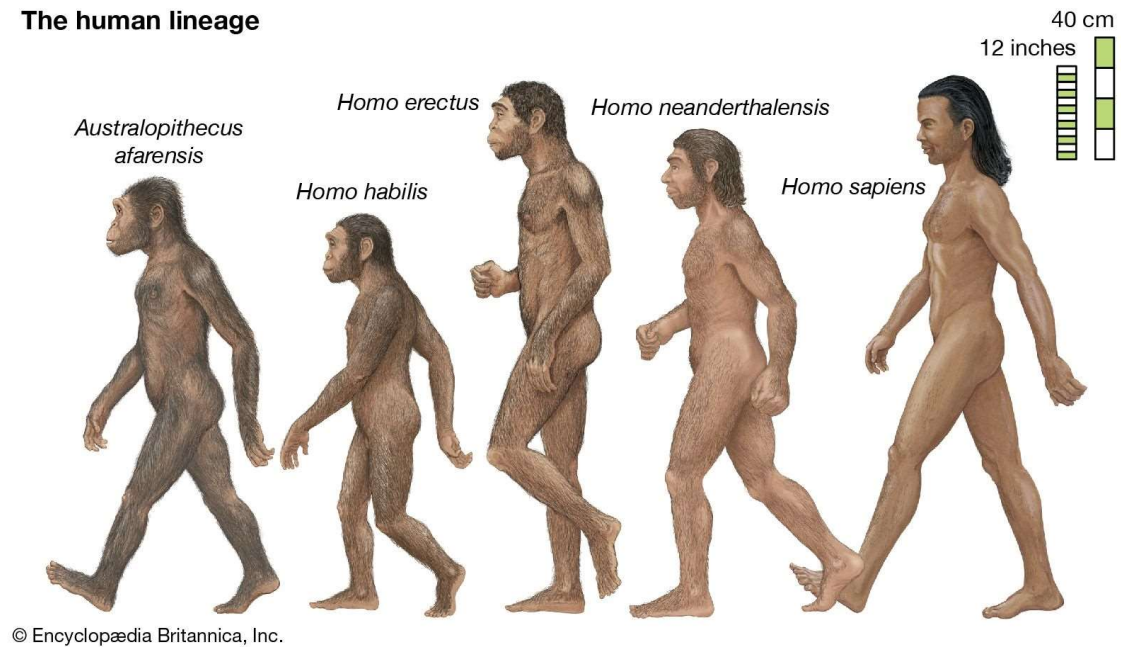
When *Homo erectus* ended and *Homo sapiens* began, were there once two *erectus* parents whose child was the first *sapiens*?

Species also keep intermingling, with animals belonging to seemingly separate species not only having sex but even birthing fertile offspring.

Most *sapiens* living today have about 1% to 3% percent Neanderthal DNA, indicating that there once was a child whose father was a Neanderthal and whose mother was a *sapiens* (or vice versa).

So, are *sapiens* and Neanderthals the same species or different species?

The human lineage



Is “species” an Objective Reality that biologists discover, or is it an Intersubjective Reality that biologists impose?

Bureaucratic division fails to accurately categorize ring species, fusion species, and hybrids.

Grizzly bears and polar bears sometimes produce pizzly bears and grolar bears.

Lions and tigers produce ligers and tigons.

These may be very rare, but they teach us about evolution.

In a process known as horizontal gene transfer, single-cell organisms routinely exchange genetic material not only with organisms from related species but also with organisms from entirely different genera, kingdoms, orders, and even domains.

Unlike bacteria, viruses are not single-cell organisms.

They are not cells at all, and do not possess any cellular machinery of their own.

Viruses don't eat or metabolize, and cannot reproduce by themselves.

They are tiny packets of genetic code, which are able to penetrate cells, hijack their cellular machinery, and instruct them to produce more copies of that alien genetic code.

Scientists argue endlessly about whether viruses should count as life-forms or whether they fall outside the boundary of life.

But this boundary is not an Objective Reality; it is an Intersubjective convention.

Of course, Intersubjective conventions are themselves a part of reality.

As we Humans become more powerful, so our Intersubjective beliefs become more important for the world outside our information networks.

4.6 The Invisible Bureaucracy

In defence of bureaucracy, it should be noted that while it sometimes sacrifices Truth and distorts our understanding of the world, it often does so for the sake of Order.

Without Order, it would be hard to maintain any large-scale human network.

Can we wait for everybody – doctors and scientists and engineers – to study everything?

If all conventional divisions in the academic world were abolished and all departments and faculties had to study everything, will that lead to a better health care system?

If a medical doctor had to study all the subjects concerning Humans, she would never stop studying and start treating biological diseases of patients.

Even Hospitals are bureaucratic institutions divided into different departments, with hierarchies, protocols and lots of forms to fill out.

They have many bureaucratic faults, but manage to cure us of our illnesses.

When we flush our toilet, where does the waste go?

Into the deep state with intricate web of pipes, pumps and tunnels that run under our houses and roads and separates waste from drinking water.

Someone has to concentrate only on the design, construction and maintenance of that deep web without worrying about anything else.

Before this happened, when sewage mixed with drinking water, thousands of people died of Cholera.

Frequent outbreaks of the epidemic were blamed on “bad air”

It was tiresome bureaucratic work by Dr John Snow in 1854 London – collecting data, categorizing and mapping it that made doctors and engineers understand the connection between sewage, drinking water, and death.

Sewage issues are not found in epic poems and mythology (*purana gaadhalu* / పురాణ గాథలు).

4.7 The Biological Dramas

Mythology and Bureaucracy are the twin pillars of every large-scale society (*janta stambalu* / జంట స్తంభాలు).

- Mythology inspires fascination (*puraanaalu aasaktini rekettis-tayi* / పురాణాలు ఆసక్తిని రేకెత్తిస్తాయి).
- Bureaucracy inspires suspicion (*adhipakara yantranga anumananni rekett-istundi* / అధికార యంత్రాంగం అనుమానాన్ని రేకెత్తిస్తుంది).

Even good and useful bureaucracies like the separation of sewage and drinking water does not win the public’s trust.

The very word “bureaucracy” carries negative meaning.

The reason for this is because all bureaucracies (good or bad) are difficult for Humans to understand.

When the tax collector comes to take a share of your earnings, you don’t know if it will go to improve your water system or build a monument for the ruler.

Firstly, it is hard to get proper Information; then it is difficult to interpret and understand this Information.

How are students admitted to schools?

How are patients treated in hospitals?

How is garbage collected and disposed?

It takes just a minute to tweet accusations of bias, fraud and corruption in the social media (*pakshapatam, mosam, avineethi* / పక్షపాతం, మోసం, అవినీతి).

It will take many weeks of tough work to research and prove or disprove them.

Documents, archives, forms, licenses, regulation and procedures changed the way information flows in society and the way power works.

It is difficult to understand what is happening behind closed doors of offices where our fate is decided with the stroke of a pen or the click of a mouse.

It allows the centre to collect and record a lot of Information on the people it governs.

Poets and playwrights focused on story lines that are rooted in our biology (*jeevasastram* / జీవాశాస్త్రం).

But these biological dramas did not explain the workings of bureaucracy.

Because the stories they told were scripted by evolution (*parinama-kramam dwara roopandinchabadindi* / పరిణామక్రమం ద్వారా రూపొందించబడింది).

Millions of years before documents and archives came into being.

“Biological dramas” are a poor guide for understanding bureaucracy (*jeevasambandhita naatakaalu* / జీవసంబంధిత నాటకాలు).

Let us take a look at the plot of one of humanity’s most artistic masterpieces – the Ramayana:

The plotline concerns the relationship between prince, Rama, his father Dasharatha and his stepmother Kaikeyi.

Parental care and the fear of losing parental neglect or hostility.

(Christianity is based on the fear of losing contact with the mother church and the heavenly father)

Sibling rivalry; “we are Father’s favourite children”.

Romantic triangle; boy meets girl, boy fights over girl.

Purity and impurity; evolutionary struggle to avoid pollution.

Politicians and prophets have learned how to manipulate disgust mechanisms.

“Who will be Alpha?”

Us versus Them and Good versus Evil.

Together, these biological dramas form the backbone of almost all Human art and mythology (*purana gaadhalu* / పురాణ గాథలు).

Mythology’s dependence on biological dramas has made it difficult for artists to explain the mechanisms of bureaucracy.

The Ramayana, just like all other mythology, is set in the context of a large agrarian kingdom.

We have already seen that lists, documents and bureaucracy are vital for agrarian societies to function.

But the epic poem shows little interest in how such a kingdom registers property, collects taxes, archives or pays for wars.

4.8 Human-to-Story-to-Human → Human-to-Documents Chains

In Tribal societies, without written documents and bureaucracies, the Human network was Human-to-Human and Human-to-Story-to-Human chains.

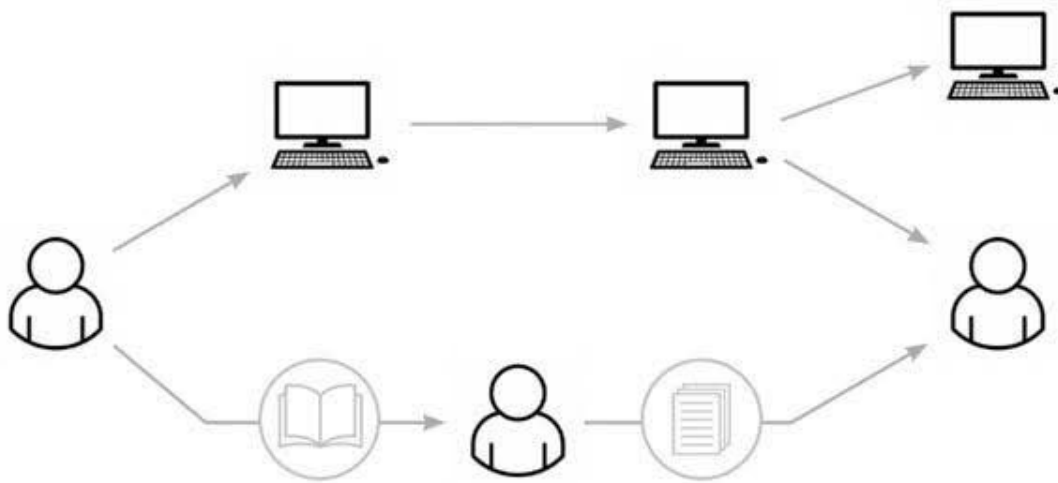
Authority always belonged to people who controlled the junctions (*kuudallu* / కూడళ్లు) that linked the various chains.

These junctions were the Tribe's myths (*puraanaalu* / పురాణాలు).

Now, in addition to Human-to-Human and Human-to-Story-to-Human chains, societies are held together by Human-to-Documents chains.

It is important to understand that Humans telling stories is still playing a very important role.

Because, as we have just seen, bureaucracy and mythology are the twin-pillars that justify each other.



In previous networks, members were human, every chain had to pass through humans, and technology served only to connect the humans. In the new computer-based networks, computers themselves are members and there are computer-to-computer chains that don't pass through any human.

But what is happening is that documents force Humans to engage with other documents.
This is the shift in authority.

Documents become a crucial nexus (*anu-sandhanam* / అనుసంధానం) linking many social chains.

Experts in the mysterious logic (*anthuchikkani tarkam* / అంతుచిక్కని తర్కం) of documents emerge as the new authority figures – administrators, accountants and lawyers.

Power comes from understanding how to find your way around the webs and tangles of documents (*saale-goollu mariyu chikkulu* / సాలెగూళ్లు మరియు చిక్కులు).

The central authority grows and ordinary citizens get weaker.

Even when bureaucracies serve useful functions, it still increases the gap between rulers and the ruled.

Biological dramas gave us a particular understanding of living.

Our minds understand death by a tiger.

But our minds find it much more difficult to understand death by a document.

4.9 The Miracle Document

People are left helpless in the face of harmful powers they do not understand.

People are left with the impression that even harmless bureaucracy is a poisonous plot (*visha-pooritamaina kurta* / విషపూరితమైన కుట్ర).

The quantity of Information in a network does not guarantee its harmlessness or help find a balance between Truth and Order.

More Information does not maximise Truth.

Bureaucracy and Mythology are both needed to maintain Order, and both are ready to sacrifice Truth for the sake of Order.

But what happens when an Information Network believes itself to be utterly incapable of error?

The history of Holy Books shows us the limitation of all Information Networks.

And it highlights the danger of AI in the 21st century.

5 ERRORS: FANTASY OF INFALLIBILITY

5.1 Human Errors

Humans are not infallible (*tappuleni* / తప్పులేని).

“To err is Human; but to continue in error is diabolical (*adi durmargamainadi* / అది దుర్మార్గమైనది).”

Bureaucracy too is constantly on the lookout for errors.

From misplaced documents to inefficient procedures.

That is why complex bureaucratic systems usually contain self-correcting mechanisms.

They set up tedious rules, regulations and procedures to try and avoid errors (*visugu puttinche vidhanalu* / విసుగు పుట్టించే విధానాలు).

This makes them even more difficult for citizens to understand.

When something seriously goes wrong, commissions of inquiries are set up.

However, if Humans are likely to make errors, how can we trust self-correcting mechanisms to be free from errors?

In order to escape from this endless loop (*ee antuleni chakram nundi tappinchukovadaniki* / ఈ అంతులేని చక్రం నుండి తప్పించుకోవడానికి), Humans daydream and imagine about some superhuman mechanism, free from all errors.

In April 2023 Elon Musk announced, “I’m going to start something which I call TruthGPT or a maximum truth-seeking AI that tries to understand the nature of the universe.”

We have earlier seen that Humans have many realities

There is no one, single universal Truth (*ae okka saarvatrika satyam ledu* / ఏ ఒక్క సార్వత్రిక సత్యం లేదు).

In previous times, such fantasies took a different form – Religion.

5.2 Religion

In our personal lives, religion can fulfil many functions like giving comfort, explaining the mysteries of life (*jeevitha rahasyalu* / జీవిత రహస్యలు), etc.

But historically, the most important function of religion has been to provide superhuman legitimacy for the social Order (*samajika vyavasthaku athindriyamaina chattabaddhata* / సామాజిక వ్యవస్థకు అతీంద్రియమైన చట్టబద్ధత).

Religion is a set of ideas and rules established by an infallible (*tappuleni* / తప్పులేని)

superhuman authority which are supposed to be free from all error:

- Cannot be questioned (*prasninchalemu* / ప్రశ్నించలేము)
- Can never be challenged (*Savālu Cēyalēmu* / సవాలు చేయలేము)
- Need not be proved (*nirupinchalsina avasaram ledu* / నిరూపించాల్సిన అవసరం లేదు)

5.3 Taking Humans out of the Loop

Every religion exists in the fantasy of connecting to a superhuman and fail-proof intelligence.

Studying the history of religion is highly relevant to present-day debates about AI.

In the history of religion, a constant problem is how to convince people that a certain dogma (*siddantham* / సిద్ధాంతం) or unquestioned belief did indeed originate from an infallible superhuman source.

Even if we are, in principle, eager to submit to god's will (*devuni chittaniki lobadatam* / దేవుని చిత్తానికి లోబడటం), how do we know what the gods really want?

Some claim that god appeared in a dream, others that she was visited by an angel, yet others that she met a spirit in the forest.

Each message was different.

How to separate the true command of the gods from the imagination of fallible (*tappulu chese avakasam unna* / తప్పులు చేసే అవకాశం ఉన్న) Humans?

Religion wants to take fallible Humans out of the loop.

But religion always boiled down to trusting this, that, or some other Human.

One solution was to create religious institutions (*mataparamaina samsthalu* / మతపరమైన సంస్థలు) that checked divine messengers.

The idea was that membership to an established religious institution made the messenger more trustworthy (*nammadagina vyakthi* / నమ్మదగిన వ్యక్తి).

As Human societies grew and became more complex than hunter-gatherers who lived in Bands and Tribes, priests of these religious institutions had to train long and hard for the job of representing the gods.

But as long as religious institutions were staffed by imperfect Humans (*asampurna maanavulu* / అసంపూర్ణ మానవులు), they too were open to error and corruption.

The key problem of religion was not solved by creating religious institutions like temples, churches, Ulamas and priestly assemblies.

Was it possible to somehow bypass the Humans altogether?

5.4 Books

Holy books like the Bible, Qur'an, Vedas, Tipitaka and Agam Sutras are a technology that bypass Human fallibility.

Judaism, Christianity, Islam, Hinduism, Buddhism and Jainism are built around these technological objects.

To understand this, we first need to understand what makes Books different from other kinds of written texts.

A book is a fixed block of texts (chapters, stories, recipes or messages) that always go together and have many *identical* copies.

This makes a book different from oral stories, bureaucratic documents, lists, etc.

If a long document has many copies placed in different places, we would normally call it a book.

The book therefore makes sure that many people in many times and many places can access the same database.

Books became an important religious technology about 1000 BC.

Earlier, for tens of thousands of years, the gods spoke to Humans through shamans, priests, prophets and other Human messengers.

Judaism is one of the first religions where the gods speak through this new technology, the Book.

No priest, prophet or Human institution can forget or change the divine words.

5.5 Content of Holy Books

Religions of the book had their own problems.

- WHO decides what to put into the holy book?
- The first copy did not come down from heaven.
- It had to be compiled by Humans.

The faithful decided to solve this problem with a once-and-for-all supreme effort.

They got together the wisest and most trustworthy Humans who could all agree on the contents of the holy book.

After that, there would be no more Human interference.

Of course there were more problems with this solution:

Who selects the wisest Humans?

What if they cannot reach an agreement?

What if they later change their minds?

5.6 Abrahamic Religions

Let us see the history of the three Abrahamic religions to understand. Here is the cast of characters (*paatrala jabita* / పాత్రల జాబితా):

- Jehovah (*Allah*) = God
Abraham (*Ibrahim*) = the Father
- Moses (*Mūsā ibn 'Imrān*) = Pharaoh's son (Pharaoh = living God-king of Egypt)
Born 1996 BC – i.e. 4,000 years back
Founder of the Jewish religion; Judaism
Holy Book = Torah or Hebrew Bible → Mishnah → Talmud
- Jesus (*Isa ibn Maryam*)
Son of Joseph, a Carpenter
Born 0 AD - i.e. 2026 years back
Founder of Christian religion
Holy Book = Old & New Testament Bible
- Mohammad
Middle aged merchant from Mecca
Born 570 AD - i.e. 1,450 years back
Founder of Islam
Holy Book = Qur'an

5.7 The Making of the Hebrew Bible

About 3,000 years ago (in about 1000 BC) Jewish prophets, priests and scholars produced a huge collection of stories, documents, prophecies (*pravachanaalu* / ప్రవచనాలు), poems, and prayers.

It took hundreds of years of debates and heated arguments among learned Jewish sages (Rabbis) to decide on the contents.

Even hundreds of years after Jesus' life, the Jewish Bible was not ready.

After finalisation, most Jews gradually forgot the role of Humans in the messy process of compiling their Bible – the *Torah* (*sankalanam cheyadam* / సంకలనం చేయడం).

Learned Rabbis maintained that god had personally handed over the *Torah* to Moses in about 1350 BC.

Jews now had direct access to god's exact words which no imperfect Human could erase or alter (*cheripiveyalemu ledaa marchalemu* / చెరిపివేయలేము లేదా మార్చలేము).

They started making many copies of the holy book so that every Jewish community, everywhere in the world, could have an exact copy (*khachithamaina* / ఖచ్చితమైన).

This was supposed to have two effects:

1. Spreading many copies of the *Torah* would democratise religion and limit the power of Human dictators.
Power would be with the masses.
2. Having many identical copies made playing with the text impossible.

5.8 The Problem with Hand-copied Books

Making the exact same copies of the holy book was important.

Otherwise, it would not work its magic.

The Rabbis laid down many rules and regulations for copying the holy book:

- i. The clerk could not pause or take a break at critical moments in the copying process.
- ii. When writing the name of god (Jehovah), the clerk could not respond even if the king greets him.
- iii. Clerks were brainwashed into believing that deleting even one letter or adding an extra letter would destroy the entire world.



In truth, copying errors crept in and the entire world was not destroyed.
No two copies of the ancient Hebrew Bible were identical.

5.9 Interpreting the Books

Then came a bigger problem – interpretation (*ardham chesukovadam* / అర్థం చేసుకోవడం) and understanding the books.

What on earth did the words and stories actually mean?

The Hebrew Bible says that Jews should not work on Sabbath (*vishranti dinam* / విశ్రాంతి దినం).

But what was Work?

Was feeding your goats or watering your flowerpot Work?

Reading a book was not Work; but tearing a paper was Work.

Cooking a young goat in its own mother's milk was not allowed.

Did this apply to chicken, even though hens do not give milk?

Was it okay to drink milkshake after eating fried chicken?

The biggest problem was that the Hebrew Bible was written at the time of shepherds and farmers in the hill country of Palestine.

What about today's Jews who sail around the world in the high seas (*nadi samudram* / నడి సముద్రం)?

Can they steer their ships on Sabbath or crash and sink them every Saturday?

Lighting a fire was work; how about using electricity on Sabbath?

How about today's Jews who live the 40th floor apartment building in New York?

Can they press the electric button in the elevator? Or should they use the staircase on Sabbath?

Centuries later, even today, Rabbis keep arguing on the interpretation of their Hebrew Bible. The attempt to bypass fallible Humans and Human institutions with an infallible technology has totally backfired (*puttuga tiragabadindi* / పూర్తిగా తిరగబడింది).

Because of the need to interpret the holy book.

Finally, after hundreds of years of arguments and debates, the old holy book (*Torah*) was discarded (*paraveyabadindi* / పారవేయబడింది).

A new updated holy book, the *Mishnah*, was adopted (*aamodinchabadindi* / ఆమోదించబడింది).

Once again, the *Mishnah* could not possibly be created by Humans.

It too must have been inspired by Jehovah.

The Rabbis said that it was the *Mishnah* (and not the *Torah*) that was handed down to Moses.

The same rigmarole continued (*anavasaramaina sudirgha prakriya* / అనవసరమైన సుదీర్ఘ ప్రక్రియ).

Then came the third Hebrew Bible – the *Talmud*.

“Trust the infallible book” has become “Trust the Humans who interpret the book”.

Judaism became an “information religion”.

Over time, this has happened to all the major religions.

Through a process of selection, collation, debate, discussion and interpretation, information doled out (*pampini* / పంపిణీ) by religious institutions has become the core and essence of every religion.

Personal faith and belief that existed in prehistoric animistic religions have been totally replaced with the words of learned rabbis, priests or mullahs.

The distance between the learned scholars and trusting believers increased.

It became possible for the interpreters of holy books to metamorphose ideal kings into super gods.

Servile followers (*anigimanigi unde anucharudu* / అణిగిమణిగి ఉండే అనుచరుడు) were transformed into virile warriors (*paracramavanthudaina yodhudu* / పరాక్రమవంతుడైన యోధుడు), etc.

They started to curate religions (*kotha mathalanu roopondinchadam* / కొత్త మతాలను రూపొందించడం).

These new forms of older religions better served the institutions as well as rulers in ever changing modern times (*nirantaram marutunna kaalamlo* / నిరంతరం మారుతున్న కాలంలో).

5.10 The Christian Bible

During all these arguments and debates that changed the original Hebrew Bible from *Torah* to *Mishnah* and then to *Talmud*, something else happened.

Some of the arguing Jewish rebels (*thirugubatudarulu* / తిరుగుబాటుదారులు) became Christians when they started believing that Jesus Christ was the ultimate authority on Jehovah's words.

Jesus was a bigger messiah than all the Rabbis and scholars.

They said that god had been fed up with all the arguments and debates of the Rabbis.

So, he sent his own son to give the true message of god.

These rebel Jews, who called themselves Christians, were back again to find out what exactly were the words of Jesus.

It took four centuries after Jesus, for them to agree on and record the actual events that occurred in the 33-39 years that Jesus lived (*vastavamga jarigina sanghatanalu* / వాస్తవంగా జరిగిన సంఘటనలు).

It took four centuries to interpret his messages.

There were many Christian Bibles (New Testaments), each giving a slightly different account of what happened and what it means.

It took four centuries to finally adopt just 4 of them.

The Christian Bible was finally, officially out in 397 AD, keeping bits and pieces of the *Torah*, *Mishnah* and *Talmud* in order to connect to Abraham, the father of everyone.

Most Christians conveniently forgot that church leaders edited and wrote the infallible word of god.

They believed that these 4 books were actually written by Mathew, Mark, Luke and John who lived at the time of Jesus (of them, John was illiterate).

5.11 Interpreting the Christian Bible

As time passed, the power balance between the holy books and their interpretation turned in favour of the religious institution – church/temple/synagogue.

These religious institutions had their own power struggles to decide which interpretation was correct.

- At first, it resulted in the Western Catholic Church (Europe) and the Eastern Orthodox Church (Russia, Ukraine, Romania, Moldova, Greece, Cyprus and Serbia).
- Then the Western Catholic (or Latin) Church split into Catholic and Protestant.

- Then the Protestant Church split into 8-10 major Churches: Pentecostal, Baptist, Anglican, Lutheran, Calvinist, Methodist, Adventist, Anabaptist and Independent.
- Today, there are about 33,000 to 45,000 Protestant Churches globally; each with a different interpretation of their Christian Bible.
- Islam is no exception; it split into 15-30 sects (as opposed to the prophecy of 73).

The different churches (religious institutions) interpreted the exact word of god in whatever way they wanted:

Jesus is supposed to have said that we should love our enemies, turn the other cheek, and the meek will inherit the earth.

The Catholic Church totally disagrees.

- It interprets these very words to launch violent and vicious crusades and establish murderous practices.
- Burning non-believers or heretics (*matha viruddhavadulu* / మత విరుద్ధవాదులు) was an act of love because it stopped other people from adopting heretical views and saved them from hell.

These were not the views of some crazy priests.

Kings and Popes led the Crusade wars to continuously slaughter Muslims for 300 long years in distant Middle East, where they were not any threat to the Christian world.

6 PRINT REVOLUTION

6.1 Letterpress Printing

When letterpress printing was invented in 15th century Europe the Catholic Church used its power to distribute copies of its approved texts and prohibited the printing and spread of others.

Of course, the church couldn't control and prevent the odd freethinkers (*swecha aalochanaa-parulu* / స్వేచ్ఛా ఆలోచనాపరులు).

But they did not have the technology to spread their ideas.

They were prevented from printing and distributing their ideas.

- In 1050 AD, the library in Exeter cathedral had just 5 books.
- In the 13th century the library in Oxford University had just a few books kept in a steel box.
- In 1424 the library of Cambridge University had a total of 122 books.

6.2 Echo Chamber

The church locked society into an echo chamber (*prathi-dhvani gadi* / ప్రతిధ్వని గది):

What the church said and taught were found in books; and what was in the books is what the church taught and spoke.

Most of the population were illiterate and didn't read the few books.

But they were awed (*vismayam chendaru* / విస్మయం చెందారు) by what was supposed to be there in these precious (*amuulyam-aina* / అమూల్యమైన) church-approved texts.

That is how the belief in a supposedly infallible superhuman technology like the Christian Bible led to the rise of an extremely powerful, but fallible, Human institution like the Catholic Church.

Medieval Europeans were cocooned (*goodu kattukunnaaru* / గూడు కట్టుకున్నారు) inside that information sphere.

Their daily activities, thoughts and emotions (*aalochanalu mariyu bhavo-dvegalu* / ఆలోచనలు మరియు భావోద్వేగాలు) were shaped by texts about texts about texts...

The attempt to bypass Human fallibility by giving authority to an infallible text never succeeded.

Some people thought this was due to some special fault with the Jewish Rabbis and Catholic Church.

Protestants repeated the experiment again and again (33,000 to 45,000 times) – and always got the same results.

If infallible texts merely result in fallible and oppressive churches, then how to deal with the problem of Human error?

The naïve view says that if all restrictions (*niban-dhanalu* / నిబంధనలు) on the free flow of information are removed, error will be exposed and replaced by Truth.

6.3 Print Revolution

One of the most celebrated times in the history of information networks was the European print revolution in the mid-15th century.

It made it possible to mass-produce texts quickly, cheaply and secretly.

- In 46 years between 1454 and 1500, more than 12 million volumes were printed in Europe.
- Compare that with the previous 1,000 years when only 11 million volumes were hand copied.



The print broke the absolute control that the Catholic Church had over the European information network.

Some say that the free exchange of information led to the scientific revolution.

There is a grain of truth in this.

Without print, it would have been much harder for Copernicus, Galileo and others to develop their ideas to prove that planets revolve around the sun.

But print was not the root cause of the scientific revolution.

The only thing a printing press did was to faithfully reproduce texts.

The machine had no ability to come up with any new ideas.

In fact, print allowed the rapid spread not only of scientific facts, but also religious fantasies, false news and conspiracy theories.

6.4 Witch Hunts

The worst among them was the conspiracy of satanic witches which led to the witch-hunt craze in early modern Europe.

Belief in magic and in Witches (*mantra-gattelu* / మంత్రగత్తెలు) has been there at all times in Human societies in all continents.

Stupid people believe in it even today.

And many pretend to practice it to fool these stupid people even in this day and age.

Different societies imagined Witches and related to them in different ways.

- Some believed that witches controlled the spirits, talked to the dead and predicted the future (*bhavishyattunu anchanaa vesaru* / భవిష్యత్తును అంచనా వేశారు).
- Others imagined that witches stole cattle and found hidden treasure.
- Others thought they caused disease to crops and also made love potions.
- One community thought they entered houses at night, performed all the household chores and stole milk.

Some thought Witches were mostly female; others imagined them to be male.

Some cultures were terrified of Witches; others tolerated and even honoured them (*sahincha-baddaru mariyu gouravincha-baddaru* / సహించబడ్డారు మరియు గౌరవించబడ్డారు).

Most importantly, no society, anywhere in the world, gave the question of Witches any importance.

Even the Catholic Church ignored their supposed existence, calling witchcraft an imagined illusion, a superstition (*kalpita bhrama, muuda-nammakam* / కల్పిత భ్రమ, మూఢనమ్మకం).

This changed in the 1420s and 1430s when churchmen and scholars took bits and pieces of Christian religion and local folklore (*jaana-pada gaadhalu* / జానపద గాథలు) and put them together into a new theory of witchcraft.

Previously, even when Witches were feared, they were considered a strictly local problem – isolated criminals who used magic to commit theft and murder.

But these new scholars argued that Witches were a bigger threat to society and there was a global conspiracy led by Satan (the devil) to destroy the Christian religion and destroy the social Order of Humans (*prapancha-vyapta kurta maanavula samajika vyavasthanu naasanam cheya-daaniki* / ప్రపంచవ్యాప్త కుట్ర మానవుల సామాజిక వ్యవస్థను నాశనం చేయడానికి).

A book called *The Hammer of the Witches* became a detailed do-it-yourself guidebook to expose and kill Witches (*mantra-gattelanu bayata-petti champa-daniki* / మంత్రగత్తెలను బయటపెట్టి చంపడానికి).

The printing of thousands of copies of this book led to one of the greatest horrors (*bhayanaka drushyalu* / భయానక దృశ్యాలు) in European history.

I will not go into the details of the witch-hunt, but will list some of the consequences:

- 200 supposed male and female witches were publicly burnt on huge fires on the Valais region in France between 1428 and 1436.
- Local church officials, including the Bishop of Brixen who condemned this were themselves called agents of Satan and killed in a horrible manner.
- Witchcraft was sexualised (*laingika konamlo chuupa-badindi* / లైంగిక కోణంలో చూపబడింది) as having its origin in lust (*kaama-vaancha* / కామవాంఛ).
- Witches were accused of stealing men's penises, storing them in bird's nests high in trees, and make men believe they were castrated (*vrusha-nalanu thola-ginchina* / వృషణాలను తొలగించిన).
- Witches were accused of causing children's deaths.
- In the whole of France, 3,00,000 Witches were murdered.
- And 1.8 million in the whole of Europe.



People denounced one another for witchcraft on flimsy evidence (*balaheenamaina sakshyam* / బలహీనమైన సాక్ష్యం) to take revenge for personal insults and for economic and political gain.

All these were meticulously (*nisi-tanga* / నిశితంగా) recorded in printed books and pamphlets (*karapatralu* / కరపత్రాలు).

There was so much data on witches and witchcraft that a lot of otherwise sensible people said, “It must be true”.

With the production of more and more information, it became harder to dismiss all that information as pure fantasy, “If everybody said so, it must be true”.

We cannot conclude that the invention of print caused the European witch-hunt craze. But the distribution of tens of thousands of books and pamphlets on the subject did spread the idea.

It fuelled mass hysteria (*samuhika un-madam* / సామూహిక ఉన్మాదం).

We have already seen that Humans are susceptible (*gura-yay* / గురయ్యే) to adopting fake memories.

A whole lot of people actually dreamed about summoning devils (*deyyaanni pilavadam* / దేయ్యాన్ని పిలవడం), have sex with Satan, and practicing Witchcraft.

They actually voluntarily confessed (*swachan-danga oppu-kunnaru* / స్వచ్ఛందంగా ఒప్పుకున్నారు) “to clean humanity” and were tortured and killed!

Witches were not an Objective Reality.

The witch-hunts were fuelled by an expanding ocean of information that created a new Intersubjective Reality.

(*vistaris-tunna samachara sagaram oka kotha antar-vyaktigata vasta-vikathanu srustin-chindi* / విస్తరిస్తున్న సమాచార సాగరం ఒక కొత్త అంతర్-వ్యక్తిగత వాస్తవికతను సృష్టించింది).

Witch-hunts were a catastrophe caused by the spread of toxic information; a problem created by information and made worse by more information.

What really got the scientific revolution going was neither the printing press nor a completely free market of information.

7 THE SCIENTIFIC REVOLUTION

7.1 The Discovery of Ignorance

Unregulated information does not necessarily lead people to identify and correct their errors.

For Truth to win, it is necessary to establish (*amar-chadam* / అమర్చడం) curation institutions that have the power to collect, manage, and care for information within a network, and tilt the balance in favour of facts.

Insofar as the Catholic Church is concerned, its curation power is used to quash any criticism of itself, labelling all alternative views as erroneous.

For the scientific revolution, scientists had to trust information published by colleagues in distant lands.

Scientific journals used the print technology in a completely different manner.

When a scientific paper was submitted, the editors did not ask, “How many people will pay to read this?”, but “What proof is there that this is true?”.

A scientific institution (including its publications) gained authority because it had strong self-correcting mechanisms that exposed and corrected errors of the institution itself.

It searched for people who would find errors with earlier claims and publications.

The scientific revolution was launched by the discovery of ignorance (*agnanam* / అజ్ఞానం).

Scientists stopped assuming that Truth was only in the holy books, prophets, saints or geniuses.

Science rejected the fantasy of infallibility (*tappulu cheyani-varamane bhrama* / తప్పులు చేయనివారమనే భ్రమ) and began to construct an information network that takes error to be inescapable (*tappu anivaryam kaavadam* / తప్పు అనివార్యం కావడం).

Infallibility is an illusion (*oka bhrama* / ఒక భ్రమ).

Everyone accepts that Copernicus, Darwin, Einstein, Aryabhata were geniuses (*medhavulu* / మేధావులు).

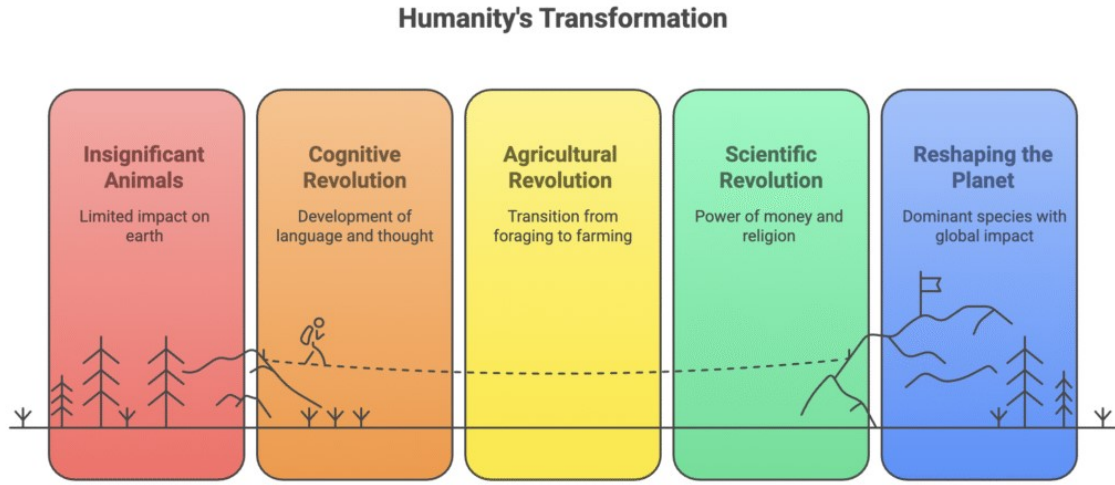
But none of them are considered faultless (*lopam leni* / లోపం లేని).

Science is a team effort, relying on institutional collaboration (*samastha-gata sahakaram* / సంస్థాగత సహకారం) rather than individual scientists.

Scientific institutions are different from religious institutions because they reward scepticism, questioning and innovation.

They are totally different from conspiracy theories because they reward self-scepticism, questioning and innovation (*samsaya-vadam, prashnin-chadam mariyu aavish-karana* / సంశయవాదం, ప్రశ్నించడం మరియు ఆవిష్కరణ).

(*vaaru sandehavadanni, prasninchadanni mariyu aavishkarananu prothsahistaru* / వారు సందేహవాదాన్ని, ప్రశ్నించడాన్ని మరియు ఆవిష్కరణను ప్రోత్సహిస్తారు).



7.2 Self-Correcting Mechanisms

As an information technology, a self-correcting mechanism (*swayam-savara-natmaka yantrangam* / స్వయం-సవరణాత్మక యంత్రాంగం) is the complete opposite of the holy book.

A teacher correcting a student's essay is not a self-correcting mechanism; the student is not correcting her own essay.

A judge sending a criminal to jail is not a self-correcting mechanism; the criminal is not exposing his own crime.

When Allies defeated the Nazi regime, this was not a self-correcting mechanism; Germany would not have de-nazified all by itself.

But when a scientific journal publishes a paper correcting a mistake that appeared in an earlier paper, that is an example of an institution self-correcting its own errors.

Self-correcting mechanism are abundant in Nature (*adhikanga unnayi* / అధికంగా ఉన్నాయి).

Children learn to walk by falling and learning from their mistakes; they try to do something slightly different and quickly master it. Parents do help with advice, but if a child relies totally on external corrects or keeps excusing mistakes, she will find it very difficult to walk.

Our blood pressure, temperature, sugar levels and numerous metabolic parameters self-correct when we run, sleep, etc. to keep within certain boundaries. If this stops, we could die.

Institutions also die without self-correcting mechanisms (*antarinchi-potayi* / అంతరించిపోతాయి).

Unlike individuals who sometimes get depressed (*kungi-povadam* / కుంగిపోవడం) and give up, institution actively seeks its own errors and corrects them.

All institutions that manage to stay more than a handful of years possess such mechanisms. But institutions differ greatly in the strength and viability (*balam mariyu aacharana-sadhyata* / బలం మరియు ఆచరణసాధ్యత) of their self-correcting mechanisms.

The most celebrated moments (*chirasma-raniya ghattalu* / చిరస్మరణీయ ఘట్టాలు) in the history of science are precisely those moments when previously accepted wisdom is overturned and new theories are born.

Scientific institutions are willing to admit their institutional responsibility for major mistakes and crimes.

- They themselves expose earlier racism and sexism (*jaathi vivaksha mariyu linga vivaksha* / జాతి వివక్ష మరియు లింగ వివక్ష) in their own journals.
- They accept that completely false biological, anthropological and historical theories (*tappudu jeeva-sastra, manava-sastra mariyu chaaritraka siddhantalanu angikaristar* / తప్పుడు జీవశాస్త్ర, మానవశాస్త్ర మరియు చారిత్రక సిద్ధాంతాలను అంగీకరిస్తారు) were used to justify colonialism (*valasa-vadam* / వలసవాదం), discrimination (*vivaksha* / వివక్ష), imperialism (*samrajya-vadam* / సామ్రాజ్యవాదం) and even genocide (*jaathi nirmulana* / జాతి నిర్మూలన).

These crimes and errors are not blamed on a few misguided scholars.

They are accepted as institutional failure (*samsthaa-gata vaiphalyam* / సంస్థాగత వైఫల్యం) of entire academic disciplines.

The willingness to admit major institutional errors is what allows science to develop at a relatively fast pace.

7.3 Publish or Perish

Scientific institutions have very strong self-correcting mechanisms.

They do not only admit (*angikarinchadame kakunda* / అంగీకరించడమే కాకుండా) institutional error and ignorance.

The actively seek to expose mistakes (*tappulanu bayata-pettadam* / తప్పులను బయటపెట్టడం).

Religious institutions are the opposite.

You cannot become Pope or chief Rabbi or grand Ayatollah or Shankaracharya by criticising those before your time.

Nor by advancing any new radical notions (*evaina kotha vipla-vatmaka aalochanalu* / ఏవైనా కొత్త విప్లవాత్మక ఆలోచనలు).

The most powerful and admired religious leaders are the ones to stick to outdated ideas (*patha-badina bhaavanalu* / పాతబడిన భావనలు) that belonged to another time and place.

Science works the other way around.

Promotions are based on the principle of “publish or perish” (*prachu-rinchu ledaa antarinchipoo* / ప్రచురించు లేదా అంతరించిపో)

To publish in prestigious journals, you must expose some mistake (*edo oka tappunu bayata-pettali* / ఏదో ఒక తప్పును బయటపెట్టాలి) in existing theories or discover something your predecessors and teachers did not know.

Nobody wins a Nobel Prize by faithfully repeating what some previous scholar said.

Of course, science is also an institution and there is room for conformism (*anu-gunyata* / అనుగుణ్యత).

What we learnt about witchcraft is not what we personally witnessed.

Nor did we do any research by reading medieval literature.

We relied on scholarly works like Ronald Hutton who wrote “*The Witch: A History of Fear*” in 2017.

We did not meet professor Hutton, but we trust him.

We know that if he had made mistakes, someone else would have brought out a new article correcting him.

And if we have misunderstood what he said, someone in future will correct these notes of mine that I have written to teach my son.

Scientific self-correcting mechanisms have two important features:

1. They are built into the core of the institution (*pradhana bhagam* / ప్రధాన భాగం); they are not simply a separate add-on department.
2. Scientific institutions publicly celebrate self-correction instead of denying it; they openly and happily accept earlier mistakes.

Those with the populist view on information will say that since science is also an institution, they will attack any self-correction.

Many scientists who discover new theories are mocked and personally attacked.

(they are not physically tortured and burned at the stake)

But not for very long; this is only temporarily true.

It normally takes a decade for an old disproved theory to be totally rejected and the new one adopted by the scientific community all across the world.

Newton thought the speed of light was absolute and constant; Einstein showed otherwise.

Today, scientists agree that Einstein's theories are incomplete (*asam-purna* / అసంపూర్ణ).

There definitely are examples where scientific self-correcting mechanisms are forced to stop functioning by political power and dominant ideologies.

7.4 The Limits of Self-Correction

Let us see if we have found the final solution to protect Human information networks from error and bias.

The answer is No; it is not the magic bullet.

Self-correction mechanisms are there for the pursuit of Truth.

But they are costly in terms of maintaining Order.

Strong self-correcting mechanisms create doubts (*sandehalu* / సందేహాలు), disagreements (*vibedaalu* / విభేదాలు), conflicts (*sangharshanalanu* / సంఘర్షణలను) and challenge the mythologies (*puraanaalu* / పురాణాలు) that hold social Order together.

Of course, Order is not always good.

A social Order that endorses slavery or the caste system or the witch-hunt is horrible.
Exploitation of millions of peasants by a handful of landlords, systemic mistreatment of women, discrimination (*vivaksha* / వివక్ష) against minorities, did not lead to a better society.

But social Order is vital to keep large Human societies functioning (*pani-chesthune unda-taniki* / పనిచేస్తూనే ఉండటానికి).

Without the caste system, there would never have been the agricultural revolution.
In India, Caste gave ascribed roles (*aapadhita paatralu* / ఆపాదిత పాత్రలు) to land owners, peasants, workers, artisans, and every other group to undertake cultivation.
In order to birth the caste system, god and religion had to be created by telling false stories about creationism (*srusti-vadam* / సృష్టివాదం).

The history of Human information networks has always involved maintaining a balance (*sama-tulyata* / సమతుల్యత) between Truth and Order.

Sacrificing Truth (*satyam*) for the sake of Order comes at price.
Sacrificing Order (*krama*) for the sake of Truth also comes at a price.

Scientific institutions are the exception (*mina-hayimpu* / మినహాయింపు).

Science pursues (*anu-saristundi* / అనుసరిస్తుంది) only Truth and does not concern itself with the consequences (*parinamalu* / పరిణామాలు) – i.e. Order.

They can afford to have strong self-correcting mechanisms because they leave the difficult job of maintaining social Order to other institutions.

If a thief breaks into a chemistry lab or a scientist receives a death threat from a religious fundamentalist, it is not the scientific institution that takes action.
They call the police.

There is, however, a flip side (*maro konam* / మరో కోణం) to science's pursuit of Truth without considering Order.

Equity (*samanatvam* / సమానత్వం), justice and fairness are also ingredients (*padar-thalu* / పదార్థాలు) of modern-day social Order.

When scientists distance themselves with, “Frankly speaking, these don't concern us...” scientific Truth (objective realities they discover) can lead to disastrous consequences.

Albert Einstein, Leo Szilard, Joseph Rotblat and other theoretical physicists considered the use of their scientific discoveries in the making of the atom bomb the biggest mistake of their lives.

Oppenheimer, the “father of the atomic bomb” expressed his deep inner conflict and quoted the Bhagavad Gita, “Now I am become Death, the destroyer of worlds”. He then told President Truman that he felt he had “blood on my hands”.

Can self-correcting mechanisms exist in the police force, armies, political parties and governments?

Democracies believe Yes, it is possible.

Dictatorships reject such mechanisms.

At the height of the Cold War (western world versus Soviet Union) and the Vietnam war, American newspapers openly criticised the US government.

Soviet newspapers also criticised the US government.

But if they said or printed a single word against the Soviet government, it was a death sentence.

To this day, 35 years after the end of the Cold War, US citizens remember what happens when superpowers fight.

51 years after the Vietnam war ended, US citizens still remember what happens when USA tries to interfere with other countries.

But 37 years after Soviet occupation of Afghanistan, Russian citizens don't remember much about crimes their government committed.

8 BRIEF HISTORY OF DEMOCRACY & TOTALITARIANISM

We normally think of Democracy and Dictatorship as different/opposite political and moral systems (*rajakiya mariyu naithika vyavasthalu* / రాజకీయ మరియు నైతిక వ్యవస్థలు).

Let us survey the history of democracy and dictatorship by studying their information networks.

Information in democracies flow differently from the flow in dictatorships.

And new information technologies help both types of regimes – Dictatorships and also Democracies.

8.1 Information & Choice

Right at the beginning, we spoke about the connection between information and choices made by people.

8.1.1 ROLE OF CHOICE

Let us first understand the role of choice (*empika paatra* / ఎంపిక పాత్ర):

Ancient autocrats (*praa-china niran-kusha paalakulu* / ప్రాచీన నిరంకుశ పాలకులు) got their god given position through birth (*puttuka dwara* / పుట్టుక ద్వారా).

They relied entirely on mythology (*puraanaalu* / పురాణాలు) to gain a sublime acceptance (*Adbhuta-maina ang-ikaram* / అద్భుతమైన అంగీకారం).

On the surface, it appears that the people had no choice as to who became their autocratic ruler.

This was not true.

Because people chose to believe the mythology (*pouranika gaadhalu* / పౌరాణిక గాథలు) that installed and enthroned them (*vaarini prathis-tinchi simhasanaa-sinudini chesaru* / వారిని ప్రతిష్ఠించి సింహాసనాసీనుడిని చేశారు).

Primogeniture (*jyesta-putra vara-satva hakku* / జ్యేష్ఠపుత్ర వారసత్వ హక్కు) and the rule of princely succession was accepted.

This gave the legal right for the firstborn son to inherit all his parent's property, land, and royal titles.

This manner of inheritance became the popular culture for the entire population.

Just as Caste was not confined to just the upper castes oppressing the lower.
So too, primogeniture and all property relations across the entire population.
When the god given right of the eldest to claim all his father's name, property and even legacy is accepted, what is wrong in reign and authority (*palana mariyu adhikaram* / పాలన మరియు అధికారం) being the same?

Modern day dictators use a crafty mix (*chathura-maina mis-ramam* / చతురమైన మిశ్రమం) of mythology, popular uprising (*praja tirugu-batu* / ప్రజా తిరుగుబాటు) and electoral referendums.
They “earn” the people's acceptance (*aamodam* / ఆమోదం).

Lenin had to rouse (*reke-tthinchadam* / రేకెత్తించడం) all the people to support the Bolsheviks and overthrow the Tzar.

Hitler came to power legally through a majority he got in the 1933 elections.

The same happened in the Philippines in 1965, Peru in 1990, and Belarus in 1994.
It is only later, after the people chose to put them in power that they became totalitarian dictators.

8.1.2 NATURE OF CHOICE

Next, let us understand the nature of choice (*empika swabhavam* / ఎంపిక స్వభావం):

Autocrats like Roman emperors and modern-day dictators both need people's acceptance in order to maintain Order.

A weak State is where only secret police and military force is used to maintain social order.

A stable governance (*sthira-maina prabhutvam* / స్థిరమైన ప్రభుత్వం) instils acceptance.

The people exercise choice (*palithulu empika chesukuntaru* / పాలితులు ఎంపిక చేసుకుంటారు) to select their leader and style of leadership

These choices are made based on the information that people are fed and believe in.

Information acts as a nexus (*anu-sandhanam* / అనుసంధానం) to connect different caste-class (*kula-vargam* / కుల-వర్గం) and interest groups and make a single choice on leadership.

In both instances, it is information that connects the majority of people in an empire or country to choose their leader and the style of leadership they desire.

8.2 Dictatorial Information Networks

Dictatorial information networks are highly centralised (*athyantha kendri-krutamai unnayi* / అత్యంత కేంద్రీకృతమై ఉన్నాయి).

The centre enjoys unlimited authority and so all information flows to the central hub where most important decisions are made.

This was so in the ancient Roman Empire, recent Nazi Germany and most recent Soviet Union.

Some dictatorships try to concentrate all information in its hands and dictate all decisions, controlling the totality (*sampoornatha* / సంపూర్ణత) of people's lives.

This form of dictatorship, practiced by Hitler and Stalin, is called Totalitarianism (*sarvaa-adhikara* / సర్వాధికార).

There were technical difficulties (*sanketika lopaalu* / సాంకేతిక లోపాలు) that prevented earlier dictators from becoming totalitarian.

Roman emperors did not have the technology to micromanage the lives of millions of peasants in remote villages.

As a result, even in many dictatorial regimes, a lot of autonomy/freedom (*swayam-pratipathi/swecha* / స్వయంప్రతిపత్తి/స్వేచ్ఛ) was left to individuals and communities.

But the dictator always kept the authority to intervene in people's lives.

In such regimes, freedom was not an ideal (*swecha oka aadarsham kadu* / స్వేచ్ఛ ఒక ఆదర్శం కాదు).

Freedom was a by-product (*swecha oka upa-falitam* / స్వేచ్ఛ ఒక ఉప-ఫలితం) of the government's inability (*asamarthata* / అసమర్థత) to exert totalitarian control.

Dictatorial networks also assume that the centre is infallible (*tappuleni* / తప్పులేని), without any possibility of error.

They dislike any challenge to the centre's decisions.

Some dictators were treated as geniuses (*medhavulu* / మేధావులు) and others as divine (*daivika* / దైవిక).

A highly centralised information network could try to maintain strong self-correcting mechanisms like independent courts and legislative assemblies.

But if these functioned well, they would challenge the central authority and decentralise (*vikendri-karinchu* / వికేంద్రీకరించు) the information network.

Dictators always see such independent hubs (*swatantra kendralu* / స్వతంత్ర కేంద్రాలు) as threats (*muppulu* / ముప్పులు) and neutralise them.

They may pretend (*natinchu* / నటించు) to have elections and parliaments for show, but these will be just rubber stamps for the dictator's whims and fancies (*kshanika-maina korikalu mariyu sara-daalu* / క్షణికమైన కోరికలు మరియు సరదాలు)

Summary:

A dictatorship is a centralised information network without strong self-correcting mechanisms.

Democracies are distributed (*pampini* / పంపిణీ) information networks with strong self-correcting mechanisms.

8.3 Democratic Information Networks

Even in democratic information networks, we do see a central hub (*pradhana kendram* / ప్రధాన కేంద్రం).

The government is the most important executive power in a democracy.

Government agencies do collect and store vast quantities of information.

But there are many additional information channels that connect lots of independent hubs (*swatantra kendralu* / స్వతంత్ర కేంద్రాలు).

These are the legislative bodies, opposition parties, courts, press/media, local communities, NGOs/civil society, etc.

Individual citizens freely and directly communicate with one another.

The most important information never passes through only government agencies.

Many important decisions are made elsewhere.

Individuals themselves choose where to live, where to work, whom to marry, etc.

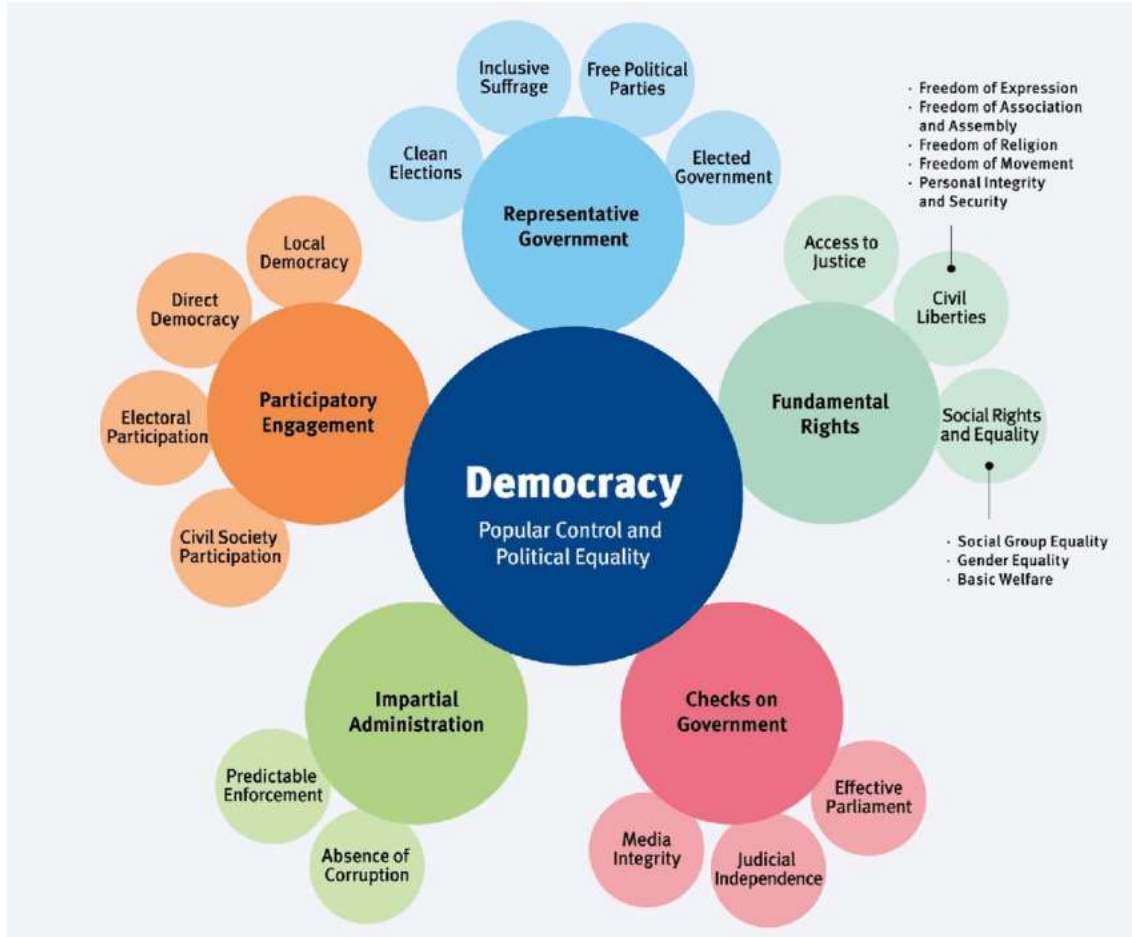
Corporations themselves make their own choices about where to open a branch, how much to invest, how much to charge for goods and services.

Communities themselves decide about organising sporting events and religious festivals.

Autonomy is not a result of government's inability (*svayam-pratipatti anedi prabhutvam asamarthata valla kalige phalitam kadu* / స్వయంప్రతిపత్తి అనేది ప్రభుత్వం అసమర్థత వల్ల కలిగే ఫలితం కాదు).

It is the democratic ideal (*idi prajaswamyaa aadar-sam* / ఇది ప్రజాస్వామ్య ఆదర్శం).

Even if a democratic government has the technology needed to micromanage people's lives, it still leaves as much as possible for people to make their own choices.



8.4 Rule by the Majority

A huge mistake is to believe that in a democracy, everything is decided by majority vote. This is wrong.

In a democracy, as little as possible is decided centrally; and these few centrally made decisions reflect the will of the majority (*majority abhistanni prati-bimbin-chadam* / మెజారిటీ అభీష్టాన్ని ప్రతిబింబించడం).

If 99% of the people want to dress in a particular way, and worship a particular god, the remaining 1% should still be free to dress and worship differently.

If a central government does not at all intervene in people's lives, and does not provide basic services like security, it is not a democracy.

It is a lawless disorder – we call it Anarchy (*araa-chakam* / అరాచకం).

Therefore, in all democracies the centre raises taxes, maintains an army, and provides some level of health care, education and welfare.

But any interference in people's lives demands an explanation (*vivarananu* / వివరణను).

Unless there is a strong reason, democratic governments allow people to make their own choices.

8.5 Conversations in Democracies

Another important characteristic of democracies is that they admit that everyone is fallible and can make mistakes.

While democracies give the centre authority to make vital decisions, they balance them with strong mechanisms that can challenge the central authority.

That is why there is a separating of the Executive, Legislative and Judicial branches of government, along with a strong media and civil society.

Dictatorship is about a central information hub dictating everything.

Democracy is an ongoing conversation (*sam-bhashana* / సంభాషణ) between different information hubs.

These hubs influence each other, but need not agree or come to a consensus (*yekaa-abhiprayaniki* / ఏకాభిప్రాయానికి).

Individuals, corporations and communities can continue to think and behave in different ways.

There are, of course, cases when everyone must behave the same.

Like a country's decision to go for war, decide on a railroad, decide what is a criminal offence, etc.

No country can function if each person is allowed to have their own definition of murder.

Different people cannot say that killing for enmity is wrong; but Honour killing (*gourava hatya* / గౌరవ హత్య) inter-caste couples is okay.

The only way to make decisions on such collective matters, is through a countrywide public conversation (*desa-vyapta bahiranga charcha* / దేశవ్యాప్త బహిరంగ చర్చ).

This is what free and fair elections are.

But even after deciding, common choices must remain open to re-examination (*punah-parisheelana* / పునఃపరిశీలన) and correction (*savarana* / సవరణ).

A network cannot change an earlier choice (*munu-pati empika* / మునుపటి ఎంపిక).

But it can elect a new and different government next time.

8.6 Elections & Majority Dictatorship

A common misunderstanding (*apaardham* / అపార్థం) equates democracy with only elections.

Elections are a central part of the democratic toolkit.

But they are not democracy.

Without additional self-correcting mechanisms, elections can be rigged.

Even if an election is completely free and fair, it still does not guarantee democracy.

Democracy is not the same as majority dictatorship (*nirankusha palana* / మెజారిటీ నిరంకుశ పాలన).

Democracy is not a system in which a majority of any size can decide to get rid of an unpopular minority.

It is a system in which there are clear limits to the power of the centre.

51% of the voters cannot take away the voting rights of the other 49% through clever disenfranchisement mechanisms.

Even a majority of 99% cannot take away the rights of the 1% minority.

Elections are a mechanism for the network to say, “We made a mistake; let us try something else.”

If the centre can disenfranchise (remove their voting rights) people at will (*ishta-anusaram* / ఇష్టానుసారం), that self-correcting mechanism is castrated (*vrushana-cchedana cheya-badindi* / వృషణచ్ఛేదన చేయబడింది).

- Hitler began sending Jews and communists to concentration camps immediately after coming to power through democratic elections.

- In the USA, Native Americans and African Americans were disenfranchised till 1924 and 1964 respectively.
- Putin and Xi hold regular elections like clockwork in Russia and China, respectively, and win with more than 97% of the votes.
- Netanyahu uses democracy to rise to power and then uses this power to undermine democracy.
- Erdogan of Türkiye said, “Democracy is like a tram. You ride it until you arrive at your destination, then you step off.”

All these strongmen undermined democracy by attacking its self-correcting mechanisms, one by one, normally beginning with courts and media.

- i. Other institutions that dare to oppose the government are smeared and persecuted (*nindincha-baddaru mariyu himsincha-baddaru* / నిందించబడ్డారు మరియు హింసించబడ్డారు) as traitors, criminals, or foreign agents.
- ii. Academic institutions, municipalities, NGOs and private businesses are either dismantled or brought under government control.
- iii. After that, government can rig elections by jailing popular opposition leaders and gerrymandering electoral constituencies through delimitation.
- iv. Appeals against these anti-democratic measures are dismissed by handpicked judges.
- v. Progressive laws (*pragatisila chattaalu* / ప్రగతిశీల చట్టాలు) that were legislated after great deliberation to protect democracy are either repealed or modified.
- vi. Journalists and academicians who criticise are fired.
- vii. The remaining media outlets, academic institutions and judicial authorities all praise these measures as necessary steps to protect the nation and its allegedly democratic pretensions from traitors and foreign agents.

The above list is not complete or exhaustive (*sampurnam-aina ledaa samagram-ainadi kaadu* / సంపూర్ణమైన లేదా సమగ్రమైనది కాదు).

But they are universal practices that all authoritarian regimes, across the world, follow using almost identical playbooks (*dadapu oke-laanti vyu-halu* / దాదాపు ఒకేలాంటి వ్యూహాలు).

Strongmen usually do not abolish elections outright.

Instead, they keep them as a ritual (*aacharam* / ఆచారం) to provide legitimacy and maintain a democratic pretence.

Even educated supporters of the strongmen are genuinely puzzled (*nijam-gane ayomayam-lo paddaaru* / నిజంగానే అయోమయంలో పడ్డారు) when told that electoral victory does not grant them unlimited power.

They see any check on the power of elected government as undemocratic.

They genuinely do not understand that democracy does not mean majority rule; it means freedom and equality for all.

The majority certainly has the authority to advance their preferred policies (*pradhanya vidhanalu* / ప్రాధాన్య విధానాలు) in many fields like declare war, come to peace, increase taxes, lower taxes, foreign affairs, defence, etc.

These major policies are in the hands of the majority.

8.7 Basket of Rights

But in a democracy, there are two Baskets of Rights that are protected from any majority:

1. Human Rights (*manava hakkulu* / మానవ హక్కులు):

The right to life, right to work, right to privacy, freedom of movement, and freedom of religion.

These rights decentralise democracy, making sure that as long as people don't harm anyone, they can live their lives as they see fit.

2. Civil Rights (*paura hakkulu* / పౌర హక్కులు):

These are the self-correcting mechanisms, starting with the right to vote.

When the minority is disenfranchised, democracy will immediately be killed after a single election.

Civil Rights include freedom of the press, academic freedom, and freedom of assembly which allow independent media outlets, universities, and opposition movements to challenge the government.

These are the key Rights that strongmen try to do away with.

Sometimes it is necessary to change a country's self-correcting mechanisms by expanding the voter base, regulating the media or reforming the judicial system.

But such changes should be made very carefully, on the basis of a broad consensus (*vistruta yeka-abhiprayam aadhaaram-gaa* / విస్తృత ఏకాభిప్రాయం ఆధారంగా) of both, the majority and the minorities.

There is an important point in Human Rights.

It does not only limit the power of the central government.

It also demands many active duties.

It is not enough for a democratic government to itself not violate human and civil rights. It must take actions to make sure that no one violates these rights. If the government does not directly kill anyone but, at the same time, does not protect citizens from street justice, murder and lynching, that is Anarchy (*araa-chakam* / అరాచకం); not democracy.

8.8 Majoritarianism versus the Truth

Every democracy discusses the exact limits of Human Rights and Civil Rights.

Even the Right to Life has limits:

- Countries like the USA impose the death penalty and deny the right to life for criminals.
- Most European countries reject the death penalty even for the worst crimes.
- India has the death penalty only when the Supreme Court considers the crime as “rarest of the rare”.
- All countries declare war; sending people to kill and be killed.

These discussions on what should be included in the two baskets are complicated.

- Is freedom of religion a basic Human Right?
- When is blasphemy (disrespect to a god, holy book, or sacred object) (*dhaiva-dhooshana* / ధైవదూషణ) punishable?

Because, after all, every single religion is founded on the belief that only they are correct and others are wrong.

- What about animal rights?
Should stray dogs be allowed to roam around to maul and even kill children?

The fact is that both, Human Rights and Civil Rights are Intersubjective conventions (*antar-vyaktigata sampradayalu* / అంతర్-వ్యక్తిగత సంప్రదాయాలు) that Humans create.

They are determined by historical circumstances and not by any universal reason (*saarva-trika karanam* / సార్వత్రిక కారణం).

A society is “democratic” only when the centre does not have unlimited authority and the system has strong mechanisms to correct even that limited authority of the centre.

Democratic networks assume that even the winners of elections and the majority of voters are fallible.

Elections are not a method to discover Truth (*satyam* / సత్యం).

They are a mechanism for maintaining Order and balance between people with conflicting desires (*paras-para viruddham-aina korikalu* / పరస్పర విరుద్ధమైన కోరికలు).

Elections establish what the majority of people desire; not what the Truth is.

Most times, people desire the Truth to be something other than what is really true (*vastavaniki nijamainadi kakunda* / వాస్తవానికి నిజమైనది కాకుండా).

Democratic networks maintain self-correcting mechanisms to protect the Truth from the will (*sankalpam* / సంకల్పం) of the majority.

- In 2002-2003 there was a lot of debate on whether or not Iraq had weapons of mass destruction.
President Bush convinced the opposition and also other countries that Saddam Hussein was evil.
Everyone together went to war.
- By 2004 the world realised that Iraq had no weapons of mass destruction.
The war was a catastrophic mistake (*bhayankaram-aina porapatu* / భయంకరమైన పొరపాటు).

In a democracy the majority has every right to make momentous decisions (*chaaritra-atmaka nirnayaalu* / చారిత్రాత్మక నిర్ణయాలు) like starting a war.

But they have to take everyone along – including the opposition, minorities and all other stakeholders.

In a democracy, the will of the people (*prajala sankalpam* / ప్రజల సంకల్పం) is supreme.

A majority of voters might deny the reality of climate change.

But they should not have the power to dictate scientific truth or to prevent scientists to further explore the subject and publish facts.

Environmental studies should not reflect the will of the majority.

Then what is the role of the majority?

It is to make policy (*vidhanam* / విధానం).

Even when every single scientist in the world agrees climate science and climate change, this does not tell us what to do about it.

There will be options – to do something big, medium, or nothing at all.

The role of the majority and their rulers in a democracy is a question of Desire (*korika / కోరిక*); not for Truth (*satyaniki kaadu / సత్యానికి కాదు*).

When such important options come up, it should be done by all the voters and not by a limited group of scientific experts.

Hiding or distorting or misrepresenting the Truth in elections is not an option.

That is telling lies.

Based on falsehoods, the majority cannot pass a law stating that climate change is a hoax (*abaddhapu pracharam / అబద్ధపు ప్రచారం*) and all scientists who believe in climate change should be punished.

We can choose what we want, but we should not deny the true meaning of our choice.

Of course there is corruption, bias and error in academic institutions, media and judiciary.

But putting them all under a Ministry of Truth will make things worse.

The government is already the most powerful institution in developed societies.

And it already hides inconvenient facts (*asoukaryakaram-aina vaasta-vaalanu dachipedutundi / అసౌకర్యకరమైన వాస్తవాలను దాచిపెడుతుంది*) for the sake of Order.

Allowing the government to supervise the search for Truth is like appointing the fox (*nakka / నక్క*) to guard the chicken coop.

There are two other methods to rely on in our search for Truth:

1. Internal self-correcting mechanisms.

Academia uses peer-reviewed publication to uncover past mistakes and discover unknown facts.

Judiciary punishes corrupt judges just like it does any other citizen.

2. Having several independent institutions that seeks the Truth in different ways.

If one newspaper refuses to publish the truth, a competitor will.

If one corporation bribes a large number of bureaucrats and scientists, another corporation will expose this.

If the media or courts show racist or sexist bias, sociologists and philosophers will expose these biases.

9 POPULISM (REVISITED)

9.1 Democracy is Complicated

All this sounds very complicated (*sanklishtam-aina* / సంక్లిష్టమైన).

That is because democracy should be complicated (*sanklistanga undaali* / సంక్లిష్టంగా ఉండాలి).

Simplicity (*saralata* / సరళత) is there in dictatorial information networks where the centre dictates everything and everyone obeys.

“There is normally a simple solution to a complicated problem; and it is normally wrong!”

(“సాధారణంగా ఒక సంక్లిష్టమైన సమస్యకు ఒక సరళమైన పరిష్కారం ఉంటుంది; కానీ అది సాధారణంగా తప్పుగా ఉంటుంది!”)

Dictatorship is a monologue (*yeka-patra-abhinayam* / ఏకపాత్రాభినయం).

Democracy is a conversation with very many participants, many talking at the same time.

Even so, most important democratic institutions are bureaucratic monsters.

While citizens easily follow biological dramas (*jeeva-sambandhita naatakaalu* / జీవసంబంధిత నాటకాలు), they find it difficult to understand how parliament, courts, newspapers and university’s function.

This is what allows strongmen to mount populist attacks on institutions, tear to pieces all self-correcting mechanisms, and concentrate power in their own hands.

The term “populism” (*praja-karshaka-vadam* / ప్రజాకర్షకవాదం) comes from the Latin word that means “the people”.

In democracies, “the people” are considered the only genuine source of political authority (*rajakiya adhikaraniki muulam* / రాజకీయ అధికారానికి మూలం).

Only representatives of the people have the authority to declare wars, pass laws, and raise taxes.

Populists value this basic democratic principle, but somehow conclude that a single party or a single leader should monopolise (*gutta-adhipatyam* / గుత్తాధిపత్యం) all power.

9.2 Populists become Totalitarian

It is strange and mysterious (*rahasyam-aina vishayam* / రహస్యమైన విషయం) that populists (*praja-karshaka-vadulu* / ప్రజాకర్షకవాదులు) manage to base a totalitarian pursuit of unlimited power on a perfect democratic principle.

How does this happen?

Populists claim that they alone truly represent the people.

This is not the same as kings and emperors who claim god given authority.

Since only the people should have political power in democracies, and since only the populists represent the people, it follows that the populists should have all political power.

A most twisted and circular argument (*athyantha vakramaina mariyu vruthakarapu vadana* / అత్యంత వక్రమైన మరియు వృత్తాకారపు వాదన)!

If some other party wins elections, this does not mean that this rival party won the people's trust.

It means that the elections were stolen or that the people were fooled to vote in a way that does not express their true choice (*nijamaina empika kaadu* / నిజమైన ఎంపిక కాదు).

The truly sad and tragic thing is that many populists genuinely believe in the above twisted logic (*vakri-karinchina tarkam* / వక్రీకరించిన తర్కం).

They are not victims of propaganda.

Even when they win a small share of the votes, populists believe that they alone represent "the people".

The Communist Party of Great Britain never won more than 0.4% of votes in a general election; but they still believe that they alone truly represent the working class in UK.

Of the 64.5 core votes polled in the last Lok Sabha elections, the CPI(M) got 1.76%; but they still believe that they alone truly represent the working class in India.

Just like the communists believe that the working class are victims of a "false consciousness" (*midhyaa chaitanyam* / మిథ్యా చైతన్యం) populists believe that the enemies of the people have cheated the people to vote against their true will.

Populists believe that "the people" are not a collection of flesh-and-blood individuals with different interests and opinions.

Instead, they are a unified mystical body (*eki-kruta adhyat-mika samuham* / ఏకీకృత ఆధ్యాత్మిక సమూహం) that possesses a single will – “the will of the people” (*prajala sankalpam* / ప్రజల సంకల్పం).

The Nazi motto was “*Ein Volk, Ein Reich, Ein Fuhrer*” which means “One People, One Country, One Leader”.

The Leader had an infallible intuition (*tappuleni antar-gnanam* / తప్పులేని అంతర్జ్ఞానం) for how the people felt and what the people wanted.

Those who did not agree were outsiders – Jews, communists, liberals (*udara-vadulu* / ఉదారవాదులు) – and not “the people”.

Nazi Germany may be an extreme example (*teevram-aina udaharana* / అత్యంత తీవ్రమైన ఉదాహరణ).

But all populist parties and politicians deny that “the people” might contain diversity (*vai-vidhyam* / వైవిధ్యం) of opinions and interest groups.

The real people have only one single will (*oke okka sankalpam* / ఒకే ఒక్క సంకల్పం), and only the populists represent this will.

Political rivals, even if they get substantial popular support, are “alien elites” (*paraayi vargaalu* / పరాయి వర్గాలు).

This is why populism (*praja-karshaka-vadam* / ప్రజాకర్షకవాదం) poses a deadly threat to democracy (*praja-swamyani pranan-taka muppu* / ప్రజాస్వామ్యానికి ప్రాణాంతక ముప్పు).

Democracy is based on the understanding that the people is never a unitary entity (*prajalu eppudu ekariti samuham kadu* / ప్రజలు ఎప్పుడూ ఏకరీతి సమూహం కాదు).

They come in various shades (*vibhinna aasaktulato* / విభిన్న ఆసక్తులతో) and varieties (*raka-rakaala roopaalu* / రకరకాల రూపాలు) with different interests (*vy-vidyalalo* / వైవిధ్యాలలో).

Therefore “the people” cannot possess a single will (*sankalpam* / సంకల్పం).

The majority group, should not exclude other groups from membership in “the people”. This is what makes democracy a conversation.

Populism destroys democracy in another way.

Populists argue that “the people” is not just the sole source of political authority.

But also, the sole source of all types of authority.

Therefore, it has to take control of all institutions like media outlets, courts, universities, NGOs, and minority religious institutions.

Populists turn totalitarian.

Democracy means that authority in the political sphere (*rajakiya rangam-lo adhikaram / రాజకీయ రంగంలో అధికారం*), comes from the people.

This is needed in order to govern (*palana saagincha-daniki / పాలన సాగించడానికి*).

It does not mean that authority in all other spheres.

In a democracy, independent media outlets, courts, universities, and civil society are important self-correcting mechanisms that protect the Truth from the will of the majority.

Biology claims that Humans evolved from apes because the evidence supports this, even if the majority thinks otherwise.

Journalists reveal that a popular politician took a bribe and if good evidence is presented in a court, a judge can send that politician to jail, even if the majority don't want to believe the accusation.

Populists are suspicious of institutions that, in the name of objective truths, override “the will of the people”.

They see this as a smoke screen (*poga tera / పొగ తెర*) for elites to grab what they consider illegal power.

This is why populists hate the pursuit of Truth and claim that “Power is the only Reality”.

- In the populist imagination, courts don't really care about justice.
- Newspapers don't care about facts.
- Scientific institutions are not committed to the truth.

They are all power-hungry groups feathering their own nests at the expense of the people.

This appeals to the majority because:

1. It reduces all interactions to power struggles and simplifies Reality.
Events like war, economic crises, natural disasters and even epidemics are easy to understand.
2. The populist view is sometimes correct.
Every human institution is indeed fallible and suffers from some level of corruption and lots of mistakes.
Populists rightly point these out.

Strongmen are attracted to populism (*praja-karshaka-vadam* / ప్రజాకర్షకవాదం) for a different reason.

It gives them an ideological basis (*saiddhantika punaadi* / సైద్ధాంతిక పునాది) or false justification (*tappudu samarthana* / తప్పుడు సమర్థన) to make themselves dictators while pretending to be democrats.

It is a useful excuse for strongmen to neutralise or take control of self-correcting mechanisms of democracy.

Judges, journalists and professors chase political interests for power.

The strongman (people's champion) should control these positions and prevent them from falling into the hands of the people's enemies.

Even bureaucrats in charge of holding elections, counting, and declaring results may be part of an evil conspiracy.

They too should be replaced with the strongman's loyalists.

In a well-functioning democracy, citizens believe in the results of elections, decisions of courts, reports of media outlets, and finding of scientists.

Because citizens believe that these institutions are committed to the Truth.

But once the people are made to think that Power is the only Reality, they lose trust in these institutions.

Democracy collapses and the strongmen seize total power.

There is still one more danger.

Populism could lead to anarchy instead of totalitarianism, when people lose trust in the strongmen themselves.

This is how military dictatorships come about.

That is when mythology comes into play to preserve Order.

A messiah emerges as the next strongman.

9.3 Measuring the Strength of Democracies

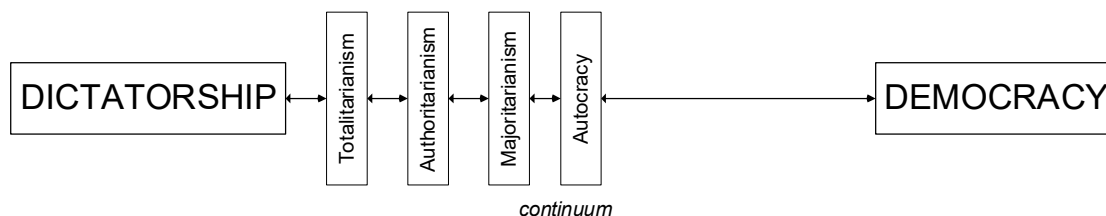
Overwhelming majorities after elections is taken as proof of a mystical bond (*ateen-driya bandham* / అతీంద్రియ బంధం) between the leader and the people.

This happens in Putin's Russia, in Iran and even in North Korea where elections are held like clockwork.

The questions we must ask to measure the strength of democracies are:

- “What mechanisms prevent the central government from rigging elections?”
- “How safe is it for leading media outlets to criticise the government?”
- “How much authority does the centre grab for itself?”

Democracy and dictatorships are not binary opposites (*dvandva vyati-rekathalu* / ద్వంద్వ వ్యతిరేకతలు), but rather a continuum (*avi-chinna pravaham* / అవిచ్ఛిన్న ప్రవాహం).



In order to decide whether a network is closer to the democratic or the dictatorial end of the continuum, we need to understand how information flows in the network and what shapes the political conversation.

When a strongman dictates all the decisions and even his closest advisers are terrified to voice a dissenting view (*bhinnabhiprayam* / భిన్నాభిప్రాయం), no conversation is taking place.

Such a network is at the extreme dictatorial end (*tivrasthayi* / తీవ్రస్థాయి) of the spectrum.

When nobody can voice opinions publicly, but do so behind closed doors, then this is a small baby step in the direction of democracy.

If 10% of the population participate in the political conversation by airing opinions, voting in fair elections, and running for office, that may be considered a limited democracy (*parimita prajaa-swaamyam* / పరిమిత ప్రజాస్వామ్యం).

This last was in the early days of the United States and many European countries when only wealthy, propertied white men had such political rights.

Why do we call it a baby step?

From a moral and ethical (*naithika mariyu dharmika* / నైతిక మరియు ధార్మిక) point of view, democracy is about giving everyone a voice and hearing what they say.

But from a historic point of view, it is about Autocrats in the centre not keeping all power, not abolishing self-correcting mechanisms, and not becoming Dictators.

In today's USA and most of western Europe, people are more or less free to say almost anything they want.

Strong attacks on the government are a daily occurrence.

Everybody votes once in 4-5 years.

But where are the crucial conversations (*kilakam-aina sambhashanalu* / అత్యంత కీలకమైన సంభాషణలు) taking place? And who sits in those rooms?

Technically, it should be the US Congress and European parliaments.

But when was the last time that a convincing speech (*oppin-chela unde prasan-gam* / ఒప్పించేలా ఉండే ప్రసంగం) by a member of one party made members of the other party change their minds about anything?

They are not yet fully at the democratic end of the continuum.

Democracies die not only when people are not free to talk, but also when people are not willing to listen.

(*prajalaku matlade swecha lenappudu matrame kadu, vaaru vinadaniki siddhamgaa lenappudu kuda prajaswamyalu antarinchipotayi* / ప్రజలకు మాట్లాడే స్వేచ్ఛ లేనప్పుడు మాత్రమే కాదు, వారు వినడానికి సిద్ధంగా లేనప్పుడు కూడా ప్రజాస్వామ్యాలు అంతరించిపోతాయి.)

9.4 Stone Age Democracies

Let us look at the above definition of democracy and go back to see how changes in information technology and information flows have shaped the history of democracy.



Democracy was the most common political system among hunter-gatherers.

Obviously, they did not have formal institutions like elections, courts and media outlets.

But their information networks were distributed and gave plenty of opportunities for self-correction.

Bands numbering just a few dozen people could easily share information among all

band members and the Band could decide where to pitch camp, where to go hunting and how to handle a conflict with another Band.

Bands usually belonged to a larger Tribe that included hundreds or thousands of people.

When important choices affecting whole Tribes had to be made things were still small enough for large percentage of members to gather in one place and discuss.

Bands and Tribes sometimes had dominant leaders, but they could exercise only limited authority (*parimita adhikaram* / పరిమిత అధికారం).

Leaders had no armies, police force, or government bureaucrats.

So, they could not impose their will by force (*tama sankalpaanni ruddalekapoyaru* / తమ సంకల్పాన్ని రుద్దలేకపోయారు).

Leaders also found it difficult to control the economic basis of people's lives.

In a hunter-gatherer economy, centralised economic control was not possible.

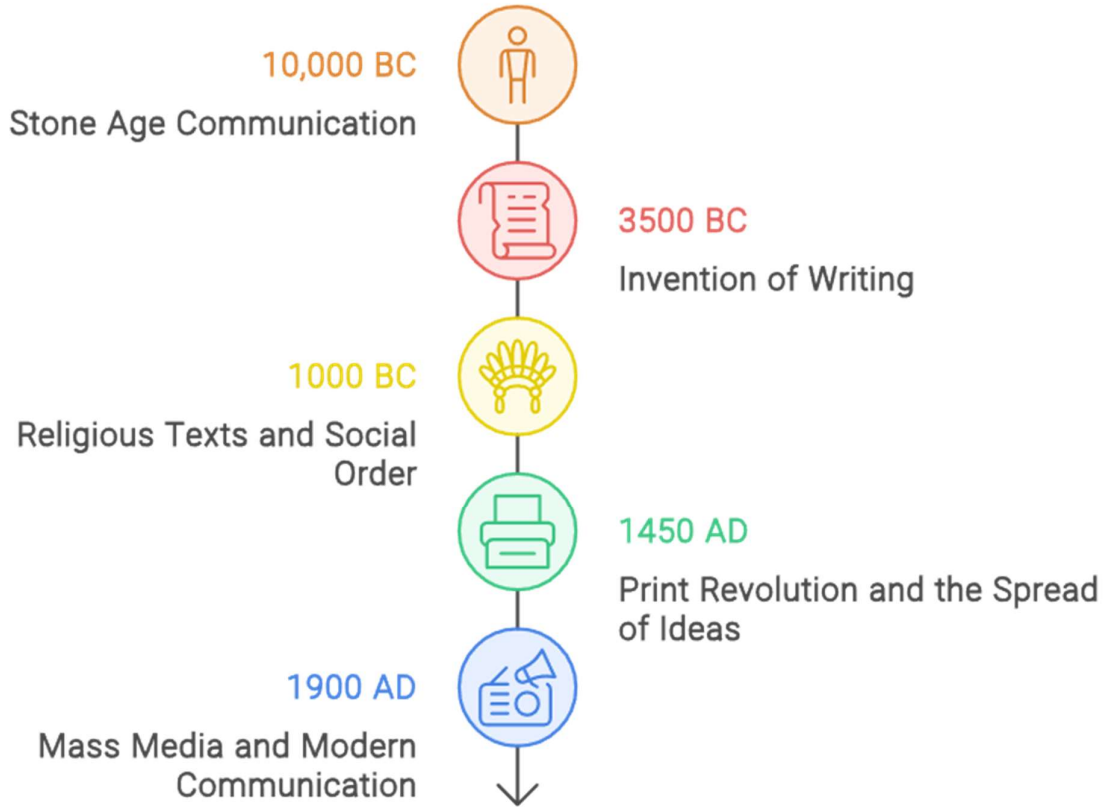
Their economies were diversified (*vaividhya-bharitham-aina* / వైవిధ్యభరితమైన).

Even a group of leaders could not fence the great Savanna woodland-grassland ecoregion and stop people from gathering plants and hunting animals.

As a last resort, hunter-gatherers could vote with their feet.

If they found the Leader too bad, they would take their few belongings, personal skills, personal friends, and walk away.

History of Information Networks



9.5 Agricultural Revolution

In the millennia following the agricultural revolution, it became easier to centralise the flow of information.

It became more difficult to maintain democratic conversation.

Bureaucrats and armies allowed the leaders to monopolise (*gutta-adhipatyani-ki* / గుత్తాధిపత్యానికి) key economic assets – land, irrigation, agricultural implements, and slave labour.

Information about ownership, taxation, diplomacy and politics made it hard for citizens to keep in direct touch with one another.

There was no mass communication technology and it was not possible to gather tens of thousands of people into a city square to hold discussions.

Democracy was still possible for small city-states, but with a limited number of people participating.

It was no longer like the democracy that hunter-gatherers experienced.

No large-scale kingdom or empire operated on democratic lines.

By about 300 AD all major human societies on earth were centralised information networks without any self-correcting mechanisms.

This social organisation continued for the next 1,000 years.

This was true of the Roman Empire, Persian Empire, Kushan and Gupta Empires, Han Empire.

Emperors and autocrats certainly wanted total control.

But that was not the real reason why there was no democracy.

There was simply no way to conduct or sustain a democratic conversation because the technology did not exist.

When the information network is strong and the people believe in and accept the dominant mythology (*prabala purana-gaatha* / ప్రబల పురాణగాథ), there is no need for secret police and military force to maintain social order.

For thousands of years, big, middle, small and poor peasants all together accepted disparity, oppression and misery under the rule of the feudal lords, the aristocracy.

Every single person in agrarian societies accepted ascribed roles, occupations (*nirdesita paatralu mariyu vrutthi* / నిర్దేశిత పాత్రలు మరియు వృత్తి) as their ordained fate (*vihita kartavyam* / విహిత కర్తవ్యం).

Social order was maintained in an unfair and unjust society through a binding of evidently opposite interest groups.

This is what an information network achieves.

It creates a nexus that connects the exploiter and exploited, the oppressor and oppressed, into an ironic cohesiveness (*viruddham-aina ekikruta* / విరుద్ధమైన ఏకీకృత).

Until a new and radical information network emerges and history moves forward...

9.6 Lived Experiences (*prathyaksha anubhavam* / ప్రత్యక్ష అనుభవం)

In order to hold a conversation, freedom to talk and willingness to listen is not enough.

Two other technical preconditions are needed:

1. People need to be within hearing range of each other. This was not possible in large territories.
2. People need to have at least a basic understanding of what they are talking about. Otherwise, they are just making noise; not having a meaningful conversation (*ardavantam-aina sambhashana* / అర్థవంతమైన సంభాషణ).

People generally have a good understanding of local issues (*sthanika samasyalu* / స్థానిక సమస్యలు) of which they have direct experience.

Poor people have insights about poverty and economics much more than professors.

But *lived experience* (*prathyaksha anubhavam* / ప్రత్యక్ష అనుభవం) is not enough to understand political issues.

Large-scale political conversation (*bhari sthaayi rajakiya charcha* / భారీ స్థాయి రాజకీయ చర్చ) would be impossible.

Every group of people would talk meaningfully only about its own experience.

Nobody else would understand what they were saying.

The only way to have a large-scale political conversation among different, diverse groups of people, is if people can gain some understanding of issues that they have never experienced firsthand (*vaaru prathyakshamгаа anubhavinchanidi* / వారు ప్రత్యక్షంగా అనుభవించనిది).

In large polity, it is crucial to have an education system and media that informs people about things they have never personally faced (*vyakthi-gathamga eppudu edur-coni vishayalu* / వ్యక్తిగతంగా ఎప్పుడూ ఎదుర్కోని విషయాలు).

We call it conscientisation (*rajakiya chaitanyee-karana* / రాజకీయ చైతన్యీకరణ).

People across large kingdoms and empires do share some cultural ideas (*konni samskruthika bhavanalanu panchukuntaru* / కొన్ని సాంస్కృతిక భావనలను పంచుకుంటారు).

These shared cultural beliefs were important to preserve Order and hold the empire together.

But their political implications were not clear (*rajakiya parinamalu* / రాజకీయ పరిణామాలు).

We cannot fault only the rulers – emperors and autocrats (*niran-kusha paalakulu* / నిరంకుశ పాలకులు).

Due to the size of their empires and the available information technology, democracy was simply unworkable (*pani cheyaledu* / పని చేయలేదు).

Even Plato and Aristotle argued that democracy can work only in small-scale city-states.

10 MASS MEDIA MAKES MASS DEMOCRACY POSSIBLE

Mass media is the ability to quickly connect millions of people even when they are separated by large distances.

The printing press (not the letterpress we talked about earlier) was a crucial technology in this direction.

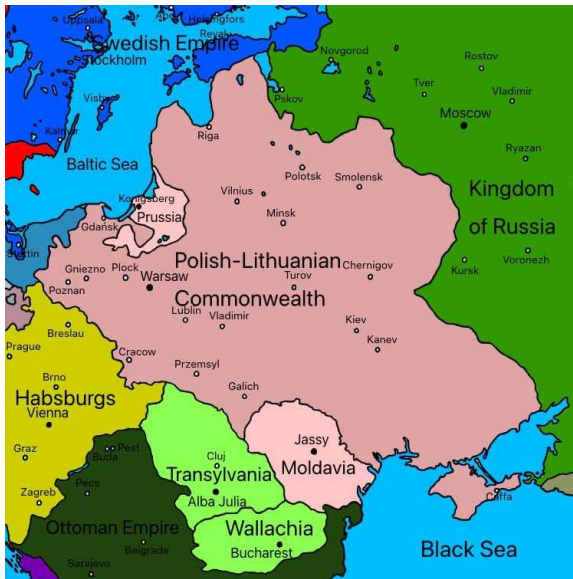
It became possible to cheaply and quickly produce large numbers of books and pamphlets.

This allowed more people to voice their opinions and be heard over a large territory.

Let us look at two examples of large-scale democracy:

- The Polish-Lithuanian commonwealth in 1569
- The Dutch Republic in 1579

10.1 The Polish-Lithuanian Commonwealth



It is true that in both these examples, the politics of “democracy” was limited to only a limited minority of relatively wealthy citizens.

In the Polish Commonwealth, it was limited to about 300,000 adult members of the nobility who were just 5% of the total adult population.

They could even elect their King.

But since voting required travelling long distances, very few exercised their right.

Only 3,000 to 7,000 people voted – i.e. 1-2%.

But, as we have seen, democracy is never a matter of all or nothing (*antha ledaa emi ledu / అంతా లేదా ఏమీ లేదు*).

It is a continuum (*avi-chinna pravaham / అవిచ్ఛిన్న ప్రవాహం*).

There were problems because the elected parliament could approve or block a new law, even a taxation decision of the King and foreign affairs.

As a result, very little was done in the Polish-Lithuanian empire which was huge (today's Poland, Lithuania, Belarus and Ukraine).

But these citizens enjoyed full freedom of assembly and religion.

Catholics, Greek Orthodox, Lutherans, Calvinists, Jews and Muslims co-existed in harmony. In the end, the Polish-Lithuanian experiment in decentralisation proved impractical (*aacharana saadhyam kaani* / ఆచరణ సాధ్యం కాని).

It did not have the information, communication, and education system needed to hold a useful political conversation (*upayoga-karamaina rajakiya charcha* / ఉపయోగకరమైన రాజకీయ చర్చ).

Its self-correcting mechanisms were too costly, paralysing the power (*adhikaranni stambhimpa-jeyadam* / అధికారాన్ని స్తంభింపజేయడం) of the central government.

This experiment in the 16th century shows that democracy also needs a strong centre.

10.2 The Dutch Republic

This experiment fared better.

The provinces were less centralised and did not have a king.

The autonomous (*svayampratipatti* / స్వయంప్రతిపత్తి) provinces were made up of self-governing towns.

Moreover, this Republic was 25 times smaller in landmass and had a much better information, communication, and education system.

The Republic also had a new information technology – Pamphlets (*karapatralu* / కరపత్రాలు).

10.3 Pamphlets & Newspapers

In 1618, just a few issues were published, informing citizens on various issues facing the Republic.

By 1670, they became more regular.

The newspaper is a periodic pamphlet (*aavartana karapatram* / ఆవర్తన కరపత్రం).

It was different from the earlier once-off pamphlets because it had a much stronger self-correcting mechanism.

Since it came out regularly (daily, weekly or fortnightly), it had a chance to correct mistakes made in earlier editions.

This won the public's trust.

Information in newspapers were generally considered more reliable, at least from some people's worldview.

Reading 2 or 3 different newspapers gave the public the feeling that they knew all the parties' worldviews (*prapancha drupatham* / ప్రపంచ దృక్పథం).

This allowed each reader to form her/his own opinion.

This changed the nature of politics.

Newspapers played a crucial role in the formation of early modern democracies in the United Provinces (Netherlands), UK and USA.

When President Adams gave the very first Annual Message to the US legislature, the text and summaries of main points were printed over the next weeks and spread all across USA.

Some people praised him; others cursed. But everyone had an opinion.

Newspapers at that time were, of course, still slow and limited compared to the mass media of today.

Newspapers travelled at the pace of a horse or sailing ship (*gurram nadaka vegam*/ గుర్రం నడక వేగం).

Very few people read them.

There were no newsstands and people had to buy subscriptions which were costly.

Annual subscriptions cost about a week's wages of a skilled worker.

In 1830 there were about 78,000 newspapers in circulation – not of one single newspaper, but hundreds.

A few hundred thousand read them.

Maybe a million people heard them being read aloud, when there was some sensational news (*sanchalanatmaka vartha* / సంచలనాత్మక వార్త).

No wonder, American democracy in those days was a limited affair – the exclusive domain (*prathyeka paridhi* / ప్రత్యేక పరిధి) of about 1.3 million wealthy white men (25% of the 6 million adult population).

Of them 352,780 (7% of the adult population) actually voted.

In Britain, only 400,000 had the right to vote.

30% of the British parliamentary seats were not even contested – i.e. they remained empty.

Are we then talking about Democracy?

In the USA, more than 1.5 million Americans were slaves in the 1820s.

Forget political rights; they had zero human rights, civil rights; they were properties of the whites.

We have already said that democracy and autocracy are not absolutes (*khacchitamainavi kavu* / ఖచ్చితమైనవి కావు).

They are part of a continuum.

In the early 19th century, out of all large-scale Human societies, USA was probably the closest to the democratic end of the continuum.

25% of adults having the right to vote was much higher than in Tsarist Russia, Ottoman empire, Gupta Empire or Chinese Empires where it was zero.

Let us re-visit our basics.

Voting in elections is not the only thing that matters.

In 1824, USA possessed much stronger self-correcting mechanisms than many countries today.

The founding fathers constructed multiple overlapping self-correcting mechanisms and called them “checks and balances”.

Modern information technology, combined with freedom of press helped the self-correcting mechanisms survive even as the country grew bigger and bigger.

It is these self-correcting mechanisms that gradually allowed the US to expand franchise (right to vote) to all adults, abolish slavery, and become a more inclusive democracy.

These same founding fathers made enormous mistakes.

They endorsed slavery (*banisatvanni samarthin-charu* / బానిసత్వాన్ని సమర్థించారు), they denied women the right to vote, etc. but they also provided the tools for their descendants (*vaarasulu* / వారసులు) to correct their mistakes.

That as their greatest legacy (*varasatvam* / వారసత్వం).

10.4 20th Century: Mass Democracy, but also Mass Totalitarianism

Printed newspapers were just the first forerunner (*mundhunnavadu* / ముందున్నవాడు) of the age of mass media.

In the 19th and 20th centuries, a long list of new communication and transportation technologies emerges.

Telegraph, telephone, television, radio, trains, steamships and aeroplanes supercharged the power of mass media.

- When a public speech was given in Athens in 350 BC, it was aimed at a limited audience actually present in Athen’s square.
- When President Adams gave his speech in 1825, his words spread at the pace of a horse.

- When President Abraham Lincoln gave his famous Gettysburg Address in 1863, telegraphs, locomotives and steamships conveyed his words faster throughout the country and the whole world.
- Mahatma Gandhi spread his message of *Swaraj* to the four corners of India through newspapers that he edited.

In the 21st century, things really picked up speed.

New technologies allowed masses of people, spread over vast territories, connect *in real time*.

Today, to hear a President or some other leader speak, all we have to do is press a button when sitting at home.

Large-scale democracy has now become feasible (*saadhyamayye* / సాధ్యమయ్యే).

Millions of people, separated by thousands of kilometres, can conduct informed and meaningful public debates about rapidly changing issues.

But we have to be very cautious.

Mass media has made large-scale democracy *possible*.

It has not made it *inevitable* (*anivaryam kaadu* / అనివార్యం కాదు).

Democracy will not automatically follow.

It has also made other types of totalitarian and dictatorial regimes possible (*sarvaadhikara palanalu* / సర్వాధికార పాలనలు).

Dictators can be instantaneously be heard by hundreds of millions

They can also receive and process data on the daily lives of the population through phone and telegraph from millions of secret police and informers.

In today's world, surveillance (*sampoorna nighaa* / సంపూర్ణ నిఘా) is possible by cross-referring (*paraspara nirdharana* / పరస్పర నిర్ధారణ) exhaustive personal information on every single aspect of each citizen.

This has become possible using tools to instantly connect and analyse massive information that people voluntarily and compulsorily supply.

11 A BRIEF HISTORY OF TOTALITARIANISM

11.1 Totalitarianism & Authoritarianism (Autocrats)

Totalitarianism (*sarvaadhikaravadam* / సర్వాధికారవాదం) should not be confused with Authoritarianism (*nirankushavadam* / నిరంకుశవాదం).

Totalitarianism is a special kind of dictatorship.

Totalitarian systems are convinced of their own infallibility and trustworthiness.

They seek total control over the totality of people's personal lives.

Before the invention of the telegraph, radio and other modern information technology, large-scale totalitarian regimes were impossible.

Roman emperors, Ottoman caliphs and Mongol khans were ruthless autocrats (*nirankusha paalakulu* / నిరంకుశ పాలకులు) who believed they were infallible.



But they did not have the apparatus (*parikaram* / పరికరం) needed to impose totalitarian control over large societies.

Let us once again clarify the difference between totalitarian regimes and autocratic regimes:

- In an Autocratic network, there are no legal limits on the will of the ruler, but there are lots of technical limits.
- In a Totalitarian network, there are not too many technical limits.

In an Autocratic regime like the Roman empire, rulers could execute any person who displeased them.

If some law got in their way, they could ignore or change the law.

Caesar Nero murdered his mother, his wife, and forced his mentor to commit suicide. He also executed or exiled some of the most respected and powerful Roman aristocrats for telling jokes about him.

But autocratic rulers like Nero could not know what most people were doing or saying.

Theoretically, Nero could issue an order that anyone who criticised or insulted the emperor should be killed.

But he had no technical means for implementing such an order.

Therefore, he had a very limited type of terror.

Modern totalitarian regimes like Stalin's USSR implemented terror (*bhibhatsanni amalu chesaru* / భీభత్సాన్ని అమలు చేశారు) on an altogether different scale.

Totalitarianism is the attempt to control what every person, throughout the country, is doing and saying every moment of the day.

If possible, also what every person is thinking and feeling (*aalochana mariyu anubhuti* / ఆలోచన మరియు అనుభూతి).

Nero might have dreamed of such powers, but he did not have the tools to achieve it.

11.2 Occupational Hazzard

Nero and other Autocrats had an even bigger problem.

They had to ensure the loyalty (*vidheyata* / విధేయత) of their bureaucrats and soldiers.

Not a single Roman autocratic emperor was ever toppled by a democratic revolution.

They were assassinated by their own generals, officials, bodyguards or family members.

Nero was killed by Galba, the Governor of Hispania;
Galba by Otho, governor of Lusitania;
Otho by Vittelius, commander of the Rhine army;
Vitellius by Vespasian, commander of the Judaea army.

Being killed by a subordinate (*adhinamlo unnavaru* / అధీనంలో ఉన్నవారు) was the biggest occupational hazard (*vruttiparamaina pramadam* / వృత్తిపరమైన ప్రమాదం) for all pre-modern Autocrats.

In any form of governance, the relationship between Rulers and the Ruled (*paalakulu mariyu palithulu* / పాలకులు మరియు పాలితులు) has to one of acceptance (*angikaram* / అంగీకారం).

This is true for modern totalitarians as well as dictatorships.

It is a paradox (*virodhaabhasam* / విరోధాభాసం) that even in a dictatorship, it is the people, the Ruled, who have a choice to be ruled by the dictator.

This is why most modern totalitarians are shrouded in enigma (*oka anthuchikkani rahasyamto* / ఒక అంతుచిక్కని రహస్యంతో).

It is partially true (*paksikanga nijam* / పాక్షికంగా నిజం) even in majoritarianism.

Forced order can be maintained by using secret police, army and suppression (*anachiveta* / అణచివేత) of all self-correction mechanisms.

But unrest will ferment just below the surface (*uparitalam kinda ashanti raajukuntundi* / ఉపరితలం కింద అశాంతి రాజకుంటుంది).

11.3 Communist Totalitarianism

Modern technology enabled large-scale democracy.

It also made large-scale totalitarianism possible.

In the 19th century, industrial economies allowed governments to employ many more administrators.

New information technologies like the telegraph and radio made it possible to quickly connect and supervise all these administrators.

Information and power started to get concentrated like never before.

When the Bolsheviks (communists) seized control of Russia after the 1917 revolution, they benefited from this tremendous concentration of information and power.

Marx had taught them how all human societies were dominated by corrupt and greedy (*avineetiparulaina mariyu durasaparulaina* / అవినీతిపరులైన మరియు దురాశపరులైన) elites who oppressed the people.

The communists were the messiahs, just like Moses and Jesus, who would liberate the people and create a perfectly just society on earth.

In this mission, they had to overcome numerous enemies and obstacles.

Communists did not believe in any self-correcting mechanisms that might question their vision or methods (*drukpatham ledaa paddhatulu* / దృక్పథం లేదా పద్ధతులు).

Just like the Catholic Church, they too believed that individual party members may make mistakes; but the Party was always correct.

Belief in their own infallibility made the communists destroy Russia's newly emerging democratic institutions like elections, independent courts, the free press, and opposition parties.

A one-party Totalitarian regime was born.

11.4 Solution for the Occupational Hazard

In the 1930s and 1940s, Stalin perfected the totalitarian system.

The Stalinist network had 3 main branches:

1. Government apparatus – ministries, regional administrators, Red Army
2. Communist party apparatus of the Soviet Union
3. Secret police first called Cheka, the OGPU, NKVD, MGB and finally KGB
In 1937, it had 270,000 agents and millions of informers

Each branch was looking at what the other branch was doing.

In modern totalitarian systems, the problem of revolts by subordinates was solved in this manner.

Throughout history, the army had enormous political power.

In 20th century totalitarian regimes, the regular army had much less power than the secret police – the information army.

The secret police could never defeat the regular army in traditional warfare.

But it was powerful because of its command of information.

Being a general in Stalin's days was one of the most dangerous jobs in the world.

- One-third of the older communist party members were killed.
- 33 members of the Politburo (42%) were shot.
- 98 members of the central committee (70%) were shot.
- 98% of those who attended the 18th party congress in 1939 were imprisoned, expelled from Russia, or demoted.
- The secret police itself were divided into several compartments.
- Etc.

11.5 Total Control

Totalitarian regimes are based on the control of information, and suspicious (*anumanaspada* / అనుమానాస్పద) of any independent channels of information.

Therefore, a key aspect (*keelaka amsham* / కీలక అంశం) of totalitarian regimes is that wherever people meet and exchange information, the regime should be there to keep an eye on them.

There were government officials, party functionaries, secret police and informants in every village and neighbourhood.

This is the real reason why private economic activities were destroyed and collective farming and communes established.

The excuse was that private property led to greed and an unjust society.

Those who opposed this arrangement were called “Kulaks” or capitalist farmers.

- About 5 million Kulak families were expelled from their homes and villages by 1933.

This was true in Hitler’s Germany also.

Since only the Nazis knew what the people really wanted, no one else could implement the people’s will (*prajala sankalpam* / ప్రజల సంకల్పం).

11.6 Party and Church

Were modern totalitarian institutions like the Nazi Party or Soviet Communist Party very different from the earlier religious institutions?

After all, churches and mosques also believed in their infallibility and had priests and mullahs everywhere.

These priests and mullahs controlled the daily life of people, including their diet and sexual habits.

So, was totalitarianism made possible only because modern information technology?

In order to answer these questions, we need to examine the major differences between modern totalitarianism and pre-modern religious institutions.

1. Firstly, modern totalitarianism worked by deploying several overlapping surveillance mechanisms and keeping check not only on the population, but also on each other.
In most pre-modern societies, the religious institutions and state institutions (controlled by kings and rulers) clashed with each other.
Such a clash is unthinkable in modern totalitarianism.
The whole idea of totalitarianism is to prevent any separation of powers.
2. Another major difference is that pre-modern totalitarian institutions resisted change (*maarpunu prathighatinchaaru* / మార్పును ప్రతిఘటించారు).

Modern totalitarian regimes claimed to be revolutionary (*viplavatmakamainadani perkonnaaru* / విప్లవాత్మకమైనదని పేర్కొన్నారు) and demanded change.

3. Religious institutions developed slowly, over many centuries.

Modern totalitarian parties like the Nazi Party and Soviet Communist Party were organized within a single generation and promised to revolutionise society.

4. And lastly, pre-modern totalitarian systems had the same limitations that autocrats had in early authoritarian regimes.

They did not have the technological information tools to know what was happening in every nook and corner of their regimes

Local priests and mullahs had a large degree of autonomy.

11.7 Wokeism

The term **Woke** was coined by African American activists in the 1930s.

It quickly became politically correct to be aware of and attentive to social inequality, prejudice, and systemic injustice, particularly regarding race and gender.

'వోక్' అనే పదానికి ముఖ్యంగా జాతి, లింగ భేదాలకు సంబంధించిన సామాజిక అసమానత, పక్షపాతం, వ్యవస్థాగత అన్యాయం పట్ల అవగాహన కలిగి ఉండటం అని అర్థం.

Wokeism means being politically alert (*rajakiyanga chaitanyavantamaina* / రాజకీయంగా చైతన్యవంతమైన) and conscious of societal prejudice (*pakshapatam patla spruha kaligi undatam* / పక్షపాతం పట్ల స్పృహ కలిగి ఉండటం).

It describes a necessary, empathetic awareness (*sanubhutito kudina avagahana* / సానుభూతితో కూడిన అవగాహన) of marginalized groups and societal fairness.

It is virtue in democracy and wokeism has been the driving force for the progressive advancement of society (*pragatiseela purogati* / ప్రగతిశీల పురోగతి).

Totalitarian regimes use the term as a scornful and derogatory label to describe their political opponents (*apahaasyam mariyu avamanamtho kudina mudra* / అపహాస్యం మరియు అవమానంతో కూడిన ముద్ర).

Authoritarians see progressive policies (*pragatiseela vidhanalu* / ప్రగతిశీల విధానాలు), ideas and gestures as insincere, extreme, and preventing their attempt at total control.

11.8 How Information Flows

We have seen that the new information technology of the late modern era gives rise to both, large-scale democracy as well as large-scale totalitarianism.

Without this technology, there was only autocracy.

Democracy encourages information to flow through many independent channels.
It allows many independent nodes to process the information and make decisions by themselves.

Totalitarianism wants all information to pass through the central hub and doesn't want any independent institutions making decisions on their own.

Totalitarianism gives the appearance of having three separate apparatus – government, party and secret police.

But the whole purpose of this parallel apparatus is to prevent the emergence of any independent power that might challenge the centre.

Both information networks – democracy and totalitarianism – have their advantages and disadvantages.

The biggest advantage of a centralised totalitarian network is that it is extremely orderly.

Decisions can be made quickly and enforced ruthlessly.

This is very useful during wars and epidemics.

Centralised information networks also have several disadvantages.

The official channels often get blocked because subordinates hide bad news.

Another reason is to try and preserve Order.

The chief aim of totalitarian information networks is to preserve Order than to discover Truth.

On 26 April 1986, Soviet citizens were the last to know about the Chernobyl nuclear reactor explosion.

Authorities suppressed all news of the disaster and citizens took no steps to protect themselves from radiation.

When some officials in Chernobyl and nearby towns requested immediate evacuation of the population, their superiors' chief concern was to avoid the spread of alarming news.

So, they cut off phone lines and told the employees not to talk about the disaster.

2 days later, Swedish scientists noticed that radiation levels were high and the western press broke the news.

If a similar accident had happened in a democracy and authorities had not informed the President, newspapers would have published the story.

If one newspaper went along with the authorities, two others would jump to get a scoop.

On 28 March 1979 there was a serious accident in the Three Mile Island nuclear reactor in Pennsylvania.

The accident began at about 4:00 am and was noticed by 6:30 am.

An emergency was declared at 6:56 am and the Emergency Management Agency (EMA) took over at 7:02 am.

The radio station aired a short report at 8:25 am.

In the USSR, that radio station would have been in serious trouble.

But in America, citizens learned about the accident, and NGOs, academicians, experts and others could openly discuss the immediate causes and future policy measures.

11.9 Nobody is Perfect

Self-correcting mechanisms of both, totalitarian and authoritarian networks are either very weak or totally absent.

Since they believe they are infallible, they see no need for such mechanisms.

And also, because such mechanisms might challenge them.

Then there are no free courts, media outlets or research centres to expose and correct the daily abuse of power.

The leader may sometimes proclaim an anti-corruption campaign.

This would be just a smoke screen for one faction of the regime to purge the other faction.

When serious shortcomings do come out, all problems are blamed on “foreign enemies”, “internal traitors” or “corrupt subordinates”.

The leader then demands even more power in order to deal with these guilty parties.

In spite of very many disasters, these systems do function.

They are a success in terms of maintaining Order on a gigantic scale.

Hundreds of millions of people are kept in line.

In the 1940s and early 1950s, many people across the world believed that Soviet style communism was the best future for Human societies.

It was humanity’s best shot at ending capitalist exploitation and creating a perfectly just society.

Information systems can reach far with just a little Truth and a lot of Order.

You can oppose the moral and ethical (*naithika mariyu dharmika* / నైతిక మరియు ధార్మిక) aspects of these systems,

But cannot call them inefficient (*asamardhamaina* / అసమర్థమైన).

With more and more information technology in today's world, networks will struggle to find the right balance between Truth and Order.

Some will choose to prioritise Truth (*satyaniki pradhanyatha* / సత్యానికి ప్రాధాన్యత) and maintain strong self-correcting mechanisms.

Others will choose to do the opposite.

But the new information revolution has one unique feature (*prathyeka lakshanam* / ప్రత్యేక లక్షణం), different from anything we have even seen before.

Hitherto, every information network in history relied on Human mythmakers (*maanava puranakartalu* / మానవ పురాణకర్తలు) and Human bureaucrats to function.

Printing press, radio, etc. have had a far-reaching impact on history.

But it was always the job of Humans to compose the texts, interpret the texts, and decide who should be burned as a witch or made a slave as a kulak.

Now, Humans will have to deal with digital mythmakers and digital bureaucrats.

The divide in 21st century politics might not be between democracies and totalitarian regimes.

It may be between Human beings and nonhuman agents (*manavethara kartalu* / మానవేతర కర్తలు).

The silicon curtain may separate all Humans from our unfathomable (*anthuchikkani* / అంతచిక్కని) algorithms.