

*Evolution of hegemonies: The power in time*

# Systemic Complexity of Empires and the Globalization

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## **Abstract**

Generally, very wide systems are complex, and they afford particular methodology implementations to obtain reasonable operation outputs. Here we are looking for a strategy to rational interpretations on empire data collected from different civilizations in the universal history, in order to understand complex globalization trends as it occurs in our days.

*Keywords: systemic complexity, empire system, globalisation, worldwide integrated system.*

## I. INTRODUCTION

The concept of complexity is linked to real systems through the integration of multiple interactive components.

From such unitary structure emerges a systemic output called telonomy, which is significant for the system intentionality and for the human interpretation of the observed reality [5].

The system operation response may be difficult to be interpreted, and so it will be impossible to warranty a sure comprehensive operation prediction for the future.

This reasoning conducted us to define complexity on the basis of difficulties we experiment to point out the essential features of the system functionalities.

These systemic essentials are the following: acrony or structural components, axony or interactions among components, aquadry or real and virtual boundaries of the functional set, and adaptacy or the evolution system to the optimum working point in order to get the best telonomy, according to the system intentionality.

Whenever we don't know the right conditions of one or more systemic essentials, we can say that the system is complex (even if we recognise it is simple), and otherwise it will be simplex (even we say it is complicated).

In current human lives, we can handle trivial and sophisticated cases of simplicity, using the science and art or the societal common knowledge, but instances of complexity do offer some unknown process data.

## II. WORLDWIDE SOCIETAL SYSTEMS

A system in any society includes natural and technological components, which are inserted in all normal social activities.

Each worldwide system integrates human actions and natural objects or signals and artificial manufactured products.

Human and technology and universe phenomenology are three classes of general sets operating partial subsystems within societal systems.

We know that very well in our current life, for instance it happens in remote communication systems using the trivial internet.

We can see it in everyday activity, and also regarding the historical evolution in all geographic regions until the contemporary globalization perspective of the world.

In fact, today we have the possibility to interact in very short time at long distances as if we were remotely present. Nevertheless, such remote action is very ancient.

Primitive people did migrate from Africa to Asia and Europe and to America, they moved away with some adventure purposes and building several social structures to better profit from natural goods, organizing different human communities to live according to their own collective wishes.

Some of them tried to exert forced influences imposing empire charges impelled by ambitious and audacious adventurers, using newer power materials (as weapons or animal powers) to submit neighbour populations to their rules.

The empires did grow up, and fell down after terrible and declining experiences.

However nations hope to be free, living according to their cultures and developing freely own traditions.

After the 15<sup>th</sup> century, maritime navigations over the Atlantic Ocean did carry Europeans to the Indic Ocean and later to the Pacific, and the entire world became known for all peoples.

The time did pass along, and the 20<sup>th</sup> century developed sufficient scientific knowledge and new technologies to amplify some relations between countries over the world to a very high extent.

The basic idea states that all organized societies will change global interactions by wide networks of relationships.

Is that the real trend for the future?

What are the necessary global conditions to live happy in peace?

How to defeat any possible threat by an eventual empire outburst?

These questions inspire us to analyse the complexity of global interlinked systems over the world in comparison to local forced interconnected countries composing empires.

Between empires and the globalization we have colonization systems, with features from both basic social system types.

For that we endeavour to understand evident systemic essentials associated to empires and the globalization.

### III. WHAT IS AN EMPIRE?

Typically any empire is an extensive territory governed by a single supreme authority, subjugating several peoples and different cultures to a dominant power.

Analysing the ancient history, since four millenniums behind, mostly at East and far East territories, we note the birth of several empires, as Qin and Han in China, Cyrus in Persian, Alexander the Great, Roman empire, Maurya and Gupta in India, Genghis Khan, Ming, and Inca and Aztec in America, the Ottoman empire and others [1, 6, 7].

From such information we can extract some common features to identify the general empire concept under a systemic standpoint, neglecting political or social references.

An empire sets down in forced blocs of populations with different cultures, using dominant strategies and a serial of tactic adaptations in order to harmonise suitable rules over the space and the time.

Imposing authority to subjugated people the empires use powerful technologies (transports, weapons, new inventions) and human capabilities (brave warriors, smart advisers, loyal governors).

The empire evolution always strengthens higher hegemony levels, forcing social value uniformities, including a vehicular language, and destroying culture diversities.

Nevertheless, the empire implementation requires a convenient intellectual background warranting somewhat social stability.

### IV. WHAT IS THE GLOBALISATION?

Much more than world relations, the globalization do fall upon the free integration of several organizations inside many countries.

Each organization implements proper structures and pursues its own objectives.

It is a singular societal organization within a general independent sovereignty endeavouring social aims without external impositions, but it grows by mutual acceptable requirements.

Today we observe a tremendous increase on a commercial globalization, practicing business everywhere through international corporations (are they only a powerful finance globalization?) operating as national enterprises in many independent countries and working in special industrial sectors or as services providers [2].

So, we detect a few trends on the globalization reality, extending actions over all human activities (science, art, literature) [3] and social environments (university, finance, energy) [8].

In such global processes, the globalization will induce value uniformities when the time elapses, but without programmed forcibleness, preserving culture diversities by local behaviour adaptations to general imported influences.

## V. SYSTEMIC ESSENTIALS OF AN EMPIRE

History data gathered from Asian empires, which has been created and died several thousands of centuries ago, can give us important information about their main features as systems.

We observe similar properties in European empires and also in primitive American civilizations.

The following description summarises empire systemic essentials as we did notice it.

### Acrony:

The composition structure of an empire depends on the occupied planetary space and on living people inside their boundaries, showing an authority expansion to contiguous spaces by subjugation of resident populations to external dictated rules.

An empire has always certain heterogeneity among subsystems, and each one exhibits a particular culture following their old traditions.

That is to say the empire acrony can be definite, and it is not very much homogeneous.

### Axony:

Distinct people do live integrated and in peace only if the empire system reveals an interactivity to aim at getting a minimum harmony, pursuing same accepted ways of live.

But the empire domination compels behaviours against people desires, otherwise the dominator will be immediately defeated.

This means the empire axony is not always well known being incomplete.

### Aquadry:

Each partial country belonging to an empire tries to maintain its community frontier according tradition although it will be not clear.

However the empire external boundaries are perfectly defended, separating the empire territory to neighbour spaces, and may be extended if the empire decides to struggle for greater dimensions.

For that reason we can assert the empire aquadry may be certain in some history periods.

### Adaptacy:

The law code of an empire must consolidate a dominant culture, forcing it to be followed everywhere by the integrated people.

Guide lines to control all subsystems claim to attenuate culture differences, imposing a common paradigm to general behaviours even against people reactions.

Therefore empire adaptacy is mostly indeterminate.

### Telonomy:

Some outputs from the empire process will go to the external world, but the majority results emerging from the organic activity are self oriented to maintain the auto-authority.

The empire system must assure the sovereignty and independence, spending a lot of resources to continue alive, and the external actions try to create an image of internal paradise, pretending to influence neighbours to adhere to the expanded project, even under several threats.

But the empire telonomy is almost isolated from other wide systems in the world, and outputs are not very much accurate due to some secret and not transparent actions.

## VI. SYSTEMIC ESSENTIALS OF THE GLOBALISATION

Basic globalization features are very different from empire ones, because the global aim is quite distinct from the empire intentionality.

As a corollary we note the consensual existence of multiple interconnected systems and so they can design an intricate societal network over the world.

### Acrony:

The organization structure of a global system is homogeneous in each functional subsystem.

Partial components are distributed over separated regions in the world, instead of adjacent territories.

Following we can tell without any doubt that the global acrony is well definite.

Axony:

All parts of a global system interact in different spaces, and they are perfectly controlled converging to the same global intentionality.

This network paradigm means a fundamental feature of global systems.

As a consequence the global axony is considered complete in general cases.

Aquadry:

A global system has necessarily a virtual frontier, because concrete boundaries of all partial subsystems are distant one from others, and the global system boundaries are not physical, being distributed over many countries.

This means that a global boundary may be not rigid, depending very much from exogenous variables, following political or culture environments in each country of implementation.

We affirm that the global aquadry may be not exactly known and thereafter will be uncertain.

Adaptacy:

Operating subsystems optimise global work functionalities in an easy way, owing to the structure homogeneity and to the interaction accuracy.

In fact, the network operation by agent interconnections will make easier to optimize working points.

Consequently global adaptacy appears to be perfectly determinate.

Telonomy:

Multiple outputs from a global system may be active in several subsystems to various geographical regions, giving all capabilities to interact in the internal network at remote locations.

The result is a reasonable efficient control over the expected system intentionality.

Finally, we may say the global telonomy interacts accurately with many environments.

## VII. COMPARING SYSTEMIC ESSENTIALS

Although brief, the foregoing analysis reveals how far the systemic complexity of empires and globalization is to be considered.

To better see the problem we summarize the most important features of the systemic essentials in a comparison table, as it follows.

TABLE I. SYSTEMIC ESSENTIAL COMPARISON TABLE

Systemic essential	Empire system		Global system	
acrony	definite	contiguous components	definite	separated components
axony	incomplete	forced interaction	complete	free programmed interaction
aquadry	certain	rigid external boundary	uncertain	soft internal boundaries
adaptacy	indeterminate	the operation depends on many unknown factors	determinate	the operation depends on many known factors
telonomy	accurate	multiple internal outputs and few external outputs	inaccurate	multiple external outputs and few internal outputs

The table teaches us that the empire system is a complex system (and also very complicated) denoting a very difficult scientific approach, giving the incompleteness of the axony and the indetermination of the adaptacy, although the acrony definiteness and the aquadry certainty can ease necessary specifications for a right system description.

This means that in general empire systems have a 2<sup>nd</sup> or 3<sup>rd</sup> degree of complexity.

On counterpoint, a concrete globalization represents a complex system (even it could be very complicated) with a 1<sup>st</sup> or 2<sup>nd</sup> degree of complexity, seeing that we can get higher quality for scientific approaches, giving the definiteness of the acrony, the completeness of the axony and the determination of the adaptacy, although somewhat aquadry uncertainty may difficult system specifications.

## VIII. CONCLUSIONS

A worldwide process requires induced perspectives from very high observation positions, and paradoxically we notice much better a global system far away from their details.

In fact, we see better the Earth from the sky, because the distance allows us to have a clearer vision on the part under global observation.

Really, we get a finer understanding about ourselves if we go outside from us and look at our profound inner states.

Any global system must be regarded from outside interpreting external outputs of its telonomy, but we must know inner components and interactions to understand the best operation modes inside their organization.

An example can be the global finance system and its consequences for the natural world, requiring a suitable global control to eliminate perversion and inequity, and avoiding dangerous austerities [3].

All this is very complex to face it.

But all this must be rationally workable, processing it by science and ethics in order to get a superior knowledge on reality to better survive and being happy.

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