Torus network

Human social evolution based on technology and geometry.

Abstract

Everything is changing these days, evolution gives no truce. A revolution bigger than the industrial revolution is coming. ¾ of the world population is living in poverty. One thing is clear: we are lacking a good organization.

The only really new factor in modernity is technology. Technology evolves at an exponential speed[01]. This is faster than life evolution. Some people talk about the singularity point[02] where technology will become unpredictable because of the evolution of artificial intelligence over human intelligence. But according to me, before that happens, we will rather use technology to improve our own intelligence. This phenomenon can take place around 2040. So nowadays human evolution is, for sure, related with technology.

Capitalism, as we know it (materialism), started near 1950 as a great way of evolving but now we see it is not so good. Money is totally polarized, free market is a lie, the world is overpopulated, generating a lot garbage, producing things designed to break[03] and the environment is in a desperate situation. Capitalism was designed for human expansion and it works good for that, but now with 7 billion people, we touch each other, and we see that our planet is not infinite to keep expanding.

Competition, rather than generating improvement, generates destruction. Sometimes for other people and sometimes for our people. There is always a winner and a looser, but we are all together in the same world, so finally we all win or we all lose. Maybe this is the first thing we have to understand, in order to evolve.

We need a new way or organization. We need a new paradigm that makes this one obsolete. Let's try something else.

Cooperation Vs Competition

We live in a competitive world, do we? Human social structure is based on competition because we created it. Cells, for example, live in cooperation. They are self-organized systems. Bees and flowers cooperates too. Ants, bacteria, archaeas, viruses, etc. Cooperation is a wide social mechanism in life.

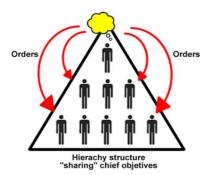
Darwin wrote about "natural selection" and it does not mean "competition". Capitalism is not as natural as we think.

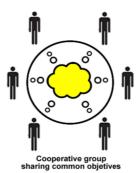
Let's use geometry to define cooperation. When two persons share the same objective, they are cooperating. When two persons have different objectives they are, sooner or later, competing.





To scale up in competition we create a hierarchical structure where everybody shares the objective of the chief. To scale up in cooperation we create a group of people that share the same objective.





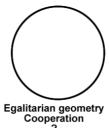
Nobody wants to work for anybody else's objective. So we do it for money. The chief doesn't want to pay so much so we find competition inside hierarchical structures. By the way, the chief needs to maintain the structure so he competes against other hierarchical structures. Finally everybody is competing, in many occasions to give the same service. This is not efficient.

Cooperative groups instead are personally motivated by the objective. They work together in a self motivated environment and sharing knowledge usually speeds up the result and creates new cooperation relations. There is no need to compete with other cooperative group. It is easier to cooperate together.

In hierarchical structures, decisions are taken by people in a high level position. There are opinions but not discussions. In cooperative environments decisions are more complicated as long as everybody has the same right and probably different ideas, methods and experiences. This is one of the main reasons why traditional cooperative groups don't scale up easily.

As we see in the figure, a triangle is a good geometry to represent competition and a circle is a good geometry to represent cooperation. As long there is no vertex, there is no special people.





Now, let's find a way to keep shared common objectives as time goes by and the group get bigger.

Objective: Improve big scale cooperation groups

Self organized systems

Self-organization[17] is a form of overall order that arises out of the local interactions in an initially disordered system. This process is not directed or controlled by any agent or subsystem inside or outside of the system. It is constructed by individuals and learning. The resulting organization is wholly decentralized and distributed over all the components of the system. As such, it is typically very robust and able to survive and self-repair substantial damage or perturbations. Self-organization occurs in a variety of physical, chemical, biological, robotic, social and cognitive systems.

Cells, neurons, some fishes, flying birds are examples of self organized systems. Everybody knows how to obtain global benefits. Although traditional paradigm thinks that natural selection is always related with competition, there are other people that think that self-organization is an important part in natural selection[18].

Human beings are, mostly, not self-organized. But that is maybe because of our education. We are educated for competition and capitalism. What would be if we are a little more self-organized? Finally human beings is made over self-organized cells and neurons. Self-organization is definitely an important part in natural selection and cooperative philosophy.

This represents an individual and philosophic change. You cannot leave a hierarchical social structure to get into a cooperative social structure if you expect someone to give you orders.

Cooperative groups are organized based on the common objectives and common objectives are based on the interest of the group. So we are in a closed loop of reactions.

Group decisions \rightarrow group objectives \rightarrow group actions \rightarrow group decisions and so on.

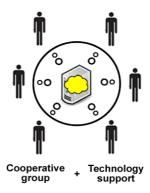
There is no chief so individual consciousness is more important

Proposal

We define *group consciousness* as a transformation element of the people that form the cooperation group. The more *group consciousness* there is, more evolutionary the group is. The name refers to its meaning [15] but if you feel uncomfortable with this definition you can take it as an arbitrary name by now.

Objective: Create group consciousness

We have a geometric representation of a cooperative group and common objectives. Because *group consciousness* is an abstract concept we need some physical support for it. Now let's put some technological support.



And some definitions too.

Objective

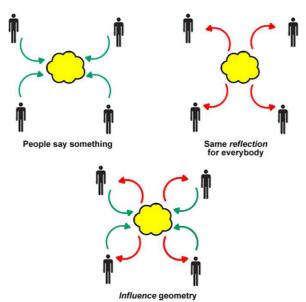
The objective keeps the group together. It is defined at the beginning and keeps the same as time goes by (or eventually changes if everybody agrees with it). The objective is the seed that creates the group and gives identity to it.

Reflection

It is the dynamic representation that all people see when they look at the *objective* and other related information needed to generate actions. Because people evolve regarding their interest, proposals and methods, it can change constantly. Its aspect is different from case to case and its geometry is the yellow cloud in the center of the circle.

Influence

When you suggest an idea or method to get to the *objective*, you are directly influencing the *reflection* so everybody can see that and react according to it. You can *influence* the *reflection* only if you are part of the group. It is important to notice that you are included in that *reflection*.



Now let's use these geometry and definitions to create *group consciousness* by construction.

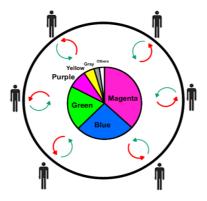
By construction

- 1. A group of people
- 2. An objective
- 3. Define the reflection method
- 4. Add technological support
- Start a closed cycle of iterative *influence* based on: everybody say something → reflect ourselves → everybody say somethingand so on.

Let's try an example.

Favorite color example

- 1. A group of people
- 2. Objective: "Find our favorite color"
- 3. Reflection: show the favorite color of the group in a simple chart
- 4. Add technological support
- 5. Start a closed cycle of iterative *influence*The question is: *What's your favorite color?*And the *reflection* is:



It is easy to see that the favorite color of the group is magenta. Everybody can see that blue is second and so on. Probably you will think: "Magenta??!! It is a little surprising, it is not a common color". Well now you know something about the group you are in that you didn't know before. Maybe you will take it in consideration next time the group talks about colors. This is how you feel the *reflection*.

This is a very simple *reflection* method for a very simple *objective*, but it works.

Notice that the iterative *influence* is always open, so this result can change every week or every day.

The reflection is the living representation of the group consciousness.

About favorite colors in this case.

All these concepts are already implemented in an application called Nabú that is being tested at CIC [04].

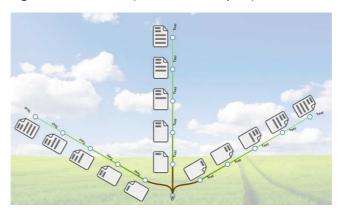
Nabú Babylonian good of writing

Nabú is a big scale decision tool for cooperative groups.

It starts from an *objective* and reflects constantly all the information people say, creating *group* consciousness.

The final purpose of Nabú is to write consensus documents. These documents are the result of everybody's opinion and the generators for real actions. To start a real action a consensus document is needed. Everybody can purpose a complete document at any time or just a part of it. All parts are represented in a tree (*reflection* method) so everybody can see the map of proposals at any time.

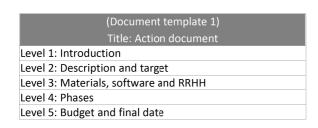
Documents are written in 5 levels from the root to the leaf. Starting with an introduction (more abstract part) to a budget-and-final-date (more concrete part).

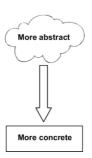


How documents are written in Nabú

In this figure there are 3 documents proposed. So we can say that the group is talking about 3 topics.

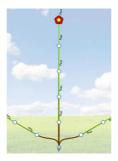
The template of the document looks like this



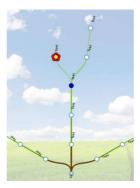


When you start a new document at level 1, Nabú lets you select a document template from a list. So it is possible to start different types of document discussions.

When you see the tree you can find parts of documents that you agree with and parts that you don't. When you agree, you can vote it putting a flower over that part so the branch becomes wider.



If you agree with the proposed document but only up to level 3 then you can propose a variation for level 4.



Opinions (parts of documents) are anonymous. This is a very important detail. When you say something to the group, then it is not yours anymore. It is part of the *group consciousness* now.

Rules of the game:

- Everybody has the same number of flowers
- When you propose something you spend one of your flowers
- When you vote something you spend one of your flowers
- You can change your flowers position at any time from one opinion to another
- You can recover a flower from one opinion at any time so you have one more flower available
- If you take out the last flower of one opinion, the branch dies so the tree can sprout again
- When you put a flower on an opinion the branch becomes wider. And it becomes thinner if you recover it.
- You always see your flowers in the tree but you cannot see flowers from other people.

Reflection

- All opinions are in the reflection (tree nodes)
- All votes are in the reflection (width of the branch)
- The tree changes all the time

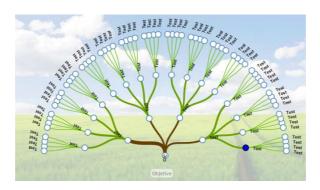
The tree is the living representation of the group consciousness

About decisions this time.

Convergence or divergence

The most important thing to know about this *reflection* method (the tree) is to see quickly documents that are converging and documents that are diverging. Convergence is near to consensus and divergence is far from it. In a cooperative group we need consensus documents to start real actions, so everybody wants to construct consensus document.

Consensus is a cooperative task



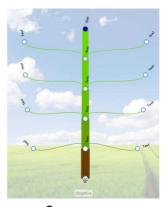
Divergence

In this example we see 4 discussions (level 1) and all of them show divergences. This means that people have different ideas at all levels. None of these discussions is near to a consensus. The group will have to wait and evolve to start real actions.

How do you feel this reflection?

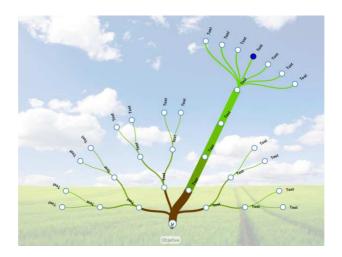
"The group is in disagreement, we are not cooperating, and rather we are competing. We need to converge to start real actions"

The *reflection* is open all the time; so this situation can change soon, as people create new proposals or move their flowers. As soon as people evolve. As soon as you evolve!



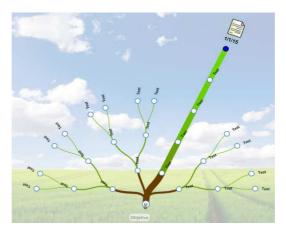
Convergence

Here we see 1 discussion near consensus. 2 proposals differ from each level but they didn't thrive (by now). The main branch is wide so many people are in agreement. This situation is close to start real actions. Divergence should evolve to convergence. That would be a constructive evolution.



Mixed situation

One topic is converging until level 4. At level 5 people are in disagreement. Let's see what happens after some time.



A new consensus document in Nabú

When a branch reaches the consensus condition then Nabú writes a document with the content of the 5 levels of that branch and adds the actual date to it. The document is now a fact in time.

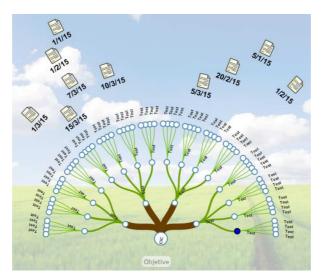
The group has spoken

Consensus condition is:

- Some condition about people in agreement. More than 4/5 for example.
- Some condition about people in disagreement. Not much and not grouped for example.
- Some condition about the quantity of people involved

Because the tree changes all the time, after a consensus, people probably will change flowers' location in order to construct another consensus.

The consensus document is the fruit of the tree.



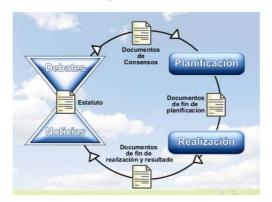
All consensus documents generated in time

Consensus documents go to planning and production stages. The result of the production (a product, a method, a committee or whatever the consensus documents say) goes to people of the group. So the group enjoys the results of the group decisions. This will probably generate new feedback info. This feedback info will be the starting point for new discussions, about improvements for example.

Finally: Discussions generate consensus documents, that generate real actions, that generate real results, that generate feedback, that generate new discussions.....and so on.

We are in a closed evolution cycle again. This looks familiar, don't you think?

The main menu of Nabú looks like this (in Spanish)



Debates: Discussions (the tree) Noticias: Feedback from people

Estatuto: Objective

Nabú is an open-source project that you can find at https://github.com/sabtvg/nabu and is now in testing phase.

Generalization A better definition

Any software system, based on any *objective*, that works like Nabú creates *group consciousness* and then evolution.

These are the features needed:

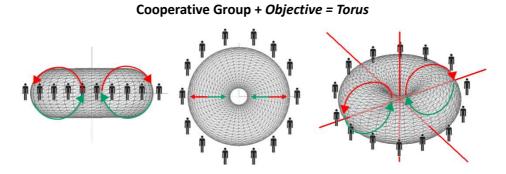
Features needed	Meaning
Objective	The main reason that identifies the group's common interest.
	This is the seed that creates the <i>group's consciousness</i> .
	The beginning.
	The name of the game.
Cooperation	In a non pyramidal social structure, people are self-motivated to
philosophy	evolve. "We are here because we want to get to the objective and
	enjoy the benefits".
Reflection	The system should reflect ALL the information received by all the
	people and show it in a simple and friendly way. Its graphical
	representation is the aspect of the group's consciousness and
	creates the iterative evolution of the group.
	Even if people moves or leaves, the group exists by itself!
Interaction	The reflection should be as interactive as possible so people refresh
	themselves continuously and instantly.
	Everybody is connected!
Trust	There should be warranty that the reflection all people see is really
	the reflection that should be.
Scalability	The size of the group can grow and different groups can cooperate.
	There should be no limitation on the size so someday we can reach
	global group consciousness.

Now let's combine cooperative geometry with influence geometry and reflection geometry.

Torus

The torus is a very curious, interesting and deep shape and its geometry has all we need.

From now:



We will call the center of the torus the "reflection point" as well as we did with the center of the circle. We can see that *influence* geometry fits perfect and the egalitarian circle of people too.

Iterative evolution

The closed cycle of *influence* generates iterative evolution[05]. The iterative method is a formal and mathematic technique used in many scopes based on big data inputs and chaotic systems. This method pretends to approach gradually to a solution through iterations in time. And that's exactly what we do here.

Interactive reaction

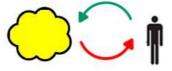
Interaction[06] is usually related with *action-reaction*. And it is true, but it is more than that. If *reaction* is out of time phase with *action* then it is not interactive. Interaction happens instantly. This phenomenon creates special reactions in your brain[07]. Planting a tree is an *action-reaction* example. Playing a music instrument is an interaction example. You can study music theory (and it is great) but you can also learn by practice. By interacting with the instrument.

The *reflection* should be as interactive as possible. So finally you will know the *group* consciousness of the group you belong to just by looking enough time at the *reflection*. The *group's consciousness* is just the extrapolation of the individual consciousness and that's what you see when you keep on looking at the *reflection* for long time.

Reflection

The *reflection* method should be such that all dimensions of information that comes into the reflection point are present in the *reflection* result. Whatever people say is in the *reflection*. We will call this "reflection without loss of info".

On the other hand, all the info that people say should be enough and directly related with the *objective*. This is how we close the cycle of *influence* between what people say and what people see.



Closed cycle without loss of info

If the information received is not appropriate or the *reflection* method loses info then the evolution of the group will be slower or maybe never happen.

The *Torus* geometry is very clear in this aspect, all the lines that goes out from the reflection point (center of the torus) goes in again. All the energy that goes out goes in. All the information that goes out goes in. The *Torus* is, by its definition, a closed cycle geometry without loss of info.

Quality info

The *reflection* image is a good example of information quality[08]. And it is a challenge in terms of data visualization techniques[09].

Other near examples

Google earth

Looking at the planet earth from far is a nice example of global reflection. We are all included in that reflection. It is not interactive because pictures are not updated in real time but we can learn, for example, about green zones in the planet and compare them with the next pictures updates (after few months). In this case we can see the planet reaction to human deforestation and react according to it. It is server oriented, Google is special people, so it is not egalitarian. The code of the application is closed so we have to trust Google about the information we see. And finally it is made for people to look at local maps. So nobody spends time looking at a global map. Google earth is a nice approximation to global consciousness but it is not focused on that; so evolution of global consciousness is slow. It doesn't work.

Google search engine

Once a year Google publishs the ranking of most searched words. It is interesting to know what the world was thinking about, in average, that past year. What could happen if we have access to that information in real time? We could know what the world is thinking at any time. Imagine global reactions when a country begins a war or some important politics decisions. Imagine we can know what the world is thinking about by country. Once again it is server oriented so we have to trust Google and it is not interactive (for us at least). It doesn't work.

Wikipedia

Wikipedia is a cooperative project. You say something and everybody can see that. You can query for one topic at a time so you cannot see one single and global *reflection* image. You cannot see global information about hot topics, evolution of topics, tendencies, how many people use the information by country. Finally you cannot learn about global knowledge. It is server oriented so Wikipedia team is special people, it is not egalitarian. It doesn't work.

A network video game

Everybody connects to the video game server and everybody shares the same scenery. It happens in real time so it is interactive. If you zoom out to see everything then you can learn what's going on there. Unfortunately all these games are based on competition and players are focused on local maps so there is no global knowledge. It is server oriented and closed code. It doesn't work.

Scalability How to grow?

Groups can grow by always sharing the same *objective*, but we need many objectives to confront complex tasks. A complex task is usually defined in terms of smaller tasks. This is how we approach a big *objective*. A common way of doing it is using Work Breakdown Structure (WBS) [10].

Example:

- Organize the city
 - o Organize the food
 - o Organize the energy
 - o Organize health
 - o Organize education

Tasks are *objectives*. Usually we assign *objectives* to persons, here we will assign them to cooperative groups. In fact, to *Torus*.

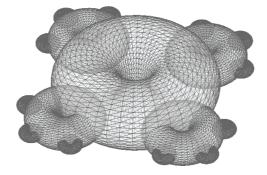
Objective: Create *objective* hierarchy but equality of people.

Objectives are responsibility of the groups. Not of individual persons. People who cooperate in that group in that moment are in agreement with the *objective* and they do it by self motivation. They are free to change to another group or simply leave it. But the group will be still related with the same *objective*.

People is free

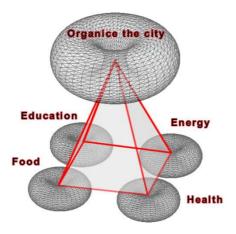
To combine different groups we need some geometry. This geometry should be such that groups can combine with others in any direction, scale-up and scale-down, so the network can adapt to the real world needs and changes. A big *objective* should be able to break down to a combination of smaller *objectives*. And many small *objectives* should be able to group in a big *objective*. Fractal[11] geometry is perfect for this. Fractals where defined in the 70′ by Benoit Mandelbrot and after that we realize that there are fractals everywhere in nature. They are self-organized by definition and they show periods (zones) of chaos and periods of order, like real life. Fractals seem to be a very, very, important geometry in the universe.

This is an example of a fractal *Torus* combination.

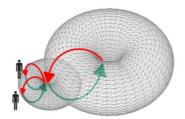


Fractal *Torus* combination is infinite in any direction. We can create new *Torus* or kill one so the network can adapt. Vertical rings of the big *Torus* are connected exactly with the center of the smaller *Torus*. Combination is perfect and simple!

If we translate the central torus a little up then we can see the hierarchy triangle again (now it is a 3D pyramid).



Now we have a geometry to combine *Torus* in a hierarchical way. Every *Torus* has an *objective* and all of them are cooperating together. Let's see what happens with *Influence*.



Influence when scaling

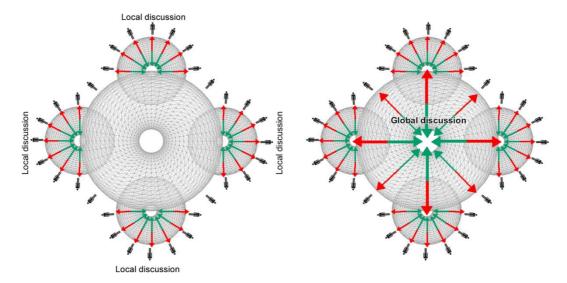
Because vertical ring of the big *Torus* connects directly with the center of the small *Torus*, *influence* scalability is trivial. The *reflection* of the big *Torus* flows directly to the *influence* of the small *Torus*. And what people say in the small *Torus* flows directly to the big *Torus*. This means that people from the small *Torus influence* the big *Torus*.

People from the small *Torus* ARE part of the big *Torus*. But people from the big *Torus* have no *influence* on the small *Torus*.

This kind on *influence* is called *principle of subsidiarity*[12] and is a basic rule in traditional social cooperatives and the European Union.

Principle of subsidiarity

Subsidiarity is a principle of social organization that was originated in the Roman Catholic Church, and was developed following the First Vatican Council. It has been associated with the idea of decentralization. In its most basic formulation, it holds that social problems should be dealt with at the most immediate (or local) level consistent with their solution.



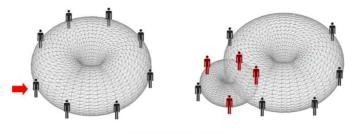
This *influence* direction is totally the opposite of the orders in the traditional hierarchical triangle structure. People from small torus *influence* on the bigger *Torus* because they are part of it. But people from the bigger *Torus* cannot influence smaller *Torus*.

Now let's create a big scale *Torus* network by construction

By construction

Scalability top-down

One person decides to grow his production because the group needs it. So he finds some new people (red people) and becomes a new *Torus*

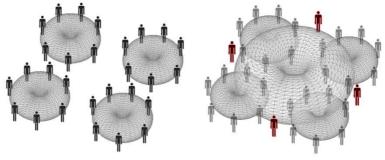


scalability top-down

Scalability bottom-up

Some *Torus* decide to cooperate between themselves and create a new *Torus*. This is how different already existing *Torus* start a cooperation relation.

We need new people for the new *Torus* to deal with the new relation problems, people in red are the new people.



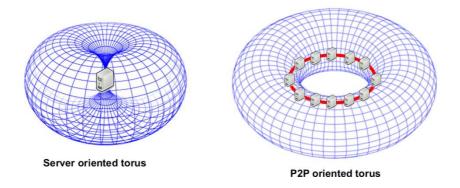
scalability bottom-up

Using this two scalability rules any *Torus* network can grow or shrink according to the needs. And different *Torus* can cooperate creating a new *Torus* that manages general needs.

Torus network topology is dynamic

Implementation

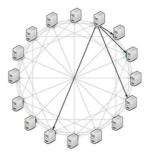
I see 2 kinds of physical support to implement the *reflection* point of a group.



A server reflection point is:

- Not fault tolerant. The server is a weak point
- Physical access to the server creates special people. Administrators, owner, etc.
- Scalability is limited by the server resources

On the other hand, Peer-to-Peer(P2P) [13] means one single application that shares information with others without server. P2P architecture is basically a ring. All applications in the ring are connected creating **one virtual server** application. Once again we can see how perfect it fits with the *Torus* geometry because its architecture is a circle.



P2P geometry

A P2P reflection ring is:

- Totally fault tolerant
- No owner/administrator so it is egalitarian
- Scalable to the infinite

The *reflection* method will use **data visualization techniques**[09] and the application should be **open-source**[14] to ensure the veracity of the result and create trust.

A P2P/Open-source based Torus is a living group consciousness

Notice that an open-source project is basically a cooperative group of people sharing a common objective.

P2P combined with Open-Source is definitely the architecture of the revolution

Many people say: you cannot kill an idea. Now it's true.

Start up

A *Torus* system is based on the reflection of the individual consciousness of the group and uses iterative evolution to converge in time. In the beginning it is probable that the reflected information shows a big divergence and convergence will look impossible. People will be surprised and some people will say "this is not working". Patience! The *Torus* will synchronize gradually the main differences. Evolution takes time.

Conclusion

We have been talking about *group consciousness* as an arbitrary defined name but this topic was introduced in 1893[15]. Group consciousness should be understood as a new consciousness, like a new person, in this context the whole is more than the sum of its parts. People synchronize using the reflection to create a new consciousness. Finally, that is what it's all about: people synchronization!

Technology is very important, there is no other way to do all this. The *Torus* network is a tool designed to synchronize people, maybe now we have the tool to evolve from individual consciousness to group consciousness. From lower levels of consciousness to higher levels of consciousness.

You can think that this geometry is nice but has nothing to do with people and reality. But our actual social hierarchical structure is geometry too. Geometry is a formal language, clear and solid enough to support all these compositions in real world. It would be a mistake to think that geometry is not able to prove concepts and/or create new knowledge. There is people who think that the unified theory of physics, the holy grail of physics, is geometry[16]. So don't think in terms of words or images, think in terms of geometry.

About people we never know. The *Torus* network works only when people work too. All these reactions and interactivity shown in this document are impossible without a group of cooperating people. The *Torus* works as a guideline to the cooperation of the individual's consciousness, so the most important conclusion is what you believe rather than what I can prove.

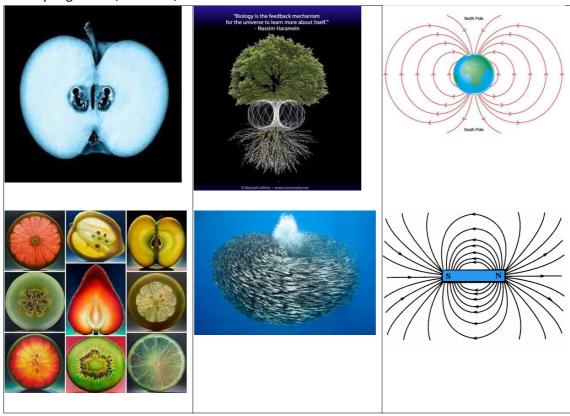
You cannot solve the problems with the same mentality they were created, you have to change the way of thinking first.

- Albert Einstein

Holistic approach Related to the whole instead of a separation of its parts

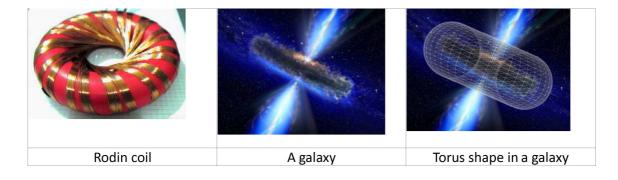
About torus

You can see torus all over the universe. You can see torus in an apple, in a tree, in the magnetic field of the earth, in fruits shape, in fishes swimming, in magnetic dipoles, your eye is a torus, in many vegetables, in atoms, in twisters and much more.



Marco Rodin has defined Vortex Based Math[24] in the 90´ like "the way energy flows" and it is based in the torus geometry. This is very important. He created a coil called Rodin´s coil that is extremely efficient and its shape is a torus. This new mathematic is being formalized now by his disciple Randy Powel[23] and promises that free energy engines are possible when their magnetic fields are a torus.

In the cosmos, black holes are also described by a torus geometry. Galaxies are based on torus too. The universe is supposed to be a torus.



The torus is probably the most repeated pattern in the universe. In fact, the universe is a torus factory.

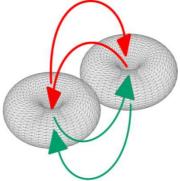


This universal fractal torus network is exactly as our torus network. We are re-creating the same organization geometry of the universe to organize people.

Note: The torus pictures in this document were made with a 3D mesh application, the real torus looks like this: https://www.youtube.com/watch?v=EKtevjrZOGs

Duality

Torus network construction by hierarchy is not the only way. Two torus can live in duality as well. Let's see how useful this is.

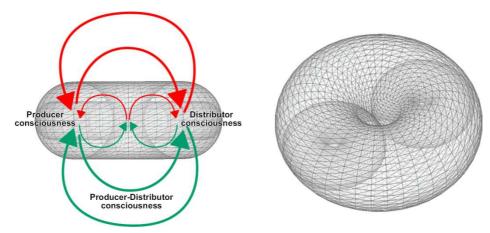


Two Torus influencing each other

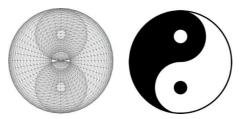
Example: producer-distributor

In mathematics, this relation is called symmetry, in biology it is called symbiosis and in eastern philosophy it is called duality. They *influence* each other but they keep their identity.

Both torus can create a new identity to be seen as one. This would create a new torus and a new higher level *group consciousness*.



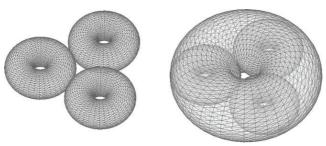
It is curious how similar it is to the yin-yang symbol of duality from Taoism [19]



Many things in existence live in duality.

Trinity

Nature shows many ways of constructing things. The torus network too.



Can you find trinities in nature?

Here you have some suggestions

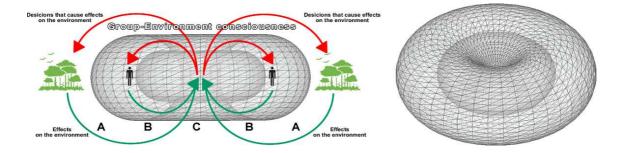
https://en.wikipedia.org/wiki/Trinity

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Transitivity

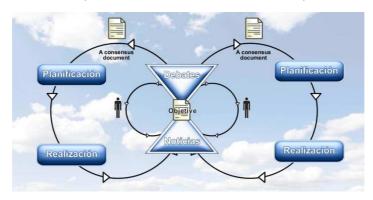
A is related with B and B is related with C, then A is related with C.

Another way of combining torus is to include one inside another. Let's use the environment as an example. When the *reflection* interaction reaches the action state (fixed point[20], consensus, majority, deadline or whatever) a real action starts that causes changes in the environment. The effects in the environment generate new *influence* to start again. In this case people of the group are in constant evolution with the environment.



This two torus share the same reflection point. In the inside torus people evolve their consciousness and in the outer torus people make actions that affect the environment. And the environment *influences* the inside torus too. Always in a closed evolution cycle.

In Nabú, we have a closed cycle about decisions and a closed cycle about production-and-feedback. Do you remember the main menu? Can you see the *Torus* now?



Every person defines an *influence* cycle with the reflection point. And every consensus document defines an *influence* cycle with the same reflection point. Decisions and actions are related to create higher level *group consciousness*.

About consciousness

We all have consciousness, however we don't know where it is in our body. The scientific approach sees the body as mind-body (a concrete duality) and consciousness in mind, eastern culture sees it as mind-body-soul (a trinity) and puts the consciousness out of the body, over the head, in the seventh chakra. This is more than knowledge, as long as knowledge is mapped in our brains, consciousness is related with enlightenment. Many religions show high level consciousness people with a halo over the head too. If consciousness is an effect of a reflection it is easy to think that it could be out of the body. Where will we draw the group consciousness?

Consciousness is related with life, inert objects are supposed to not have consciousness (let's say). Animals have consciousness; about they are alive for sure. Humans have a very good individual consciousness; some people have consciousness about other people and situations. We can talk about levels of consciousness. Animal consciousness, human consciousness, group consciousness, global consciousness, solar consciousness, universal consciousness. Do you train your consciousness?

Sacred geometry[26] studies the basic geometry patterns of nature and cosmos (nothing to do with religion), the mathematical bricks of the existence, symbols and formulas like π , golden ratio, Fibonacci, flower of life[25], and more. The flower of life, for example, appears in all human ancient civilizations, curiously, with the same name. The geometry of molecules in the periodic table is in the flower of life. The torus, of course, is there too. And it is an important concept in sacred geometry.

Conclusion

The traditional scientific method is changing drastically since quantum physics[22]. Now the observer is part of the experience, so sometimes the experience in not repeatable or quantifiable (this is basic in traditional scientific method). Your attitude affects the experience. You are part of the experience!

Many approaches study the torus. Some of these concepts are not totally accepted by traditional scientific community but what is the challenge about researching if we don't try new things? Science is the search of the truth and we are searching using geometry and technology.

The torus is definitely a very curious shape, it appears everywhere. It is not surprising that we can use it to improve big scale cooperative groups. From now the decision is personal: go on trying to fix this actual global organization, or be part of a new one.

But where is the group consciousness in our drawings?

The *group consciousness* is the result of mixing people, *reflection* and geometry. The *group consciousness* **IS** the torus itself! It exists and hugs the group, although it is invisible.

Finally, if energy flows in a toroidal way, according to Vortex Based Math, so energy tends to create consciousness. That is its natural evolution. Human beings are evolving to higher levels of consciousness and it is not an issue of humans, it is the evolution of the energy and applies to all kind of living beings.

Consciousness has a body and that body is a Torus
- Itzhak Bentov[21]

(scientist, inventor, and an early pioneer in the research of consciousness)

Future work

Use these concepts to develop different applications that create group consciousness. I personally suggest the 5 biggest monopolies of the world: Education, news, health, food and energy.

Thanks for reading! Want to cooperate? lania@cooperativa.cat

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