

## **SEED, TREE, FOREST...**

### **BUILDING HARMONY SYMMETRY THROUGH (SACRED) CREATIVITY**

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Major publications :

Pacis, Sr. R. (Ribeiro, J.) (2022). "The Project of a Seed | 7 Steps to Awaken Sacred Creativity" in *Creating Through Mind and Emotions*, Ed. Kong, M. Routledge, Taylor & Francis Group.

**Abstract:** *The act of conceiving and maturing the geometry of a specific architectural design project is always a mystery with no precise explanation. Might symmetry still be of any help here? On one hand, symmetry is a precise concept that starts in mirroring, on the other, it is a vague notion signifying good balanced. The geometry of a creative harmony always needs to find this balance between that which is objective and that which is intuitive. Nowadays, how could we deepen into this subject in a pedagogical way? Seed, Tree, Forest... aims to give a peaceful impulse into this necessary balance. Three selected case-studies complement this approach and try to clarify three levels of symmetry in use. In the end, this will lead us into a reflection about the role of consciousness in the selection of symmetry sources as creative inspiration.*

Keywords: Symmetry; Creativity; Intuition; Symmetry Sources; Sacred Creativity; Intuitive Symmetry.

### **CREATIVE SYMMETRY: CAN WE FLOW IN A PEACEFUL HARMONY BETWEEN VAGUENESS AND PRECISION?**

We will start by recalling a story written by a renowned painter: he used to organize some personal artistic objects in an asymmetrical way. His maid, however, always left them symmetrically reorganized after the daily cleaning – "It was a silent battle between the maid and me," he said (Giedion, 1943, p.42). This story, might illustrate why the mathematician Weyl in his seminal book *Symmetry* (1952) started by differentiating the two main meanings of this quality: in one sense, as a "vague notion," which means "well-proportionated or well-balanced," and yet, in another sense, it means an "absolute precise concept" that can be geometrically approached starting through "bilateral symmetry." For an architect (or an artist), it is, however, not enough to simply place symmetry aside as *proportion*, as it was in the case of Weyl, even while quoting Vitruvius and revealing links into more subjective domains – like nature, art and philosophy. Two approaches represent in architecture this same effort of finding the precise geometry of which he defined as "vague": *Le Modulor*,

by Le Corbusier (1948, 1955) aimed to find within architecture the equivalent of a musical scale, and *the plastic number* by Van Der Laan (1983) aimed to express clarity of visual perception through ratios. However, despite the amazing geometrical relations that the former found through the *Fibonacci sequence*, and the useful clarity that the latter demonstrated through the simple use of perceptible ratios (numeric proportions), the experience shows that the use of definitive shapes of harmony as a geometrical tool is not enough to ensure a harmonic composition in architecture. This leads us to the focus of this article: The geometry of a creative harmony always needs to find a balance (in this apparent battle) between that which is *objective* and that which is *intuitive*. Might symmetry still be a peaceful tool in this balance? And what might be the place of sacred symmetry here?

## 9 POINTS

The act of conceiving and maturing the geometry of an architectural drawing project is a mystery with no precise explanation. Let us imagine Nature as metaphor to find the place of harmony within this process – from the simplest until the most complex, let us follow here the place of *symmetry*:

(SEED) (P.1) A project is more than a geometrical requirement equation; it is a sort of gradual revelation. In this sense, it is useful when we start intuiting a simple symmetry: like a simple circle; or like the pedagogy which *teaches us to start with a cube* if we have no specific requirements; or like the *sacred solids* that were seen as the base unities of all the universe. As the hope that lies within the geometry of a small seed, we must accept the simplicity of beginnings and never anticipate another form if the need has not been presented. (P.2) We should then nurture our symmetry, while observing where our small seed needs to grow. Maybe we will perceive it by simply growing with the need to find light, up through the side of a wall (like germination) or extending root lines down to penetrate a natural or historical context (the *genius loci*). We should then let our first symmetry be transformed by this new symmetrical need, and use the essence of the first intuition to balance them. (P.3) If we are able to peacefully deal with this shape-shaking process, at some point we will find the essence of our first symmetry revealed in a new and unexpected way. As the symmetry of the seed that is destroyed by the new sprout, we will perceive the initial intuition reborn, standing in a new light. This might conclude the phase where we finally can clearly explain a new idea in bloom. Is there a clear geometry being expressed there?

(TREE) (P.4) If our intuited symmetry reaches to cross this transformation process, it is now ready for a new resilience test. This is when it will start to receive all sorts of growing clashes – will the idea be robust enough to withstand this degree of program complexity? Will it be enough to dialogue or survive within the context? Will it be enough to grow and resist over time? Will it survive winter and summer? This is the point where the geometry of the idea needs to find, in the integrity

of the inner essence, a way to become paradoxically more flexible and robust. (P.5) Sometimes we find a harmonic aura in the form of a big asymmetrical tree, and if we forget the invisible side of the roots, we may even ask how they support the apparent visible unbalance. This can lead us into a reflection, about the inner/outer timeless question in architecture, and into the symmetry not always perceived in this topic. Perhaps this was the reason why the 20<sup>th</sup> century vanguards could not deal with shallow symmetry? Because it was not being sincere toward a more occult inner need? (P.6) A small grove containing trees of different species may be a useful image to follow identifying the quality of patterns of harmony that are not so obvious, and also to teach us how to operate in wider landscapes and territories. In a more direct way, we may refer here to the complexity of a gradual composition, with several different agents – *a city is not a tree*, to use the expression of the planner. Nevertheless, if we ever had the choice to contemplate a grove on a hill, we may be touched in a subtler way through the unity that is expressed by diversity. What are the laws ruling over this unexpected harmony?

(FOREST) (P.7) When we enter a forest, we may see how each tree adapts its geometry in an organic way, with the same purpose – that of reaching a higher light. New seeds are deposited on the earth in each new cycle, creating new ascending patterns over old ones, in an ever-going regeneration. A forest teaches us how to integrate differences; and under a big storm, it even might teach us how to regenerate from chaos in a syntrophic way. Is there the same potential harmony in a forest under war, compared to that of a forest under peace? How do these states alter the harmony of a building process? And how do we go about finding a place for the most sacred space? (P.8) If we were crossing a desert, the most special space would certainly be an oasis; but since we are crossing a forest, a sacred space might need the presence of a glade. Here the symmetry is not so obvious – a balance connected with the consciousness of a wider planetary space. Sometimes the aura of a special geometry seems to be present in these special places. In our process this could mean us finding just what was needed – the space that was waiting to be revealed. Will I be able to build here without destroying that harmony? And what if we are before a desert where vagueness is not drawing any possible harmony? (P.9) Placing a geometry in the utmost desert landscapes of existence is the most complex symmetry exercise in architecture. There it would be really necessary to know how to plant a forest and make it flourish. A flower might be the most complex expression of sacred geometry hidden in the essence of a seed, the same way that an architectural archetype might be expressed even in the more difficult requirements. From seed to forest, Nature expands its horizon interrelating with increasingly complex situations, through symmetries increasingly difficult to name – we can even have precise dis-harmonies and imprecise harmonies, which makes dealing with harmony a real paradox. Despite all this, we can find in a flower – even within a plant growing in

the most inhospitable situation – a return to the most direct and simple symmetry. Where are these symmetries coming from?

### 3 LEVELS

Let us now use the example of three ‘scientific-artists’ to complement this metaphorical way of approaching the *creative process* in the architectural design process. This will allow us to clarify the essence and the role of three major levels of symmetry:

(L.1) Leonardo’s SEED | *Symmetry with the Creation Level* - “Nature is the source of all true knowledge.” This is one of the most famous sayings of Leonardo da Vinci (Missine, 2019, p.259). He recommended that a painter should never copy from another, but always take Nature as a model. This means something like contemplate, absorb and reflect Creation, there you will find the new. A classic example to the understanding of his creative process is his *Vitruvian Man*: in *Ten Books*, Vitruvius enunciated a relation between human proportion, a circle and square, taking the navel as the geometric centre. Attempts were made by different artists and the result was similar: with the navel as centre of both square and circle, we do not end up reaching a natural harmonious human figure. The key found by Leonardo implied an adjustment of Vitruvius’s equation. Leonardo’s *Vituvian Man* became worldwide known for its harmony and something interesting happens when all witness it – it conveys the impression of perfection, even if the most visible geometry is not so absolute. All previous attempts took Vitruvius geometry as a direct and untouchable rule; but Leonardo took it only as a seed, which should follow its own need in order to find a wider harmony. When we observe other geometrical drawings of Leonardo – the example of the Platonic solids suspended in vacuum out into infinity, or the geometry of the seed and flower of life being transformed in architecture – is, in a similar way, like being before new seeds sprouting. The inspiration that he referred the artist should gather from Nature was more than simple measures, geometrical rules and proportions – it was a communion with what inhabits Creation. He was able to apprehend hidden qualities and values in human beings, animals and elements and transport this to his paintings; and through his acute analogic perception, he even saw the correspondence between a seed and the human heart, thus discovering, in the origin of the vessels of the heart, a correspondence with a plant growing from a seed. “How the mirror is the master (and guide) of the painters” (Vinci and Taylor 1960, p.529) was then more than a visual mirroring. This symmetry was even able to balance the anima in the painting surface in *The Last Supper* – that is, the relationship between the space and the figures. Leonardo was an expert in beginnings, an “inventor” as it is usually said – that is, someone always bringing new seeds to the world. His ambidextrous mirror writing was related to the balance and connections between the two sides of his brain – the seed of his creative genius in the symmetry between rationality and intuition (Shlain, 2014). Perhaps it is not by chance that his

personal notes were taken in this way, only using common writing when the objective was communicating – was he symbolically mirroring those words from Nature and then reflecting to the world what he had perceived?

(L2) Kandinsky's TREE | *Symmetry with the Spiritual Level* – Through the aspiration to reach the *Spiritual in Art*, Kandinsky introduced the idea of art as revelation of the *inner sound* or *inner need* - “All means are sacred which are called for by the inner need” (1914, p.69). On one hand this was not new – even in Leonardo this was already present, as we have seen. Nevertheless, for Kandinsky, it was now the need to express a hidden spiritual reality, without the presence of the material one. He reported, almost in caricature, what had become an art exhibit in his time – “a crucifixion, painted by an artist who disbelieves in Christ.” This meant artists no longer connected with what they were producing and, in this way, no longer sending “light into the depth of human hearts” (Kandinsky, 1946, p.12). For Kandinsky, since a disconnection from the content was already happening in art, the way to art was to reach a direct link with a spiritual level. Therefore, there was no longer the need for visual symmetry like, for example *The Last Supper* of Leonardo. The visual symmetry of *The Crucified Christ* of Kandinsky is now set aside, opening space to the transcendent reality that is trying to appear beyond. Could the pre-war instability also be emphasizing this lack of interest in a material-level representation? Either way, what was then trying to do the job was no longer the physical eye, but the inner spiritual senses; in Kandinsky words – “the work of Art mirrors itself upon the surface of our consciousness” (1926, p.17). This was clearly a new inspiration, a direct symmetry with a spiritual source – *Compositions*, where the aspects of movement, tension and balance, try to express a transcendent *inner sound*, or even *silence*, like Malevich's *Squares*. Maybe Mondrian's *Trees Serie* is the best illustration of this symmetry with a reality beyond the visible physical reality. “That is a quite logical, natural growth, like the growth of a tree” was also the way Kandinsky found to explain it (1914, p.42) – the growth of the tree (just like that of the Cross) signifying the bridge to a supreme or higher Nature. That is, no longer is it only a sprout born from a seed balance between reason and emotion, but also the need to grow even more into the unknown and express the *Mystery*. Kandinsky (1946) referred to the inspiration with the Theosophical approach, which places intuition as the bridge between the material and spiritual reality. Here it would be good to review *The Sounding Cosmos* (Ringbom, 1970) – according to the author “Kandinsky prophesied that the new blessed ability to see through the surface of nature will prove that abstract art in no way excludes the connection with nature” (Ringbom, 1966, p.408). Were all these cosmic compositions coming from a higher nature? The answer may lie within what symmetrically awakens in each one of us.

(L3) Emoto's FOREST | *Symmetry with the Vibratory Level* – Masaru Emoto intuited that if ice crystals from water, which was subjected to positive words, music, and images, could be photographed, the results will be different than when subjected to negative situations. And so it was – the first became like symmetrical radial patterns, and the second disfigured or non-formed geometries. A hexagonal pattern with multiple variants was revealed by the positive variants of the experiments, a configuration that was associated with the water molecule configuration. It is like saying that before positive contexts, water is able to express its inner beauty (*inner sound* if we use Kandinsky's words) expressed through infinite forests of crystals and being not only the water context, but our very inner states, the co-creators of this invisible art. Emoto even made several experiments of photographing the crystals from water, before and after a prayer; he showed us that water with positive confidence is not the same as an attitude of fear; water under war or under a feeling of indifference, would it be the same as water surrounded by an ambience of peace or permeated by a transcendent act of love and faith? About the conformation of the crystal of water placed before the words *love and gratitude*, Emoto said – “It was as if the water had rejoiced and celebrated by creating a flower in bloom,” (2004, p. xxvi). His own interpretation about this process: “Water is a very honest mirror” (2008, p.23). Emoto clarified this using the example of a musical tuning fork: if two forks are tuned to the same note they will resonate together, even if only one has been touched; this explains how energy is transmitted between two vibration objects of the same natural frequency. Thus, each crystal geometry reveals specific vibratory qualities, which he called Hado, “the intrinsic vibrational pattern at the atomic level in all matter” (Emoto, n.d.) – like micro landscapes in symmetry with the quality of the vibratory impulses. In this way, the quality of “human hearts” (to again use the expression of Kandinsky) is not only directly related to what we create, but it is also a transformer of Nature's inner symmetry – even if humans are not consciously doing so. Emoto's experiments are now internationally known, and his discoveries are being confirmed by another research. For creative research on symmetry, the pictures he published speak for themselves (Emoto, n.d.) He was able to register what others only suspected. What geometrical shape may have the water crystals generated from our little introductory story?

## 1 SOURCE

Clarifying the argument base: if symmetry is originally about common measure – from Greek *syn* "together" + *metron* "measure" (Harper, 2021) – where have we been taking it from and where are we applying these measures? On one hand, it seems that we have been using creativity to expand the definition, on the other hand, we are simply deepening into the clearest meaning – symmetry as mirroring. Being architects or artists, we are driven to go beyond what is known, even to be original and explore that which is less obvious. In this context, the simplicity of mirror symmetry represents

to the contemporary world a contradictory feeling: on one hand, it is in innocence that causes poor culture select, yet, on the other hand, it is the shape most usually adopted for that which is sacred. In the mid-20<sup>th</sup> century, a group of three joined efforts in defending *9 Points on Monumentality* (Giedion, 1958) because they were witnessing its devaluation and misuse. In the same way, symmetry needs remembrance of its purest meaning – as a sacred process of mirroring a higher reality to balance a planetary condition.

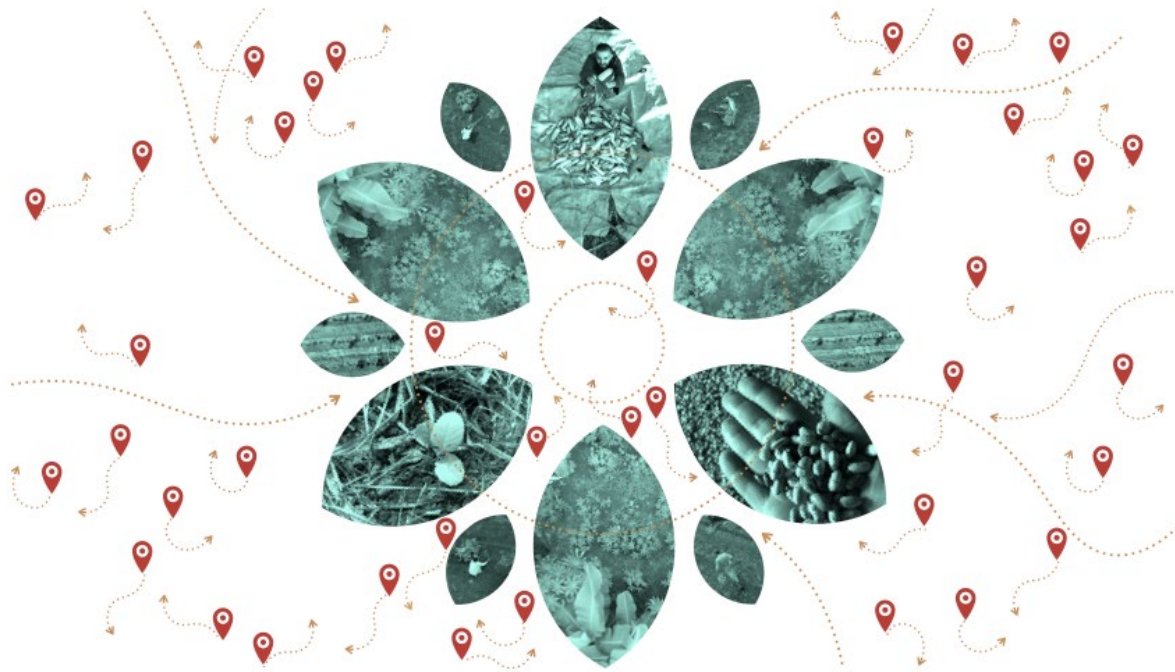


Figure 1 Human Flowering (Composition with photos of Successional Agroforestry made over *Human Flow*)<sup>1</sup>

## **IN MANIFESTO**

(1) Let us learn from Leonardo to always be before a project as a simple newborn seed. Let us learn from nature how to nourish and how to make this seed grow and sprout. Let us use intuition to balance the geometry of our new-born projects – we will be creating in *Symmetry with the Creation level*.

(2) Let us then go beyond the expression of material reality with our projects. Let us learn from Kandinsky how to balance the unbalanced and how to reach with our growing tree a transcendent cosmos. Let us make this mystery live in our projects, even if we have to suspend our rational safe structures – we will be creating in *Symmetry with the Spiritual level*.

(3) Let us check what has repeatedly giving shape to the forests of the form patterns we use. Let us perceive our inner states also being co-creators of the inner states of Nature – is there a way to rescue this sacred relation? Let us learn from Masaru Emoto the value of a simple symmetry, and that we also co-create in *Symmetry with our Vibratory Level*. Finally, let us allow higher creativity flow through pure intuition, revealing new kinds of symmetry, and if what comes in the end is a simple mirror or bilateral symmetry,

let us simply accept it. (Further research) Leonardo, Kandinsky and Emoto were selected for their pedagogical value to the context of this essay, but they might also represent - coincidentally and only as a hypothesis - three precise axes to a short history of symmetry between vagueness and precision.

## CONCLUSION

*Seed, Tree, Forest...* is a simple way to express subtle levels of symmetry that aim to find a creative harmony between vagueness and precision. This visual analogy aspires to assist architects in keeping the timeless need of balance between objective and intuitive meanings of symmetry throughout the project design process. The three case-studies and the figure essay complement this research and aim to reveal the role of consciousness in the selection and application of symmetry sources.

## ACKNOWLEDGMENTS

This initiative was supported through the Multiannual Funding of the Landscape, Heritage and Territory Laboratory (Lab2PT), Ref. UID/04509/2020, financed by national funds (PIDDAC) through FCT/MCTES. The author thanks Maria Manuel Oliveira for the initial incisive comments, Regina Marie and Celine Chenga for the English revision and Friar Supremo for the silent support.

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<sup>1</sup> The figure was made over the face-image of *Human Flow*, a film that illuminates the human asymmetry of contemporary world – the massive scale of the refugee crisis wandering in a camp “When there is nowhere to go, nowhere is home” (Ai Weiwei, 2017). It represents a complement to the reflection upon the notions of vagueness and precision: the flow of vagueness can be a balancing artistic quality, going beyond an excess of precision; however, vagueness can also represent a cry for help, which asks us for precision. May we know how to discern the difference and act symmetrically.



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