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Beauty or the Ineloquent in Truth

What is beauty? Nishida Kitarō's answer to this question conflates the Kantian sense of beauty as "pleasure detached from the ego" with the Zen meaning of muga as "no-self." In line with Plato's philosophical reflection, beauty has tended to be seen as an experience of "truth." But what kind of truth is inherent in beauty? For Nishida, "the truth underlying beauty is not obtained by the faculty of thought, it is intuitive truth." This kind of truth cannot be expressed in words. Thus, one may venture to ask whether it is not the ultimate ineloquence of truth that emanates from beauty. According to Bernard Berenson, ineloquence is the distinctive character of "real art," namely, an art which does not represent but presents, indifferent to "physical beauty" but able to communicate the being, the "pure existence." Such is Piero della Francesca's or Leonardo's art, whose figures, wrapped in a veil of silence, elicit a sublime sense of the sacred. The same feeling that one might experience enraptured by the harmony of a starry sky, the simplicity of a geometric form, the perfection of a rock garden. Why does beauty seem to be so closely linked to truth? Mathematical beauty is expected to lead the way to physical truth. Which kind of beauty is so ineloquent as to illuminate the "open secret" of truth?

Dedicated to Giorgio Sandri on his eightieth birthday

KEYWORDS: Nishida—beauty—no-self—Goethe—formative breath—Leonardo—seeing-creating—formless truth

In *A Mathematician's* Apology, Godfrey H. Hardy writes:

> The mathematician's patterns, like the painter's or the poet's, must be *beautiful*; the ideas, like the colors or the words, must fit together in a harmonious way. Beauty is the first test: there is no permanent place in the world for ugly mathematics.[1]

Taking for granted that beauty is truth, Ian Steward elicits the question, *Why Beauty is Truth*. His answer is elaborated on the assumption that beauty is bound up with symmetry, and his fascinating book shows how the history of the geometric concept of symmetry is bound up with the development of physical theories. Finally, a physicist like Paul Dirac recognizes beauty as a nature's "criterion of choice."

> In constructing his theory of gravitation, Einstein was not trying to agree with observation. He worked quite differently: he tried to imagine a beautiful theory, such as the theory which Nature would like.[2]

How does the beauty of art and science relate to the beauty of nature? What is beauty? Symmetry, harmony, simplicity are not qualities *of* things, but *ways of form*. Indeed, the Goddess of Beauty is born from the sea foam, and Botticelli's *Birth of Venus* is a hymn to the beauty of waves (Figure 1). But beauty is not just an 'objective' quality of forms, it is rather an experience for a 'sensitive' subject.

In a short, early essay entitled *An Explanation of Beauty*, Nishida Kitarō connects the Kantian sense of beauty as "pleasure detached from the ego" to the Zen meaning of *muga* as no-self:

1. Hardy 1967, chap. 10.
2. Dirac, "The Test of Time" (1979), in Dirac 2019.

> the sense of beauty is pleasure detached from the ego. It is a pleasure of the moment, when one forgets one's own interest such as advantage and disadvantage. Only this *muga* is the essential element of beauty; when this is lacking, no matter what kind of pleasure you feel, it cannot give rise to the sense of beauty.[3]

As Nishida explains, "beauty that evokes this feeling of *muga* is intuitive truth that transcends intellectual discrimination. This is why beauty is sublime." Such an intuitive truth, involved in beauty, cannot be attained by means of reasoning, like a logical truth. "This kind of truth cannot be expressed in words. Indeed, this is the so-called 'open secret' (*offenes Geheimnis*) of Goethe."[4] Following Nishida's perceptive insight, I will hold Goethe's open secret as an ideal landing point.[5]

FIG. 1. Sandro Botticelli: The Birth of Venus, c. 1484–1486. Florence,Uffizi Gallery

3. NISHIDA 1987A, 216.

4. Ibid., 217.

5. Accordingly, as for Nishida's philosophical view, I will focus on his reflection on active intuition, artistic creation, and Goethe's background (背景). Thus, the discussion concerns his writings until the early 1930s.

The beauty of forms

Logical truth, as an essential ingredient of scientific knowledge, has tended to be seen as opposed to intuitive truth, often perceived as "the mere fancy of poets."[6] In a well-known passage of his *Saggiatore*, Galileo states that the book of nature is not a product of human imagination, like the *Iliad* or the *Orlando Furioso*. It is written in mathematical language. For Goethe instead: "A strict separation must be maintained between physics and mathematics. Physics must remain quite independent; it must use all its powers of love, respect, and reverence to find its way into nature and the sacred life of nature irrespective of what mathematics does."[7] In fact:

> When Nature begins to reveal her open secret to a man, he feels an irresistible longing for her worthiest interpreter, Art.[8]

According to Leonardo, however, art's interpretation of nature goes hand in hand with mathematics' understanding. Aesthetic feeling and the mathematical gaze coalesce into his devotion to the beauty of nature. His appreciation of mathematics as an instrument to filter out "natural necessity" from "arbitrary subjectivity" might well appear Galilean, and yet, his conception of (the painter's) art as a "philosophy of nature" appears definitely closer to Goethe's than to Galileo's.

> He who despises painting loves neither philosophy nor nature. If you despise painting, which is the sole imitator of all the visible works of nature, you certainly will be despising a subtle invention which brings philosophy and subtle speculation to bear on the nature of all forms.... Truly painting is a science, the true-born child of nature, for painting is born of nature, but to be more correct we should call it the grandchild of nature; since all visible things were brought forth by nature and these her children have given birth to painting.[9]

6. "However, in my opinion, this intuitive truth is attained when we have separated from the self and become one with things. In other words, it is a truth seen with the eyes of God" (Nishida 1987a, 217).

7. Goethe 1988, 310.

8. Goethe 1906, 483.

9. Leonardo 2008, 185.

Not surprisingly, Goethe himself recognized in Leonardo an extraordinary interpreter of nature's hidden qualities:

> Leonardo, who being born with the happiest disposition for the contemplation of nature, and eager to follow her in her operations, would gladly profit by those expedients, which might assist him in successfully representing even her inward and hidden qualities, by his outward delineation.[10]

Not solely as a poet, but also as a scientist, Goethe praised Leonardo's artistic insight into the fabric of natural forms. He saw clearly how the painter's hand is triggered by that "exact sensory imagination" which he conceives of as a method which he contrasted with the abstract reason of exact sciences:

> … a man born and bred to the so-called exact sciences, and at the height of his ability to reason empirically, finds it hard to accept that an exact sensory imagination might also exist, although art is unthinkable without it. This is also a point of contention between followers of emotional religion and those of rational religion: while the latter refuse to acknowledge that religion begins with feeling, the former will not admit the necessity for religion to develop rationally.[11]

Thus, Leonardo's "art of science" encouraged Goethe to speculate about the possibility of developing a "science of nature" in opposition to the religion of the Newtonian physics.[12] Goethe's notion of sensory imagination is not to be read as an irrational artistic élan, but rather as a condition for the possibility of both art and science. It captures that power of soul that allows cognition not to sever the dynamics of living things, but to reach through to the actual sensibility of nature itself. In other words, it is a lens that leads the artist and the scientist to focus on the beauty of natural *form* and grasp the rationale behind. To be sure, for both Leonardo and Goethe, the sense of sight is not sufficient to figure out the continuous metamorphoses of living nature. It is not the eye by itself, but the eye as a vehicle of sensory imagination that makes it possible to *see*. Accordingly, for Nishida:

10. Goethe 2015, 93–4.
11. Goethe 1988, 46.
12. For more, see Angelini 2017.

> Pure visual perception is a power that attempts to see through to infinity. But this kind of visual perception is nothing but a delusion. The actual visual perception of living things is determined by things: it is a "channeled vision" (*une vision canalisée*). The eye as a sense organ merely expresses this "channeling."[13]

At the heart of beauty

In Nishida's eyes, Goethe's concern for life appears to be the bridge to Eastern philosophy.[14] "For Goethe, there is no inward and no outward; everything is as it is; it comes from where there is nothing and goes where there is nothing. And just in this coming from nothingness and going into nothingness there is the gentle sound of humanity."[15] Does that bridge also connect Nishida to Kantian philosophy? Might it be extended in order to reach Leonardo's philosophy of nature?

After mentioning Goethe's position as regards mathematics and physics, his reaction to Kant's philosophy appears of crucial interest to the present discussion. For Kant, the description of nature is captured by *mathematical* physics:[16]

> A pure physical theory of determinate natural objects is possible only through mathematics; and... hence any theory of nature will contain only so much of real science as it permits the application of mathematics.[17]

Moreover, Kant's critique of pure reason germinates on Newton's ideas, whereas Goethe was an implacable adversary of the Newtonian physics. Not surprisingly, Goethe never dared to advance into the labyrinth of the *Critique of Pure Reason*: "I found pleasure in the portal but I dared not set foot

13. Nishida 1973, 25.

14. Cf. Schinzinger, "Art and Metaphysics. Introduction to 'Goethe's Metaphysical Background'," in Nishida 1973, 44.

15. Nishida 2015b, 157.

16. See also: "There is no certainty where one can neither apply any of the mathematical sciences nor any of those which are connected with the mathematical sciences." And: "No human investigation can be called true science without passing through mathematical tests." Leonardo 2008, 9.

17. Kant, *Metaphysische Anfangsgründe der Naturwissenschaft*, 1786 (trans. in Cassirer 1945, 63).

in the labyrinth itself; sometimes my gift for poetry got in my way, sometimes common sense, and I felt that I made little progress."[18] But then, in the *Critique of Judgment*, he found the key to the understanding of the Kantian philosophy:

> With this book a wonderful period arrived in my life. Here I found my most disparate interests brought together; products of art and nature were dealt with alike, [a]esthetic and teleological judgment illuminated one another.... The inner life of nature and art, their respective effects as they work from within—all this came to clear expression in the book. The products of these two infinitely vast worlds were shown to exist for their own sake; things found together might be there *for* one another, but not *because* of one another.[19]

This passage helps us not only close the gulf between Goethe and Kant,[20] but it also sheds light on Nishida's approach to Kant's critical philosophy.

Perspectives on Imagination

The idea of "exact sensory imagination" as a *productive synthesis* of artistic intuition and visual geometry required the establishment of a subtle theoretical work.[21] It took shape in perspective drawing, thrived in Leonardo's painting and Goethe's poetry, and attained philosophical worthiness in Kant's *Critique of Judgment*. Its origins, however, can be traced back to Proclus's *Commentary on the First Book of Euclid's Elements*:

> We invoke the imagination and the intervals that it furnishes, *since the form itself is without motion or genesis*, indivisible and free of all underlying matter, though the elements latent in the form are produced distinctly and individually on the *screen of imagination*. What projects the images is the understanding; the source of what is projected is the form in the understanding; and what they are projected in is this 'passive nous' that unfolds in revolution

18. Goethe 1988, 29.

19. Ibid., 29.

20. As Goethe wrote in a letter to Zelter (29 January 1830): "It is an unbounded service of our old Kant to the world, and I may add to myself, that in his *Critique of Judgment* he effectively placed art and nature side by side, and granted both the right of acting in accordance with great principles without purpose.... Nature and art are too great to aim at ends, and they don't need to either. There are relations everywhere, and relations are life." Cited in Cassirer 1945, 68.

21. For more, see Cassirer 1932.

> about the partlessness of genuine Nous, setting distance between itself and the invisible source of pure thought, shaping itself after the *unshaped forms*, and becoming all the things that constitute the understanding and the unitary ideas in us.[22]

Conditions of construction. Following the invention of linear perspective, the geometrical definition of a representation space becomes a prerequisite for proper painting. "A painting," writes Leon Battista Alberti, "will be the intersection of a visual pyramid at a given distance."[23] This intersection, which separates and unites the seer and the thing seen, the self and the world, the creating subject and the created object, on the one hand provides a model for Proclus' screen of imagination, and on the other hand prefigures the spatial intuition required by Kant's philosophy of geometry.

In the Kantian system of knowledge, spatial intuition performs as an interface between understanding and sensibility. The object of knowledge does not exist independently of our judgment. It is established according to *a priori* logical structures of judgment whose application is possible solely through the pure forms of *sensible intuition*: space and time. Then what Kant calls "transcendental schematism" of the understanding is a sort of projecting machinery of the pure forms of thought on to the pure forms of sensible intuition, which supply them with a spatial-temporal content. Kant distinguishes philosophical cognition, which is "rational cognition from concepts," from mathematical cognition, which is "rational cognition from the construction of concepts." Philosophical cognition considers the particular only inside the universal; mathematical cognition considers the universal in the particular, in the single, but always *a priori*. The former considers the universal *in abstracto* (through concepts), while the latter can consider the universal *in concreto* (in the single intuition), and yet by means of an *a priori* pure representation, where any error appears manifest.

> The former confines itself solely to general concepts, the latter cannot do anything with the mere concepts but hurries immediately to intuition, in which it considers the concept *in concreto*, although not empirically, but rather solely as one which it has exhibited *a priori*, i.e., constructed, and in

22. Proclus 1992, 45. Emphasis added
23. Alberti 2004, 48.

> which that which follows from the general conditions of the construction must also hold generally of the object of the constructed concept. (B743–4)

The model for the construction of mathematical concepts in pure intuition is drawn from Euclid: "Axioms ought to be synthetic *a priori* propositions," like those of geometry.

> If I say: "With three lines, two of which taken together are greater than the third, a triangle can be drawn," then I have here the mere function of the *productive imagination*, which draws the lines greater or smaller, thus allowing them to about at any arbitrary angle. (B205)

This "productive imagination" plays a vital role in the transcendental schematism as it enables the Euclidean constructions to breach through the Platonic world and become products of a human art.

> This *schematism* of our understanding with regard to appearances and their mere form is a hidden art in the depths of the human soul, whose true operations we can divine from nature and lay unveiled before our eyes only with difficulty. We can say only this much: the *image* is a product of the empirical faculty of productive imagination, the schema of sensible concepts (such as figures in space) is a product.... of pure *a priori* imagination, through which and in accordance with which the images first become possible. (B181)

If the *artificial perspective* of Renaissance art suggested a vision of the world on a human scale, based on a "visual geometry" questioning Euclid's axioms, Kant's schematism takes that vision to its limits. On the one hand, Kant holds the human art, on the other hand, he returns the "artistic vision" to Euclidean geometry. Indeed, the first Axiom of Intuition says that *all intuitions are extensive magnitudes* (B201). It is precisely this principle that guarantees that mathematics will be applicable to objects of experience; otherwise, as Kant emphasizes, it would be disputable. But empirical intuition is possible only through the pure intuition of space and time, and therefore "what geometry says about the latter is... undeniably valid of the former" (B206).

Productive Seeing. From the essays that Nishida devotes to Art and Morality, in the years 1920–1923, his concern with the Kantian ideas of space and intuition emerges very clearly. "The space that Kant thought of as the a priori of intuition," he writes, "is the internal creative force that unifies sensory

contents as individual acts. Our concrete perception is creative by means of this."[24] It is in the experience of art that Nishida recognizes the ideal place for appreciating the unity between the self and the world, the harmony between intuition and reflection.[25] It is the "artistic intuition," as a condition of the possibility of artistic creation, that reveals the dynamic, formative character of intuition. As Nishida emphasized:

> Artistic intuition is not mere intuition; it is intuitive content that has been disclosed through expressive movement. *Artistic creation is not mere creation; it is a productive seeing*. It is the development of content itself. As in Goethe's experience, from within the mental image of one flower, numberless new flowers emerge spontaneously. The intuition of the artist is an act of formation (*Gestaltungstätigkeit*).[26]

In line with Goethe, for Nishida, artistic intuition is intrinsic to the reality of which the artist is part. And yet, it is neither subjective fantasy, nor emotional feeling. Art is never an imitation of reality: it dwells in reality where the self also lives. "To enter into the essence of the world of sensation does not mean to enter into a world different from that of thought.... Imagination must fill the artist to his very fingertips."[27] The "elective affinities" between Nishida's view of art and Goethe's are manifest in Nishida's writings. However, Nishida's philosophical reflection also reveals a mathematical eye which is probably closer to Leonardo's than to Goethe's. Intuition plays a crucial role in artistic creation as well as in mathematical thinking. Although the activities of the artist and of the scientist are not the same, Nishida stresses that both of them rely on intuition. Indeed, intuition lies at the foundation of mathematical thinking:

> Intuition must be a creative act. The uniting of one universal with another in a mathematical deduction is this kind of infinitely profound creative act. Deduction is the process of this development.... it can be though that the creative act lies in the self. In such an instance, the self means the reflective aspect of the self. However, objective knowledge possessing universal validity in itself does not arise through mere reflection. Even in mathematics

24. Nishida 1973, 22. Emphasis added.
25. See Ghilardi 2009, 75.
26. Nishida 1973, 27. Emphasis added.
27. Ibid., 102–3.

> this is so, but it is particularly clear in physics. In physics the reflective self must conform to the intuitive self. Volitional subjectivity in the broad sense becomes the creator of truth.[28]

In contrast with the usual understanding of *intuition*, as "a standpoint of quiet contemplation," in Nishida's opinion, "even aesthetic intuition does not exist apart from the creative act of the artist. The standpoint of aesthetic intuition is the horizon of the aesthetic, creative act."[29] But the horizon of the act transcends the plane of knowledge, hence "it has become dynamic." This essential *dynamic* nature of intuition, which the conceptual analysis of artistic experience drives Nishida to focus on, marks the distinction between a static conception of space, as an inert receptacle—that of Euclidean geometry, of Newtonian physics, and of the Kantian Transcendental Aesthetic—and a relational conception of space-time, as an "energy field": that of Leonardo's *aerial perspective*, of Leibniz's geometry, and of Einstein's physics, as well as of Nishida's *basho*. In this perspective, Nishida's philosophical path—from *The Essence of the Beautiful* to his seminal essay *Basho*—might appear to parallel the ideal path of mathematical form from Leonardo's art to Einstein's science. In Nishida's words, *the sublime is the dynamic direction of beauty*.

> There must be something dynamic in the depths of the beautiful.... There must be the dynamic direction of personal content. There must be the power of the Idea. *Between the beautiful and the sublime there is, as it were, the relationship between discrete numbers and continuous numbers*.[30]

Seeing Through

In the *contradictory identity* of discrete and continuous, Nishida recognizes a generative structure of all knowledge as well as of self-awareness.

> Although the discrete numbers of arithmetic and the continuous numbers which are the basis of analysis are wholly different as objects of thought, one cannot think of continuity without reference to discontinuity, or of discon-

28. Ibid., 151.
29. Ibid., 72.
30. Ibid., 56. Emphasis added.

> tinuity without reference to continuity; the two posit each other and are mutually correlated as two indissociable aspects of thought.[31]

When number appears as "being," a more comprehensive "being and relative non-being" must extend behind. How does a similar "contradictory identity" hold between number and space?

To address this question, Nishida concentrates on the notion of pure geometrical space emerging from Staudt's projective geometry, the "science born of art."[32] What remains as absolute geometrical elements, once not only all empirical features, but also the element of magnitude, are excluded? Whereas time and number express the infinite progression of self-awareness, space is the positive manifestation of self-awareness, namely, the internal unity embracing infinite relations. Self-awareness binds together infinite progression through "reflection-action" in a permanent unity; its distinctive characters are both infinite transformation and infinite determination. While time expresses the "contradictory identity" of self-awareness as infinite transformation, space expresses its "absolute reality" as creative action.

The search for "the most immediate and most fundamental standpoint" exhorts Nishida to delve into the nature of a *homogeneous medium* basic to logical and mathematical understanding. He speculates about a "space in which things exist" (於いてある場所), which remains invariant through the continuous transformations of things; a space undetectable in the operations of our consciousness, which, therefore, can be called "nothing" (*mu*). It *acts* without our being aware of it, in some sense, as the very breath of self-awareness. Then, what is called "nothingness" is that which underlies the surface of consciousness and cannot become an object of self-awareness.[33] For Nishida,[34] in the depth of self-consciousness where even will is denied, what remains is nothing but intuition. Here, in intuition, everything—even the self—performs as a *way of expression*.

31. Nishida 1987b, 95.

32. See Kline 1953, chap. 11. For more on the relation between perspective drawing and projective planes, see Stillwell 2005, 140–2.

33. For more, see Yusa 2002, 203.

34. Cf. *L'acte d'expression*, 1925; in Nishida 2015a, 151–78.

Living form

The following passage from Kant's *Critique of Judgment* helps us see not only where Goethe could recognize his own innermost convictions, but also where Leonardo's and Leibniz's *continuous* "geometry of nature" might find its way through the relativistic spacetime physics.

> This analogy of forms, which in all their differences seem to be produced in accordance with a common type, strengthens the suspicion that they have an actual kinship due to descend from a common parent....
>
> [From the crude matter and] the forces which it exerts in accordance with mechanical laws..., seems to be developed the whole technique of nature which, in the case of organized beings, is so incomprehensible to us that we feel obliged to imagine a different principle for its explanation.
>
> Here the *archaeologist* of nature is at liberty to... suppose that the womb of mother earth as it first emerged, like a huge animal, from its chaotic state, gave birth to creatures whose form displayed less purposiveness, and that these again bore others which adapted themselves more perfectly to their native surroundings and their relations to each other.[35]

"A hypothesis of this kind," Kant added in a footnote, "may be called a daring venture on the part of reason; and there are probably few, even among the most acute scientists, to whose minds it has not sometimes occurred." Goethe's *theory of metamorphosis* can be regarded as a daring venture of that kind. What makes most significant the kinship between Kant and Goethe is a common view of the rationale behind the very genesis of forms, a common taste for what we may call the "morphology of space." With hindsight we can appreciate how the methodological reflection on the question of *form*, brought about by the marriage between art and science in Renaissance culture, paved the way for Goethe's original conception of *morphology*. Looking further, towards East, we may also find a way to Nishida's philosophy.

When Leonardo conceived of painting as a science, he did not think of a science that had the ability to represent the perfection of enchanted forms, but rather to make visible the "natural necessity" immanent to the dynamic of living forms. It is the artistic vision, which emerges from his wonderful drawings, that paved the way for a new "naturalized mathematics," for what

35. *Critique of Judgment*, §80 (Kant 2007, 248).

he called "the geometry that is done with motion."[36] In the image created by the painter's hand the beauty of nature is not fixed *ab eterno* "in triangles, circles, and other geometric figures," but grows out of an intelligible space-time background. Like Plato before him and Kant after him, Leonardo sees mathematics as a *medium* between the beauty of nature and the "truth" of idea. And yet, in a manner that is neither Plato's nor Kant's but distinctive, rather, of Italian scientific Humanism, his vision of mathematics cannot be divorced from the *theory of art*.

Following Leonardo, Goethe focuses on the phenomenon of life in his search for an explanatory principle. From his artistic point of view, the explanation lies in the image; art cannot but investigate an "image of life." He also holds the beautiful as an expression of the true. This beauty, however, is the beauty of art; its truth is the truth of the image, the truth of the *phenomenon*: "There is no surer way of evading the world than by Art; and no surer way of uniting with it than by Art."[37] Such a "scientific truth" of the artistic image is difficult to be reconciled with Platonism. Art, for Plato, is merely a copy of copy; it does not reach the realm of ideas. It is the beauty of mathematics that allows the sensible world to be elevated to the divine.[38] Archetypes of every truth are the five regular polyhedra, taken as models of every visible form by the demiurge: "The good is the beautiful, and the beautiful is the symmetrical" (*Timaeus*). Leonardo shares the Platonic vision of mathematical beauty, but clearly grasps that symmetry is entwined with motion. Indeed, the demiurge had to generate time before letting the beauty of ideas into the visible forms of nature. Hence, it is from nature that the artist draws the process of seeing-creating. With Nishida's words: "when the sculptor is sculpting and when the painter is painting, each becomes a process of seeing only. Plotinus states that nature does not create by seeing, but, rather, that nature's seeing is creation. In this way the artist becomes nature itself."[39]

Like Leonardo, Goethe yearned for knowledge and insight into the life process itself, not only as an artist but also as a scientist. When he describes

36. Leonardo, *Codex Madrid* II, folio 107r.

37. Goethe 1906, 485.

38. See, among others, Cassirer, "Eidos and Eidolon: The Problem of Beauty and Art in the Dialogues of Plato" (1924), in Cassirer 2013.

39. Nishida 1973, 27.

the *exact sensory imagination* as a condition of possibility for art, he is in fact speculating on the possibility of a new science of nature, capable of dealing with the rhythms and transformations of the living; a science opposing not mathematics, but the empty abstractness of the mathematicians' artifices. As Heisenberg remarks, in his essay on *Goethe's and Newton's doctrine of colors in the light of modern physics*, Goethe does not renounce mathematics as such, but the mathematician's job. He widely uses the mathematics involved in the theory of symmetries and the dynamic of living forms.

Drawing attention to the "formation and transformation of organic nature," Goethe was probably the first to champion the transition from Linnaeus' systematic catalogue of the *products* of nature, to the modern *genetic* approach to living forms.

> He who would study organic existence,
> First drives out the soul with rigid persistence;
> Then the parts in his hand he may hold and class,
> But the spiritual link is lost, alas![40]
>
> — *Faust*

Goethe's attitude towards Linnaeus' catalogue of natural forms[41] may be compared with Leonardo's attitude towards a painter who draws "by practice and judgement of the eye without the use of reason," like a mirror which copies everything placed in front of it.[42] On the contrary:

> The painter is lord of all types of people and of all things... In fact whatever exists in the universe, in essence, in appearance, in the imagination, the painter has first in his mind and then in his hand; and these are of such excellence that they can present a proportioned and harmonious view of the whole, that can be seen simultaneously, at one glance, just as things in nature.[43]

40. *Wer will was Lebendigs erkennen und beschreiben / Sucht erst den Geist heraus zu treiben, / Dann hat er die Teile in seiner Hand, / Fehlt leider! nur das geistige Band.* Cited in Cassirer 1945, 69.

41. In *Geschichte meines botanischen Studiums*, Goethe admitted: "Such a treatment always seemed to me like a kind of mosaic, in which you put one finished piece next to another, in order finally to produce out of a thousand individual pieces the semblance of a picture; and so in this sense I always found the demand to some extent repugnant" (quoted in Cassirer 1945, 70).

42. See Leonardo 2008, 212–13.

43. Leonardo 2008, 185.

If the painter's eye is the window of soul, the "surge of life" flows from the painter's hand.

> The fundamental source of artistic creation lies in the *élan vital*. That which flows forth from the tip of Phidias' chisel and from the tip of Leonardo's brush is the 'flow of life' that has flowed within their bodies from the past of the past. The surge of life that overflows within them can no longer remain within the environment centered around their bodies but creates a new world in their art.[44]

The morphology of space

According to Cassirer,[45] the peculiar sensitivity of Goethe's gaze on the *élan vital* flowing from art and nature blooms during his *Italianische Reise* and matures through his encounter with Kantian philosophy. In his travel diary, Goethe describes with intense passion the experience which turned his view point towards the intelligibility of botanic forms. He was still of the opinion that an "original plant" (*Urpflanze*) could be discovered through accurate observations at the time when he was strolling in the public garden of Palermo, meditating over the plan of his poem on Nausicaa.

> But at once another ghost that had been haunting me at this time seized me. Many plants that I had been used to see in tubs and pots, and for the greater part of the year only *under glass*, were growing here freely in the open air, and when they realize their form completely, they are more intelligible to us. In the sight of so many forms both new and familiar, the old fancy occurred to me again: among this multitude could I not discover the original plant?[46]

Goethe endeavored to investigate how so many species differ but found them more and more similar. Also, he knew Linnaeus' systematic classifications and could apply his botanic terminology with ease but could not help feeling that all those efforts were pointless. "My good poetic resolution was disturbed; the garden of Alcinous had vanished, a world garden opened before me."

In the sight of so many different plants growing freely out of the glass

44. *The Essence of the Beautiful*, in Nishida 1973, 25.

45. See, in particular, Cassirer 1945.

46. Goethe, *Italianische Reise*, 17 April 1787 (trans. in Cassirer 1945, 75; emphasis added).

cage, Goethe was able to recognize the limits of a "comparative" approach to botany: a whole lifetime would not suffice to accomplish the task. Focusing on the phenomena of formation and transformation of organisms, he understood that there could be another way. The search for the *Urpflanze* unveiled the open secret of Nature, namely, the principle of *morphology*, which has inspired his *Metamorphosis of Plants* (1790). Goethe clearly grasped that, in the world of nature, when something has acquired a form it metamorphoses immediately to a new one. In order to gain some living perception of natural phenomena, scientists must resist the temptation to bring them under control and pay homage to their effects. Both in nature and art, "beauty is perfection in combination with freedom."

The image of the world garden where plants grow freely in the open air brings us back to the crucial issue of the view "through the glass," i.e., the issue of *perspective* as symbolic form, which is to say, to the intellectual milieu that forged Leonardo's eye. The aesthetic theory of the Renaissance rests on a principle that would remain problematic through the passage to cognitive theory: the artistic representation is *mimesis*, faithful imitation of nature.[47] "The painter must know," writes Albrecht Dürer, "that the more accurate the imitation of nature is, the more artistic his work becomes."[48] But the accuracy of the *re-presentation*, be it artistic or scientific, relies upon the clear separation of the seer from the system to be seen, as it is made crystal clear by "Alberti's window."[49] Interestingly, this distinctive feature of *artificial perspective* was quickly grasped as the essence of the *view through glass*, when the new material reached Japan in the late 18th century (together with perspective *vedute*):

> The view through glass was felt to convey dispassionateness, maintaining a special autonomy for the object seen and not compromising it. Viewers were prevented by glass from pushing beyond themselves. The one who gazed via a pane was bent on discovery, to be sure, but was kept physically distant from the object of inquiry. Seer and seen were discrete.[50]

47. See Panofsky 2005.

48. In his *Underweysung der Messung*, 1532; quoted in Panofsky 2005.

49. "... a painting will be the intersection of a visual pyramid at a given distance" (Alberti 2004, 48).

50. Screech 2002, 133.

Glass was a foreign material in Japan, and glass was acquired as "integral to the notion of seeing in the manner of *Ran* (from *Oranda*).[51] The new arrivals included mirrors made of glass coated with mercury, more manageable and clearer than those made of bronze. All this also encouraged contrasting the Western view "through the looking-glass" with the meaning traditionally assigned to the mirror in Buddhist thought. In the first chapter of the *Platform Sutra*,[52] the image of the mind as a mirror was chosen by Shenxiu to express his understanding of Zen teachings (to his master Hongren):

> *The body is the bodhi tree;*
> *The mind is like a bright mirror's stand.*
> *Be always diligent in rubbing it—*
> *Do not let it attract any dust.*

Shenxiu drew attention to a constant, diligent practice of cleaning the mirror to prevent the dust from making it opaque. Like the polished surface of the bronze, the mind ought to capture all visual evidence and fling it back, without being affected by fleeting passions.

To be sure, Leonardo did not see the mirror as a metaphor for "a brazen mind, untouched by visions:"

> The mind of a painter should be like a mirror, which always takes the colour of the object it reflects and is filled by the images of as many objects as are in front of it. Therefore, you must know that you cannot be a good painter unless you are universal master to represent by your art every kind of form produced by nature. And this you will not know how to do unless you see them and retain them in your mind.[53]

But Leonardo asks the painter for even more: "the mind of the painter must transmute itself into the very mind of nature and be the interpreter between it and art."[54] His artistic concern was not to encapsulate "absolute beauty" in straightedge and compass constructions, like the young Dürer hoped to be able to,[55] but to enhance the beauty of nature by simulating its

51. *Ran* is an abbreviation of the Japanese name for Holland (阿蘭陀 *Oranda*) and stands for Western culture.

52. A Chan Buddhist scripture dated around the eighth century.

53. Leonardo 2008, 206.

54. Leonardo 1890, 1, 24v.

55. See Panosfky 1955.

dynamic force and creative power. Without rejecting his comprehension of painting as a science, or rather in virtue of it, he clearly sees that "pictorial space" is not an inert receptacle: it takes and gives form. Thus, the imitation of nature does not concern phenomenal appearance, but the generative structure: the morphogenesis. Here is the sense in which painting is required to open the secret of nature.

Conquered by the beauty of natural forms, Leonardo claimed the primacy of geometry over arithmetic, namely, of continuous over discontinuous quantities[56] which stems from the incommensurable relations. His *aerial perspective* allows painting to be released from the fixed viewpoint and the pictorial plane to dissolve into the landscape. *Sfumato* (nuanced) is the characteristic, pictorial means used by Leonardo to express aerial perspective. More than a way of seeing forms and relating them to one another, the *sfumato* is also the carrier of an attitude towards content.[57] Leonardo's involvement with "nature's visual magic"[58] radiates, in particular, from *The Virgin and Child with Saint Anne* (Figure 2). In this painting, as Plotinus states, *nature's seeing is creation.*

> Landscape space has no independent rationale, no measurable distance, and no perspective shape. Not only its forms but the content that emanates from it are ancillary to the figure group. But while the landscape is accessory to the figures, it is seen also as a matrix out of which they grow.[59]

The result appears as a perfect synthesis—or a *contradictory self-identity*—between natural and divine, discrete and continuous, form and nothingness: an image in which the "synthetic instant"[60] and eternity are held in suspension, an image of Leonardo's comprehension of the sacred alliance between beauty and truth. Would Nishida agree?

What Nishida calls *basho* might have some affinities with Plato's *chōra*, as "the receptacle, and as it were the nurse, of all Becoming,"[61] and also with

56. Cf. Leonardo, *Trattato*, 1.27.
57. For more, see Freedberg 1993.
58. See Kemp 2006, 340.
59. Freedberg 1993, 28.
60. The expression is borrowed from Kemp 2006.
61. Cf. *Timaeus*, 49a–52a (trans. W. R. M. Lamb; http://www.perseus.tufts.edu/).

FIG. 2. Leonardo da Vinci: The Virgin and Child with Saint Anne, *c.* 1508. *Paris, Louvre*

the soul described by Aristotle as "the place of forms" (*topon eidon*).[62] Considered as a space, *basho* is neither the empty receptacle of Newton, nor the inert extended substance of Descartes. In contrast with Kant's philosophy of space, entangled with Newtonian physics, Nishida's conception of *basho* might plausibly be traced to Leibniz's *spacetime geometry*. Instead of something given, for Leibniz, "space is the continuity in the order of coexistence," and his *Monadology* captures the unfolding of such a space as the monad's visual field. In this perspective, *basho* can be sensibly related to Leibniz's "topological space."[63]

62. *On the Soul*, III, 4 (trans. J. A. Smith; http://classics.mit.edu/).

63. TREMBLAY (2018) reports the following remark from Nishida's *Complete Works*: "Leib-

Nishida's *basho* might be viewed as the condition of the possibility of all experience prior to any judgment, purged of any rational scheme. It is the *formless form* which produces form everywhere. This brings about what might be depicted as an "aesthetic of nothingness"[64] behind Kant's Transcendental Aesthetic. Whereas Kant appeals to space, as a pure form of sensible intuition, to give shape to the object of knowledge according to the *a priori* forms of logical understanding, for Nishida, "the true form of forms must be a *basho* of forms."[65] Unlike Kant's *a priori* spatial intuition, the idea of *basho* seems to stem from a sort of aesthetic intuition. In the logic of *basho*, Kant's transcendental schematism appears to be reversed: the "ground of all outer intuitions" dissolves into an "energy field" and finds its ultimate expression, one might say, in the pure *act of seeing*.

Fleeting eternity

To Goethe's eye, according to Nishida, nature is like an infinite formless space, which produces form everywhere. In Nishida's philosophy, everything formed by history dwells in the background of eternity, and in art in particular. As for Goethe's poetry, it may be placed on a "formless two-dimensional background" where humanity is almost dissolved, whereas individuality stands out. Indeed, "the sound of the true human individuality is to be heard only where there is such a background." The value of individuality encourages Nishida to read Goethe's "artistic" nature as a form of pantheism more similar to Leibniz's monadology than to Spinoza's. Unlike Leibniz's "windowless monad," however, Goethe's "monad"—for Nishida—makes its sound and fades boundlessly away into the distances of eternity. All this, in Nishida's opinion, must be the reason why, "despite his various talents and manifold activities, Goethe was the greatest lyrical poet."

> Although he was touched and refined by the spirit of the classical world, in the depth of his soul there was not the clarity of "eidos," but a depth of feeling, to which the vision of ideas was not sufficient.... In Goethe, eidos is

niz's a *priori* is different from Kant's: it is not a form but a topological space" (NKZ 13: 446).

64. For a thoughtful discussion, see Pasqualotto 1992.

65. Nishida 2012, 6.

> heart, and heart is eidos. There is no inside or outside; everything is an "open secret."[66]

Thinking of a nuanced, soft depth and background, one might be reminded, on the one hand, of the art of the East, on the other, of Leonardo's aerial perspective. Oriental art, Nishida remarks, is essentially impersonal because the background is an integral part of it: "This produces [in our hearts] a formless, boundless vibration, and an endless, voiceless echo." How about Leonardo's painting? For Nishida, Leonardo is intellectual: "the smile of Mona Lisa is mysterious, but it is not the smile of love." And yet, if, following Leonardo, painting is "dumb poetry" and the eye is "the window of soul," couldn't it be the "open secret" of nature what Mona Lisa is contemplating? I am inclined to conjecture that Goethe could agree:

> Nature lives in her children only, and the mother, where is she? She is the sole artist,—out of the simplest materials the greatest diversity; attaining, with no trace of effort, the finest perfection, the closest precision, always softly veiled.[67]

In contrast to Goethe's poetic sensitivity, from the depth of his soul the clarity of *eidos* reaches through Leonardo's eye. Indeed, as Goethe emphasizes, "the various endowments, which nature had bestowed upon him, were concentrated... particularly in his eye; for which reason, though possessed of abilities for everything, he appeared decidedly greatest, as a painter."[68] In Leonardo, *eidos* is form, seeing is creating. The background of his painting may be thought of as two-dimensional, like the one of Goethe's poetry, but his pictorial space is an "open window" connecting inside and outside.[69] If the eye is the window of soul, painting may be viewed as a mirror of soul.

On Alberti's window, as mentioned above, aesthetic and cognitive experiences overlap. A flat glass cutting the visual cone acts as a semi-transparent mirror: it lets light rays through both from the scene to the eye and from the eye to the vanishing point. This *dual* direction makes it explicit the 'entan-

66. Nishida 2015b, 152.

67. Goethe 1906, 83.

68. Goethe 2015, 108.

69. If one wished to compare poetry to a mirror, such a mirror should be able not merely to reflect clear-cut objects, but also to produce imagines: not only to *receive* but also to *emit* rays from its own center of sight. Cf. Cassirer 1932, 96.

glement' of the seer with the thing seen in visual experience. How does it affect the vision of self? A curious answer comes from an ancient story retrieved by *Rangaku* (study of *Ran*) experts speculating on the power of Western mirrors. The story aims at attributing heuristic value to the reflected image: a Buddhist monk "took a mirror and stared at himself intently in it;" hence, he derived a general principle: "Even good or intelligent people will judge others while neglecting to assess themselves. But if you do not know your own self, how can you understand other things?"[70] As Timon Screech underlines, this story was a product of that age.[71] In Buddhist thought, the mirror has a different meaning: it returns the image of an unmoving mind, more than personal knowledge. The self-discovery in the mirror is rather reminiscent of Narcissus' story taken by Alberti as a symbol of painting:

> The inventor of painting, according to the poets, was Narcissus, who was turned into a flower; for, as painting is the flower of all the arts, so the tale of Narcissus fits our purpose perfectly. *What is painting but the act of embracing by means of art the surface of the pool*?[72]

Now Narcissus' metamorphosis may also be reconsidered in the light of *muga*. Narcissus does not fall in love with his own specular image, but with a *form* never seen before. The sense of beauty that he feels is pure "pleasure detached from the ego," it is a pleasure of the moment when he does not discern the *reflected* form. But soon he is advised: "That which you behold is but the shadow of a reflected form (*ista repercussae, quam cernis, imaginis umbra est*)" (*Metamorphoses*, 3, 436). Hence, he was able to discern the mirror's *action*: "I burn with love of my own self; I both kindle the flames and suffer them" (3, 464). At the moment when the self becomes "object of knowledge," the pleasure vanishes together with the sense of beauty. Thus, the sense in which beauty is truth might be seen as a *vanishing point*, i.e., the "open secret" of the painters' perspective. Here perhaps is the reason for painting to be "the flower of all the arts," here is the reason for art to make the fleeting instant of life eternal.

70. Cf. Screech 2002, 161.
71. For more details, see Screech 2002, Chap. 5.
72. Alberti 2004, 61.

The silence of truth

Narcissus' experience of beauty clearly shows how the self is not to become an *object*. Narcissus and his reflected form are one correlated unit, "one inseparable act." As Ovid tells us, when Narcissus tries to hug the other, the *imago formae* stretches its arms towards him, and returns his smile too. However, as Narcissus' embrace turns his pleasure in the moment into objective knowledge, the painter's art turns the intuitive truth of beauty into objective forms. The surface of the pool does not allow Narcissus to maintain his feeling of *muga*, as we know, his "real" truth is to become a flower. The tale of Narcissus also shows how the invention of painting is triggered by the desire to give expression to the sense of beauty. The act of embracing the surface of the pool brings about the living force of art. In the *élan vital*, Nishida locates "the fundamental source of artistic creation."[73] *In life itself*, according to Bernard Berenson, lies the mysterious life-conserving virtue of great art.

> If the artist can cunningly seize upon the spirit of life and imprison it in his painting, his work, barring material accidents, will live forever. If he contrives to give range to this spirit, to make it leap out, to mingle with and increase the life in our veins, then for as long as we remain humanised beings, he will hold us in his thrall.[74]

In the creative act of the artist, what originates in the depth of soul finds its way into the "objective," material world through the action of the body.[75] There is no art apart from the person of the artist. And yet, "we cannot help thinking that a deeper truth of human life is included in great art and that because it is true it is beautiful."[76] *In art, expression itself is truth*. But how does great art express truth? If the essential quality of art is what Berenson calls "life enhancing," it is by the rendering of *form* and *movement* that this particular quality is to be attained. Painting succeeds in giving us pleasure when we unconsciously translate our retinal impressions into "ideated sensations" of touch, pressure, and grasp, when we assign "tactile values"

73. Nishida 1973, 25.
74. Berenson 1909, 32.
75. Cf. *The True, the Good, and the Beautiful,* in Nishida 1973, 99–100.
76. Nishida 1973, 82.

FIG. 3. Giovanni Bellini: Sacra Conversazione, 1505. *Venice, San Zaccaria*

to visual forms.[77] No figure painting, Berenson remarks, is "real" unless it conveys ideated sensations of touch and movement. But we do not like a painting because it is well painted, as we do not like a dinner because is well cooked: "in fact, we like it only because it *tastes* good."[78] The taste of art is in the message. The ultimate message of art is to communicate pure existence.[79]

Existences are, for Jacob Burckhardt, those depicted by Giovanni Bellini (Figure 3): figures "expressing no feeling, doing nothing, not even praying, yet producing a superhuman impression by the harmony of their being, their tonic presence."[80] "Existences in three dimensions" are, for Berenson, all human figures in Piero della Francesca's paintings. Indeed, it is precisely in Piero's *ineloquence*, i.e., in "his unemotional, unfeeling figures, behaving as if nothing could touch them," that Berenson recognizes a fundamental virtue of great art: "his avoidance of inflation… compels gratitude and worship."[81] Accordingly, it does not sound unreasonable to look for the essence of beauty in the ideal field of those artistic creations, such as Piero's *Flagellation* or Leonardo's *Mona Lisa*, which "remain ineloquent, mute, with no urgent communication to make." As for the *Flagellation*, its truth is "incommensurability." No

77. Both BERENSON (1909) and NISHIDA (1973) refer to Adolf Hildebrand's *Problem of Form* (1901).

78. BERENSON 1909, 34.

79. For an insightful discussion, see BERENSON 1954, 40–1.

80. From the first edition of his *The Cicerone* (1855); quoted in BERENSON 1954, 7–8.

81. BERENSON 1954, 6.

word can express it, as no measure can relate the figures standing in the foreground, impassive like rocks, with the scene in the background. And yet, the very impersonality of those geometric forms mirrors the artist's gaze with crystal clarity. The more ineloquent a painting is, the more visible is the depth of painter's soul.

Piero depicts bodies more than individuals, faces devoid of any rhetoric tone, groups geometrically consistent over the space of eternity. His geometrical soul finds its way to artistic expression (Figure 4) in tune with Plotinus' understanding of silence:

> That which in me contemplates, produces a work of contemplation, like geometricians who while contemplating describe figures, for it is not in describing figures, but in contemplation, that I let drop from within me the lines that outline the forms of bodies.[82]

FIG. 4. Piero della Francesca: Sacra Conversazione (detail), 1472. *Milan, Brera*

As Nishida states, the objective world of art is the world seen through expressive movement, which, in line with Plotinus, must be understood through silence.

82. Quoted in NISHIDA 1973, 130.

> Indeed, since Matter itself is in its degree, an Idea—the lowest—all this universe is Idea and there is nothing that is not Idea as the archetype was. And *all is made silently*, since nothing had part in the making but Being and Idea further reason why creation went without toil.[83]

While the saying involves the divide between the sayer and what is said, the silence makes them "one inseparable act." Thus, silence is the vehicle of ineffable creation. And if *all is made silently*, as Goethe realizes:

> The Beautiful is a manifestation of secret laws of nature, which, without its presence, would never have been revealed.[84]

Concluding remarks

One might be tempted to say that Plato's *theory of forms*, based on the clear separation between the intelligible world and the sensible world, "idea" and "appearance," is functional to his *theory of love*: authentic love is "creative love." It is in the nature of love to compose an original division and trigger a generative force. For Plato, love is not the love of the beautiful only, but "the love of generation and of birth in beauty."[85] Beauty, then, is the "goddess of parturition" who guards the divine demiurge and the artist. It is love that moves the demiurge to create time and then model the essential elements of nature on the perfect symmetry of regular polyhedra; it is the "conceiving power" that drives the painter to return immortality to those bodily forms "which excel in beauty."[86] Thus, the truth of idea and the beauty of appearance are united through the mathematical *form*, which, nonetheless, unveils the boundless "energy field" of creative love. In this formless space, where truth transcends intellectual discrimination, beauty may be thought of as dissolving into the feeling of *muga*. Then, nature and art can be entrusted to participate in the harmony of creation. In this frame, Leonardo's art appears in tune with Einstein as well as with Phidias. If Einstein conceived the theory of gravitation seeking the beautiful form

83. Plotinus, *Fifth Ennead*, VIII, 7 (trans. S. MacKenna and B. S. Page; https://www.sacred-texts.com/; emphasis added).

84. Goethe 1906, 481.

85. *Symposium*, 206B (trans. B. Jowett; http://classics.mit.edu/).

86. *Timaeus*, 53E.

that Nature would choose, Phidias, according to Plotinus, created Zeus "by apprehending what form Zeus must take if he chose to become manifest to sight."[87]

If creative love paves the way for Plotinus' "intelligible beauty," beauty captures the ineloquent truth of Plato's love. But the crucial point is that love *breathes life* into the realm of form. This might help us discern an ultimate "spiritual" affinity between Nishida and Goethe, both sensitive to the "formative force" of nature and art, to what Goethe calls "the eternal systole and diastole, the eternal *synkrisis* and *diakrisis*, the inhaling and exhaling of the world in which we live, weave, and exist."[88] If, on the one side, Nishida regards Goethe's concern for life as the bridge to Eastern philosophy, on the other, Nishida's "*basho* of forms" might offer a key to that Western *theory of nature* which from Leonardo's *sfumato* reaches Einstein's spacetime morphology through Leibniz and Goethe.

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87. *Fifth Ennead*, viii, 1.

88. Goethe 1988, 274.

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