

## LOCAL ANTHROPOGENIES – CONTEMPORARY COSMOGONIES

# DIGITAL PHOTOGRAPHY

## A LUMINOUS GENESIS

Leonardo Da Vinci and Francis 1st exchange views on a photographic genesis.

The following is not a Borges fantasy. It's a fact that one day, some of Denis Baudier's photos were scattered over a glass table next to an open window, and that the author, who would often walk by that window, ended up overhearing the following three conversations, which he then veraciously transcribed. Apparently dating back to 1518, they must have taken place about a year prior to Leonardo's death. As to the exact location, no doubt it was that underground passageway connecting the Château d'Amboise to the outhouse accommodating Leonardo, the Clos Lucé, where it would please our young king to meet with this old and wise man, at nightfall, far away from eyes and ears. The comments between double brackets, << >>, are annotations made by the transcriber.



*Baudier*

## THE FIRST EVENING

**Francis 1st** – I dropped by yesterday. You weren't in, so I rummaged among some of your drawings.

**Leonardo** – My house is yours entirely, your Majesty.

**Francis 1st** – And I made up my mind to commission you with a challenging assignment.

**Leonardo** – Not only do your assignments provide for my needs, your majesty, but they never cease to arouse my intellect.

### 1. The black winged night

**Francis 1st** – I'm referring to drawings you may have long forgotten about, because they do not represent anything in particular. It's as if you were following the swirl of your pen. Sort of a head of hair, perhaps at the same time a reference to the initial Chaos. The Origin. The beginning of a Genesis. You explained to me one day that the matrix of painting is merely a jet of ink projected against a wall, all it takes to generate an entire world from it, is to work out the stain in details.



*da Vinci*

**Leonardo** – I know exactly which drawings you are referring to. Vortex or whirl indeed, which I have started calling, as you do, *Geneses*, *Cosmogonies*. << Descartes , cosmogonist or cosmologist, would also start from “tourbillons” >> I’m pleased to hear you talk of hair. Because, basically, I have always been painting hair. When Verrochio had a kneeling angel in store for me in his *Baptism of Saint John*, I was mainly absorbed with the hair. Even in my most recent self-portrait, which you have seen, one can barely distinguish two wrinkled eyes lost in a huge beard that runs down like two thin entwined rivers. Ever since our beloved Piero di Cosimo’s *Simonetta*, what could possibly summarize it all better than a head of hair : all nature and culture.



*da Vinci*

**Francis 1st** – Now, here is your assignment. For years, my Marsile Ficin disciple has been going on and on about Plato’s *Timaeus*, where cosmos is said to originate from spheres, cubes and polyhedrons. Nothing but sheer geometry ! Whereas I, personally, in the beginning, prefer your vortex and whirl, besides which I also remember from the Ancient Testament that Jehovah created the world beginning from the Tohu-Bohu. Moreover, our Ficin disciple, an honourable hellenist, also taught me that the most ancient Greeks, the Orphics, used to say that: « First, there was Chaos and Night and the Erebus and the great Tartar. » They would see the beginning in the « endless veils of Erebos... » « en apeirosis kolpois ». Our German philologists freely translated this « KHaôs » into « Kluft », and « endless veils » into « grenzenlosem Schoss ». Nice image, this womb with no ending. Were you aware that I often refer to you as the painter of wombs ?



*da Vinci*

**Leonardo** – So what you are actually asking me is to paint a pre-Platonic Genesis ? When there was nothing but primary shadows and lights, almost confused, but not altogether undistinguishable, right ? Because mathematics, in a way, already existed, in defining the nearby and the remote, the continuous and the discontinuous, the contiguous and the not contiguous, the open and the closed, the embracing and the embraced, a mathematic which I would like to refer to as **general topology**, in other words, a reasoning (*logos* ) on pure location (*topos*). Have you seen my plans for Milan ? Of course they consist of roads and residential blocks, like all cities, but above all, it emerges from a circular embrace. Milan is articulated to return to a fold in the womb of the earth, in a final fold of the Alps.

**Francis 1st** – In short, our first series of drawings would concern a Black Winged Night, stirred by a wind from before all winds, « sub-winded », as the Greek text powerfully puts it. The beating of wings, yet without the wind (*hup-ènemios*).



*Catherine Nyeki & Marc Denjean, Mu Herbier*

## 2. The eroticism of elementary catastrophes.

**Francis 1st** – Well now, in a second series we would start to discern inchoative forms. Of course, not exactly platonic figures as yet, but forms as they preceded figures. Does that make sense to you ?

**Leonardo** – Quite. You see, I have been doing quite some dissecting lately. Of course I'm not the only one to, but, whereas others merely set out to look for architecture in the human body, including pillars and buttresses in a Vitruvius' fashion, therefore exploring its « factory » << Vesalius' *De corporis humani fabrica* will be published in 1543 >>, I, on the other hand, am interested in the entrails. The entrails within the entrails. Their blooded hairs. A lot of people shrink back in horror from these intricate meats. Nevertheless this is what sustains our souls. And, once again, there is mathematics in them. Unlike the **general topology** (dealing with nearby and the remote, etc.), which we have only just uncovered in the Erebus, but rather like a **differential topology**, as anticipated by Aristoteles, whose dissections for *On the Parts of Animals* (*De partibus animalium*) revealed to him hardly anything platonic, urging him to consider a **mathematics of catastrophes**, or rather *transformations of forms* (strepHein, to turn, kata, from top to bottom), which my scalpel in turn led me to discover while sliding *over* and *within* pylori, lungs, mouths, anuses, penises and vaginas.

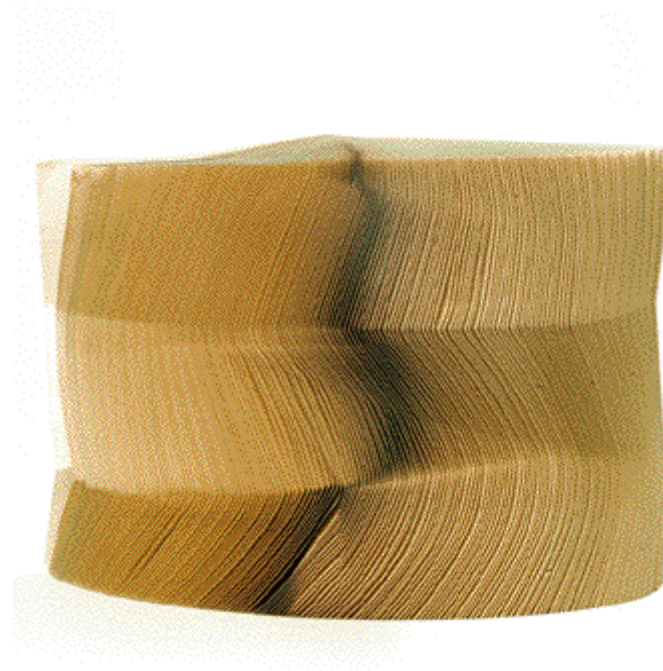
Nom des singularités	Centre organisateur	Déplacement universel	Sections remarquables	Interprétation temporelle (verbes)	
				Sens destructif	Sens constructif
Minimum simple	$V = x^2$	$V = x^2$		Être, objet	Être, durer
Le pli	$V = x^3$	$V = x^3 + ux$		Le bord, le bout	La fin - finir Le début - commencer
La fracture (catastrophe de Riemann-Hugoniot)	$V = x^4$	$V = x^4 + ux^2 + vx$		La faille (géologie)	Capter Changer - Devenir Casser, Rompre Unir
La queue d'aronde	$V = x^5$	$V = x^5 + ux^3 + vx^2 + wx$		La fente, le coin	Déchirer Fendre Coudre
Le papillon	$V = x^6$	$V = x^6 + ux^4 + vx^3 + wx^2 + tx$		La poche, l'écaillé	S'écailler S'écarter Remplir (une poche) Vider (une poche)
L'ombilic hyperbolique	$V = x^3 + y^3$	$V = x^3 + y^3 + wxy - ux - vy$		Le crêt (de la vague) La voûte	Briser Ile vague) S'effondrer Recouvrir
L'ombilic elliptique	$V = x^3 - 3xy^2$	$V = x^3 - 3xy^2 + w(x^2 + y^2) - ux - vy$		L'aiguille, la pique, le poil...	Piquer Pénétrer Boucher (un trou) Anéantir
L'ombilic parabolique	$V = x^2y + y^3$	$V = x^2y + y^3 + wx^2 + ty^2 - ux - vy$		Le jet (d'eau) Le champignon La bouche	Briser (un jet) Ouvrir } Éjecter, lancer } Fermer } Percer Couper, pincer Prendre (la bouche)

René THOM, « Stabilité structurelle et Morphogenèse », 1972, W. A. Benjamin INC, Massachusetts.

**Francis 1st** – And what, then, are these catastrophes, Leonardo ? Please take your time. You have my attention.

**Leonardo** – Well, let's progress methodically, from the simplest to the most complex. I'll speak slowly. First, there is the **fold**, the minimal catastrophe, which simply produces ends (destructive) and beginnings (constructive). Next, the **crease**, the break (in continuity), which enables capturing (destructive), and engendering (constructive). Subsequently, the **dovetail**, corners and cracks, for tearing (negative) and sewing (positive), followed by the **butterfly catastrophe**, producing pockets to fill (destructive) and empty (constructive). Finally, the three umbilics. First, of course, the **hyperbolic umbilic**, cresting waves, alternately collapsing (destructive) and covering (constructive). Next, the **elliptic umbilic**, sharpening our needles, that prick (negative) and plug (positive). And last, the **parabolic umbilic**, with its water-jets, mushrooms and mouths, negatively (destructing) breaking, and positively (constructive) linking, closing. << At this stage we would like to complete Leonardo's point with René Thom's *Structural Stability and Morphogenesis*, the first edition of which (Benjamin,

Massachusetts, 1972) contains a brilliant table, stating the « remarkable sections », with their « spatial interpretations » (nouns) and « temporal interpretations » (verbs), « destructive and constructive » for each « singularity denomination » (fold, crease, etc.), as well as the equations of their «organizing centre », and their « universal unfolding ». >>



*Baudier*

**Francis 1st** – This is all extreme ! You see, when I go hunting in the Chambord forest, all of what you have just told me, about the entrails of animals, can be found in the trees, in their roots, in their trunk, in their branches, in their leaves, in their flowers and their fruits. I can see now why I'm so fond of flowers. A papillonaceae flower, for instance, with its flag and its wing, contains almost every single one of your seven catastrophes, almost to the point of publicizing them. And one also understands that female bodies are so much more related to landscapes than masculine bodies. It's just that, with their breasts (from the French « sein », sinus, sinuosus) and vulvas (volvere, rolling), they are like a colossal meeting of catastrophes.



*Pierre Radisic, Pornscapes*

**Leonardo** – And that is exactly the answer to that question which you have repeatedly asked me : where does the attraction between man and woman stem from ? Well, these seven catastrophes are complementary, in coaptation; one protruding organ *is* literally another organ in withdrawal, and vice versa. We are not leaving mathematics behind us. Sexual attraction is a matter of *general topology* of the encircling and the encircled, the embracer and the embraced, and of *differential topology*, according to the singularities which are named fold, crease, dovetail, butterfly, and three umbilics. << *La Vréalité*, a text by René Lavendhomme, the mathematician, categorician and toposist, features a conversation exam during which the hysterical speech of a female student is instantly converted into the purely topological language of the male professor >>.





*Pierre Radisic, Coaptations orgastiques << dites fresque de chair >>*

**Francis 1st** – But then, Leonardo, how is it that you are a homosexual ? And Michelangelo as well ?

**Leonardo** – It's true that we both are. But in reverse order. As far as Michelangelo is concerned, he is merely in pursuit of the *spiral effect*. Take a closer look at his *David* and his sketches for the dome of the Saint-Peter's in Rome. Spirals spreading, pouring forth to the same extent as to which they are interlocking. The image of God here is Adam, from whom Eve was subsequently extracted. Rumour has it that, when Michelangelo has to picture Eve, he often uses a masculine model, adding boobs afterwards. In his *Rime*, it is the father who is axial, rather than the beloved, *he* or *she*.

**Francis 1st** – The way you put it, Leonardo, Michelangelo would be in quest of the male through a positive, effusive glorification, whereas you would search for a refuge, a guard to stand up against the fear of the overwhelmingly concentric fascination with the female, against the fear of her vortex. One could assume that, while Michelangelo's dissections would only serve to find the sinew and muscle, yours would serve to distinguish the gyros of the entrails. Nevertheless, a good old Italian, you need not throw yourself in the Etna, as the Greek Empedocles did. Instead, you can halt at the familiar folds of the womb. You will be quoted one day for saying that the sexual organs are atrocious.

**Leonardo** – I stick to my opinion. Neither a vulva nor even an ithyphallic penis is articulable as *wholes integrated by integrantes partes*, like *forms adequately detached against their background*, according to the two preliminary postulates of the entire « Greek miracle ». Hence the unease with which the whole of Greece approached sexuality, in which organs cannot

be formalised, and where orgasm cannot be strictly classified within the *logos*. Their philosophers even lack the words to refer to it in a straightforward manner.

**Francis 1st** – And your defence would be to paint countless Saint-Johns sporting female shapes, up until the *Ultima Cena* even ?



*da Vinci, Saint Jean*

**Leonardo** – I admit. Whether I'm right or wrong, I am convinced that Jesus of Nazareth, this extraordinarily new breath of air over the lake of Genesareth << Wittgenstein >>, must have shared one or two of my fascinations. And must have, with similar defences, entertained his Maries at the edge of a fountain, perhaps while they were anointing his callous feet, or even more so when they were taking him down a cross, before suffering the blissful surprise of an empty tomb. Please observe that I am not the only one with these beliefs. The Inquisition is but a mere grimacing of Spain, and I believe I am sufficiently acquainted with the Spaniards' *pasión* to predict that they will shortly create a mystic of the *lively flame of love, llama de amor viva*, which will undoubtedly become their greatest poet. As for the rest, I wouldn't venture as far as this « Jean de la Croix ». Like you said, I am forever an Italian. Now, shall we proceed to the third series... ?

### 3. Geometry at birth

**Francis 1st** – Nevertheles Leonardo, we can't leave out Geometry. True, it cannot be found anywhere in nature, yet it is omnipresent in Technics, and even the Genesis cannot disregard that it has engendered the Anthropos, nor that Anthropos is basically a technician. All the same, to concur with our genetic intentions, your rhombi, squares, circles, they too should remain in the process of birth. Democritus, irrefutably a better mathematician than Plato, already indicated, I was told, that we should not focus on the cylinder nor the cone as such, but on the way in which one is a transformation of the other. Geometry could be described as the science of transformational groupings rather than a science of structures. << Felix Klein ; 1872 >>. Which brings me to your notorious *chiaroscuro*, permitting you to conceive the exact geometrical figures, but in the process of formation, as if still conflicting, hesitating between various figures. In short, quite the opposite to those triangular Greek temple pediments that cry out totalisation and rational totalitarianism.



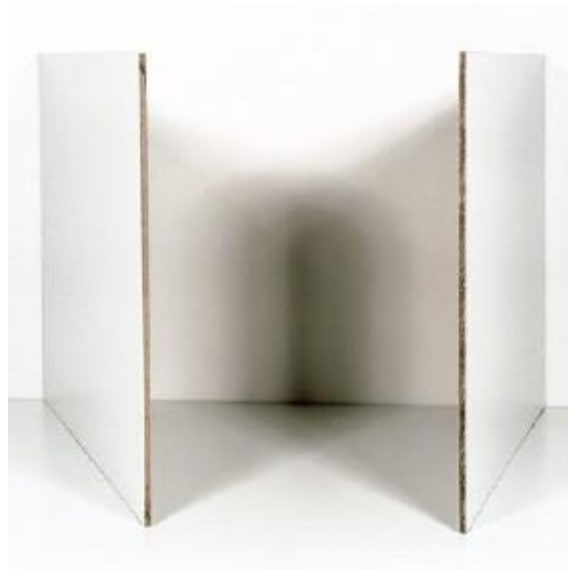
*Baudier*

**Leonardo** – What joy to hear you call me the painter of wombs and the chiaroscuro, for both, in my opinion embody the same. Obtained through superimposing layers of glaze, the chiaroscuro has allowed me to turn each form and figure into a shady apparition. In this respect, I owe a lot to Antonello de Messine, one of whose *Vierges*, fully suffused, is in my opinion the ultimate image of unsurpassable inwardness. You will observe that my linear perspective is of a similar kind, very unlike that of Uccello and Piero della Francesca. Of course, it is all

perspective lines converging into a horizon point, and Uccello even succeeded in creating an entire painting based merely on those lines. But his sketch plan is only there to be uprooted by horse legs and horsemen, literally *implicating* the viewer in his *Battles*. Piero della Francesca, on the other hand, is credited with having invented *projective geometry*, which is doted with a great future, nevertheless he applies it in order to obtain interruptions and volume dislocations, causing a full frontal crash with its viewers, through geometrically correct outlines nonetheless conflicting in colour, whereas tint areas cause objects to waver between more or two outlines.

**Francis 1st** – And how about your personal perspective ?

**Leonardo** – Look at my *Ultima Cena*. Its perspective lines and focal point are obvious. But, due to a certain quality in my chiaroscuro, this huge long table, in line with the general frame itself, is desubstantialised. Beyond the present. Beyond the here. Space becomes a nowhere, and therefore an anywhere. As opposed to Uccello and Piero della Francesca, the warriors in my countless drawings in preparation of the *Battle of Anghiari*, are limbs in locks of hair, with no reference axes. Would you prefer geometric figures in that sense ?

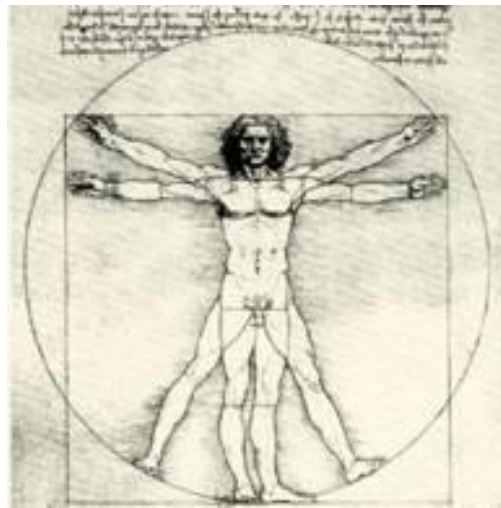


*Baudier*

**Francis 1st** – I see. But, before we move on, explain to me why Euclidean Geometry is apparent in Technics rather than in Nature. The answer affects our Genesis to the core, I would think.

**Leonardo** – You remember my drawing of the *Anthropos*, erect posture, legs and arms spread to the maximum, the whole lot set in a circle, the Anthropos himself caught in a square? I put every leg and arm in two positions, so as to corroborate the transversal reference plan. I think that explains it all. To my knowledge, Anthropos is the only living creature whose limbs create an angle at every joint, including right angles, which he can model and maintain

as he wishes; only he possesses two plane hands in a bilateral symmetry ; only he owns four limbs that, when stretched to the maximum, create a *vertical transversal plan*, in other words a *referential frame* that applies to all geometry and technics ; it is, furthermore, exactly what is put into practice in the linear perspective which we were referring to earlier. Nothing remarkable then that objects produced by the Anthropos, technical objects, are angular and relatively plane in general. And that they appear in panoplies and protocols. It is exactly this transversalisation that distinguishes *utensils*, proper to Homo, from the plain *instruments* which we have in common with the animals. My intention was not to create a work of art, but rather a drawing that remains a mere sketch, an idea, a mental outline, in a not-so-neat brushwork, to the profit of the pure intention. There is but one shortcoming : I have not succeeded in underlining that the hominian transversality is confirmed in its *lateralization*, corroborated by that particular prevalence of right over left. Michelangelo might have managed.

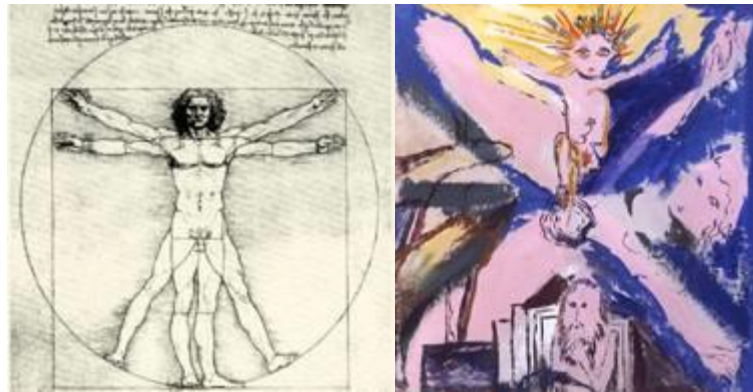


da Vinci

**Francis 1st** – It is truly great and irreversible. Philosophers must have been completely taken in by their extacies for having never laboured into the subjects of angularity and transversality ! Odd, though. That you of all people, hardly ever having painted anything but women, should paint this single male burdened with representing the entire Anthropos ! Is he perhaps another of your guards against the female frenzy ?

**Leonardo** – Yes and no. It's true that I shrink back from the female nude. My excuse is that the male body, being more angular, bony, reveals more clearly the origin of Technics. Nevertheless your comment is valuable. I ought to complete my outline one day with its female counterpart. Ideally, it should have to be done by a woman, nevertheless I can picture the basic essentials. For a start, the inscriptive square, the frame, save for which there would be no theory, should remain. Yet the *Roman cross*, phallic, would have to be replaced with the *St Andrew's Cross*, which is uterine. And reclining, rather than erect. The sexual organ would remain at the centre of the plan, yet the rectangular penis that I gave to my Anthropos, would need to be replaced by a radiant vulva, expanding generatively. Between the legs of the woman in labour,

the source of life would be in continuation of its preceding animality, in a flair not unlike Van Der Goes' donkey and ox in the *Nativity*. At the bottom of which, one would discern a writing man's head ; no event goes without text. Finally, from this volcano of Nature and Culture, would sprout, arms stretched, the Infant Redeemer, in glory of the triumph of life over death. I forgot : whereas my Anthropos is black and white, this one would be in colour, faded colours, to preserve the same sketch aspect as in my Anthropos, the mental outline, unlike a work of art. << This plan strangely enough heralds Micheline Lo's *Cruciform Nativity*, 1980 >>. By posing one illustration next to the other, we would then basically obtain an *anthropogeny* as well as an *anthropology*. The male on the left, the female to the right. Geometry and topology. Unless we would venture the reverse the order : the more initial topology to the left and the posterior geometry to the right.



**Francis 1st** – It's getting late. Nevertheless let us hasten to conclude all stages, the fourth of which deals with real noses, real ears, real mouths. And also real legs and wombs. Real lips. Forever in the process of formation...

#### 4. The lips of the Mona Lisa (La Gioconda)

**Leonardo** – Are you referring to *the Gioconda*?

**Francis 1st** – She was the main reason that I invited you to France, wasn't she..?...

**Leonardo** – And indeed, the issue here was not to paint a certain lady commissioned by a certain client. The *lips* is what I was in pursuit of in this impossible painting. Because lips, whether small or big, evoke the richest of spaces and times. They are mucous membranes, those parts of a living being where the inside is turned outside and the outside is still a within. A protrusion that is in fact an intrusion. The convex yielded by the concave, and the concave by the convex. An essence of the definition of desire. That lends itself to to all the catastrophes of differential topology, to all the insinuations and compenetrations of general topology, and even to the conclusion of the geometrical token, in its crack. << Conway's numbers are defined from

a cut between a pair of empty sets >>. Of course, the Gioconda is known to have a forehead, eyes, a nose, but only to condescend to a mouth, and a mouth that unites the lips.



*da Vinci*

**Francis 1st** – Hence the famous smile ?

**Leonardo** – Yes, because the smile is the most complete movement for a mouth and its lips, the movement that summarizes all their virtualities and possibles, even the Possible as such. To make sales clerks and professors alike wonder whether la Gioconda is sad, benevolent or ironic, masculine rather than feminine. They will even go as far as to « psychoanalyse » her. No, the Gioconda is a smile, because the smile is a perfection of the lips and, as you were raised to understand, you are suspicious of people that smile with their eyes. It's because she is all lips, - to which body and scenery merely serve as a source, - that la Gioconda will become the most looked-at woman in the world.

**Francis 1st** – As our dear fellow Rabelais says, laughter is the faculty of man, but down the ladder, whereas the smile would be on top of that ladder. According to one of my courtiers, a descendant of Marco Polo, the Far East revolves entirely around a smile, that of a particular Buddha, a quick-witted Indian whose nirvana smile (nir-vana, without the breath) has managed, over a period of one millenium, to invade China, and finally Japan. One of the greatest Chinese philosophers, Lao Tseu, acknowledges that Heaven and Earth originate from « depths of the arcane Female » - or so the story goes. Basically, both the Gioconda's mouth and the aperture to the arcane Female, share the same topology, and in French they are referred to as « lips/lèvres » in both cases. A horizontal and a vertical slit. << André Pierre de Mandiargue. >> It would appear that your homosexuality fears the vertical slit rather than the horizontal one then. But, no more. These are four series in all, Leonardo. My court awaits. In any case, the assignment stands firm.

## THE SECOND EVENING

### 5. Ontology and photographic epistemology

**Francis 1st** – You kept me awake, Leonardo. Once back at the Château, I spent time receiving Italian ambassadors. But soon afterwards, your Genesis returned to haunt me. I talked about it to Claude de France. Women are so strange. She was sleepy, but nevertheless an avid listener, at the same time, she was hardly surprised. She said to me, in that peculiar way of hers: Your Genesis of Geneses, it's all very well, we could have seen it coming, couldn't we ? One would say that, basically, they are prophetic. Which exempts them from our theories. You told me, in the order of things, that the Saint-Andrew's Cross precedes the roman cross. Now, where are you with our project ?

**Leonardo** – As such, it would appear trustworthy, your Majesty. But that's impossible. This Genesis cannot be achieved by means of painting or drawing. Too coarse. I have said time and again that painting is *una cosa mentale*, in particular because it is lighter and more manageable than for instance sculpturing and architecture, where one works with resilient materials. And also because it unfolds itself transversally before our eyes, and is therefore, with regards to the transversalized and transversalising Anthropos a « synchronic comprehension of the world, equal to the eternity of God's eye ». But, still! Oil, tempera, fresco, wax crayon, they are way too coarse to capture the beginning of all beginnings, matter prior to all matter.

**Francis 1st** – Do you know of the existence of anything lighter ?

**Leonardo** – Yes : light itself. Yet unlike the supernatural light created by Fra Angelico, who, as it would become a true thomist dominican, succeeded in painting a luminosity that equals the ultimate and primary Substance and Essence, in which all private individuals are absorbed in Justification << Julio Carlo Argan, *Fra Angelico*, 1955 >>. No, what we need is natural light, infinitely subtle, since it has the ability to pass through window panes, and it cleaves water, according to a mathematic dioptric. << Descartes' *Dioptric* >>. And, from our point of view, it would be both painter and paint-brush as well as a colour carrier, all at once, not requiring any kind of external intervention, except perhaps in order to fabricate a dark room, pierce a hole into it, opposite to which a light-sensitive plate should be inserted. I would like to call this : **photography**. In Greek, *phôs* means light, and *graphein* engraving, imprinting, writing and drawing.





*Stieglitz*

**Francis 1st** – Photography ? The way I know you, Leonardo, I suppose this implies new machinery. Peculiar, the way you never stop inventing machines, and this enthusiasm of yours, regardless of the fact that they work or not! Another homosexual guard against the abyss of the female I presume ? But anyway, I'm interested in this particular machine. Forcing light to engrave, imprint, write and draw, am I right ? And all this while the only thing the **photographer**, for let's call him that, need do is focus and trigger, besides finding the right sensitive plates, and developing them, of course. So, am I right in assuming this is how we ought to carry out the four stages of our Genesis ?

**Leonardo** – Quite. Unfortunately, this is easier said than done. I'm aware that Dürer and his likes are busy manufacturing dark and lit boxes in order to perfect their perspective calculations. As for my photography, all we need is to cover up the small aperture in the black box by a *shutter* allowing to control the exposure time on the recording surface. On the other hand, we would obtain a better focus of the rays of light as they penetrate the pinhole if we had one of those convex glasses that the Dutch use for manufacturing spectacles ; a *lens* as we might call it. And we could have any number of reprints by applying *chalk* on a sensitive surface. Let's say, that when you receive ambassadors, you could show them photographs of Chambord under construction. They would most certainly be humbled by your technical (magical ?) powers, even more so, they would run from them in fear, and it would certainly spare you the energy of having to go about conquering them at Marignan. Yes, your majesty, we are on the verge of inventing astronomic glasses and microscopes. Theoretically, we should now be able to « photograph » the Moon, the stars, and the microbes.

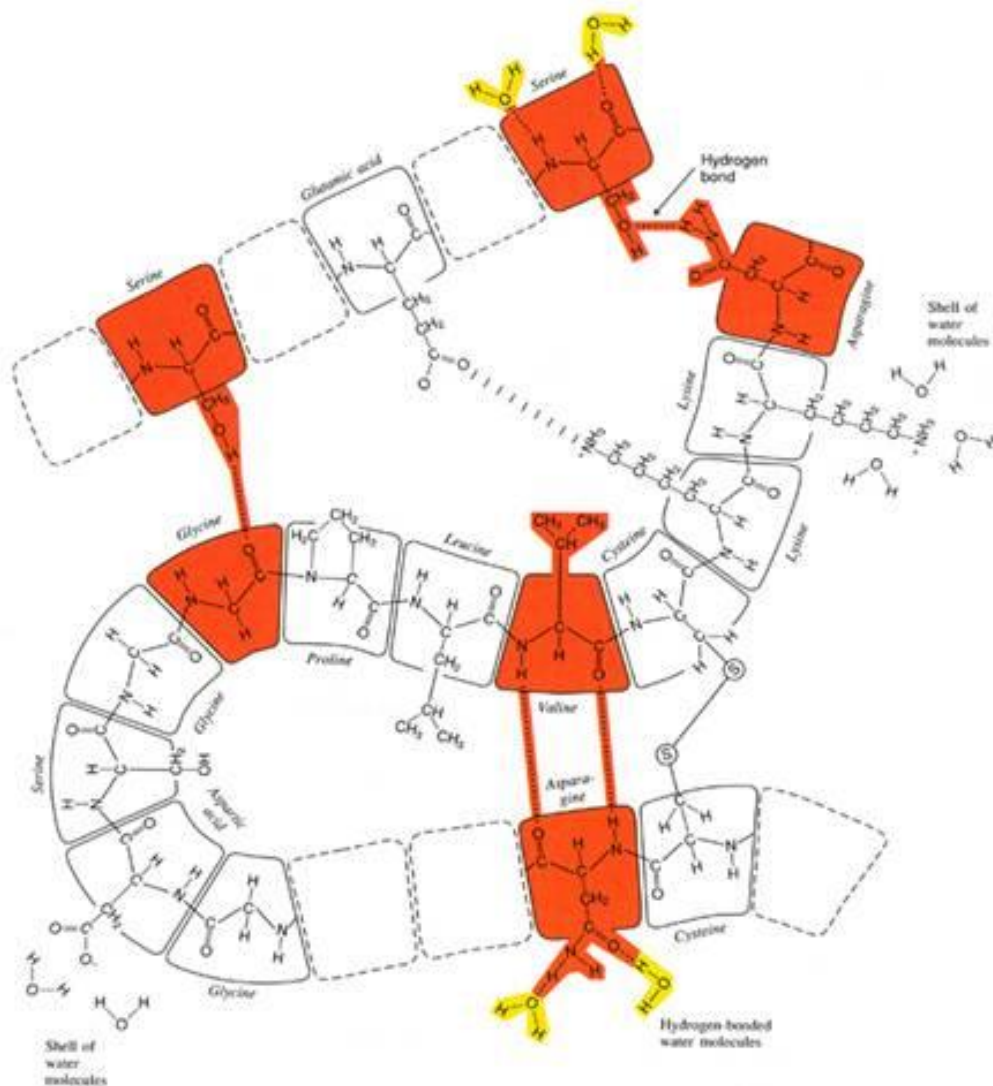


*Harvard College Observatory, 1853*

**Francis 1st** – Leonardo, all the funds of my kingdom are at your disposal. How much time do you require ?

**Leonardo** – Three centuries, your Majesty. (a prolonged silence). *Physics* is not the issue here. To manufacture a dark box... it is only woodwork or the crafts of ironworks. No, the real issue here is *chemistry*, the sensitive plates. I've already talked about it to the young Paracelse, and he says the basis should be silver, that the procedure would be « argentic », a rather colourless metal from the start. But he's a do-it-yourself-er, like all alchemists, mixing substances without sorting and weighing them first. It will take two more centuries before someone does for chemistry what Archimedes did for physics, and determines the exact volumes, weights and densities. << Lavoisier and his wife >> . What can we possibly do, the Anthropos, with his angularising, orthogonalising, transversalising, lateralising body in the first place being a *mechanic*, and therefore a *physicist*. Chemistry, he thinks, is limited to kitchen stuff, female matter. In all, it is going to take two milleniums for chemistry to be linked to archimedic physics.

**Francis 1st** – But, Leonardo, this chemical lethargy, is it not also due to the fact that Chemistry is disconcerting ? All images of man thus far produced, apart from the odd fingerprints, have been *drawn images*, drawings, paintings, architecture, music, oratorical or poetic words; In brief, builder's tricks, divine builder tricks. And here you are, with your sensitive plates, engendering *printed images, granular images* even, for they would result from Paracelse's grains subjected to the influence of the luminous flux, allowed to enter through a pinhole. As a result, any object can be cropped and recropped at leisure, reaccentuated in thousands of ways, until there no longer is a real object, no more Substance and Accidents, as metaphysicists put it, but a myriad of events in brief apparition. All classical philosophies, classic, plastic, would be at a loss. A new ontology and a new epistemology on the way...



D. Dressler and H. Potter, « Discovering Enzymes », Scientific American Library, 1991, p 130

**Leonardo** – You are quite right : chemistry is disconcerting. And, yet, to tell you the truth, and this I confide in you only, it is exactly what appeals to me most in the act of painting, this Feminine side ; I take such pleasure in teasing her that some of my paintings suffer a premature degrading. It's a fact that Chemistry is so far away from our immediate thoughts that, even when it will have solidified, the Anthropos will willfully ignore its theoretical consequences, instead concentrating on its practical consequences only. Yesterday, when we were talking about the elementary catastrophes, we limited ourselves to *external formations*, *plastic*, of things ; like Jehovah modelling Adam, or Michelangelo modelling Moses. Still, it does not account for what is *inside* the trunk, nor what is *in* a growing tree leaf. << Kant claimed « an eternal Glory » on behalf of Reimarus, who had made a remark on that>>. Only a Chemistry, or Biochemistry, can account for that. Inventing *formations beyond plasticity*, in other words, let's own up the truth: *sequential formations*.

**Francis 1st** – Sequential ? Dear God, where are we ? « But where, in all this, have Plato and our beloved Aristoteles gone too », our friend Villon would say ?



*Pierre Radisic, Waldszenen*

**Leonardo** – Or even : where is the great Democritus ? For he was practically on the verge of a solution. If only he had realized that, among his *atoms*, he was already on to four or five fundamental ones << hydrogen, sulphur, nitrogen, carbon, oxygen >> ; and that these five could have formed a score of *molecules* with the quality both simple and powerful, of possessing a similar particle, by means of which it could attach itself, and a differing particle, by which to differ. << our twenty amino-acids >> ; he would have discovered that these miraculous molecules can bind in « polymer » chains, sometimes quite long ones, capable, through their various sequenciations – gyrating under the influence of their chemical bonds - of generating billions of very different types of terribly big molecules, << Berzelius called them *proteins*, because he considered them of primary importance, *proteios* >>. Sufficient sources, mainly, to support the anatomy and physiology of all living creatures. Therefore, all Life is - as we are aware of - just a matter of *modelling*, of elementary catastrophes, but deepdown, fundamentally, it would be, as we never even dared to imagine, a matter of *sequenciation* and *resequenciation* .<< despised by René Thom, mathematician of elementary catastrophes, because the sequenciating process does not lead to intuition, and only intuition could warrant, from his point of view, ontology and epistemology.>>

**Francis 1st** – Leonardo, you are worse than diabolic, you are evil itself. Because you have just succeeded in dislodging God, to the point of completely erasing him. O Tempter, creation is no longer the business of a Creator painter, sculptor, architect and poet, drawing the world, but *witness* to a sequenciating and resequenciating process, adequately sufficient to bring forth all living creatures, and in a way that He can not foresee. God as an adventurer in an adventurous Universe. << regardless whether or not he is throwing Einstein's dice >>. The Adventure and the Admiration of the unpredictable Singularity would substitute Logos, Reason, as a supreme concept. In the same way in which a musician produces billions of musical compositions from a twenty note piano, twenty molecules « twenty amino acids » with the quality of attaching and differentiating, would create all trees, and even all animal species of my forests. << The musical nature of amino acids is indicated to us by Dressler and Potter, *Discovering Enzymes*, Sc.Am. Library, 1991 >>. And now I really should get some sleep, my head is spinning. I have a quiet corner to retreat to in an attic « my attic », which even Claude de France does not know of. Only my chamberlain.

## THE THIRD EVENING

### 6. The Ways of Writings

**Francis 1st** – This time, I intend to relax, because we have nothing more of importance to decide. The project is luminous, even if it will take some time to achieve, you say centuries even. In the meantime, it would be useful for you to outline the fourth stage of our Genesis, and my assignment maintains. To which you will add a short description explaining the powers of your « photography » in this matter, with an outline of the appliances that you are thinking of. How nice it would be if one day people were to say photography was invented in France ! Such an addition to our museum of machineries, here in Amboise ! Anyway - even if it is a trifle beside the point - I would like you to conclude by a concise lecture on the sequential formations (chemical), that could, as you put it, be the source of all living formations, for it is most capital. Altogether it would make a nice in octavo edition in an Aldus Manutius' fashion. And I would leave behind a token worthy of the *Très riches heures* by the *Duc de Berry*.

**Léonard** – One final comment, your Majesty, contained in one sentence, considering that you have come for the purpose of relaxation only. (A more or less solemn silence). With regards to our Genesis, the *analog photography*, one detail is still lacking : the *faculties of writings* .

**Francis 1st** – Ah, Leonardo, this is so like you, writing and more writing. There are, as you put it, the virtues of writing as writing. And you write in reflected facetypes to prove these faculties as such. No doubt you are right. The reason why the Chinese possess such a versatile intelligence, is, as my Marco Polo descendant informs me, because they have to handle billions of writing characters. The Massoretic Jews derive all sorts of conclusions from the scores of letters a word possesses. And where would Luther's ideas stand, if written in the nakedness of Aldus Manutius' italic facetypes instead of German gothics ? You have often declared, and I believe it to be true, that it is the Greek writing, regular and accomplished, which led them to believe that a text is transparant to the Idea, which in turn is transparant to the Being, to the Being as in Being *to on è on* . A writing inventing Greece ! But what role can be attributed to the written in a photographic Genesis ?



*Coufi's writing*

**Léonard** – Well, your Majesty, a writing is made up of tokens. The billions of characters in written Chinese, were all obtained from just ten or so tokens. Which points to the fact that a token is a most extraordinary thing in the Universe, and it required an Anthropos with its indexing body. The token as such (tractum, tracé, tiré) is empty : opposite, pure index, in other words, unburdened, disindicialised, radically mathematical . You know I like to refer to mathematics as the general theory of indexations, and the most conclusive of all practices of the indexes. What merit can be attributed to our recent indian-arabic cyphers, other than that that they are made up of naked tokens, that make them a perfect instrument for algebra, otherwise impossible in Roman cyphers, or Greek, is it not ? And what a miracle that the token marking zero, which we have rejected for so long, because we were reluctant to the nil, should have turned out to be the stepping stone to algebra ! Indeed, it is because of the tokens of cyphers and figures that mathematics is a writing. Frankly, if I had two or three more years before me, I would dedicate my time to a *painting that conjoins the virtues of the image and of the token*.

**Francis 1st** – You never even considered that, another painting after the Gioconda ?

**Leonardo** – Frankly, yes. By intertwining image and token (written), the painting would combine the catastrophic aspect, analogic and plastic, of living formations, their Mechanics, with their sequential aspects, almost purely digital, owing to their Chemistry. Thus

leading us to the creation of moving pictures that can be read transversally rather than frontally, where each form would be triggering another. Proceeding from token to token, this engendering would stretch to the edges of the frame, not to be interrupted, but to be driven back. As such, it would be an uninterrupted Genesis of living organs, images, cyphers (numbers and words), even musical notes. A generalised Evolution, which I would call the **Ways of Writings**. We would be able to see in it the *Creation of the World*, but even more importantly *The Creation of our Ideas*, open stages, or at times hidden stages, through which the imaginations in our brains make headway and bump into each other, without « our » interaction ; but which on the other hand, make us « us » in as far as we are « us ». All things considered, the idea would be to paint « a cerebral landscape » as much as a lanscape of the world. But chances are that I will not be here next year. It will be up to someone else, male or female, perhaps she who will complete my male Anthropos with roman cross by a female Anthropos in the shape of St Andrew's Cross. << *The Ways of Writings* by Micheline Lo ? >> .



*Micheline Lo*



## 7. Writing photography : digital resources

**Francis 1st** – But what you have in mind here, Leonardo, is a Genesis in painting. Let's return to our photographic Genesis. Which, as you put it, should share some of the faculties characteristic of writing.

**Leonardo** – Quite. *A genetic photography of the genesis no longer analogical but digital.* A photography resorting to the faculties of the *token*. Actually, the principle is quite simple. Photographic prints, as we mentioned before, are made up of chemically sensitive *grains*. The « photographer », to use your own words, is then required to bundle these grains, and is therefore inevitably concerned with the analog rather than writing. But one day, Physics and Chemistry will be able to change all that. And a different type of sensitive grains will be invented, whose reactions to the form, to the colour, to the values, to the saturations etc., will be translatable into a sequence of 0/1 decisions, of *bits* (BInary digiT). Which is why I refer to it as « digital photography ». Furthermore, it will be possible to handle those grains *one by one*. Or even by *mathematically well-defined groups*, by means of *algorithms*. Which would then allow an endless variety of modifications depending on intensities, curve rates, plans, thousands of other cosmogonic inflections each perfectly determinable. Basically, we are referring to algorithms that would, in digital photography, replace the *tokens of writing*. During the Renaissance, the French did not mind creating new words. Allow me therefore to speak of *textic fabrication*, and of a *textic reading* of the photo. In short, *a textic photography*.

**Francis 1st** – In which way would it be of use to our Genesis ?

**Leonardo** – Firstly, this type of photography would enable us to explain certain details about *the formation of things*, and we were on the verge of it while talking about the birth of geometric figures, thanks to my chiaroscuro. Appropriate algorithms could intensify certain transformation groups procreators of the world...

**Francis 1st** – And what else ?

**Leonardo** – They would disclose the *multiform formation of our perceptions*. Indeed, they would emphasize the multiple phases, those successive computerisations, that are necessary for me to be « able to see a bottle filled with water on a table ». From a hazy contrast in an environment ; to the first differentiations, reinforced by the nervous relay system ; followed by recollections of particular shapes and formerly encountered objects, etc.<< Kandel, Hubel, David Marr, Orban, Crick, Koch >>. Forget about the unique vanishing point of our linear perspective system. Forget about fragmentations *ad libitum*. << The refragmentations of analytic cubism ? >>. Instead, we would witness the creation of multiple perspectives, compatible as well as coordinatable.

**Francis 1st** – Do I add two more centuries for the completion of our Genesis project ?

**Leonardo** – No, your Majesty, merely two World Wars. For it is neither Cleopatra's nose, nor Machiavelli's *Prince* that are capital to our History, but the *succession of types of machines*, especially since we are dealing with an angularising and transversalising

Anthropos. Today, we are at a stage of **energy machines**. Watermills. Windmills. Not to mention those miniature steamdriven devices the Greek designed in order to open the doors to the Temples automatically, to the great joy of its faithful followers. All of this will be improved on, enhanced until my models of planes are launched into the great blue sky, and my submarine models into the depths of sea ; to the point where shells will be fired from one city to another. This is what will bring us into the *First World War* . Brutal butchery, leading to sophisticated delicatessen. However, bombshelling a plane or a submarine requires, besides energy machines, **information machines** to adjust cannons capable of pursuing a moving target. Therefore, it will take a *Second World War*, for all these servomechanic devices to be adjusted, in the wake of which digital, analog and hybrid computers will increase their popularity, allowing us all over the world to process *information grains one by one*. Including the information grains of our digital photography. To which appropriate algorithms, without any resistance, will apply. Now do you understand the importance of having a Museum of Machinery here in Amboise ?

**Francis 1st** – And this is what you call *a written photography* ?

**Leonardo** – Grant me one final detour via the mathematicians, some of whom support the idea that mathematics, this empty writing, combining only the writable and demonstrable indexations, build or unveil a **Real** beyond **Reality** (physical, social, psychological). << René Lavendhomme, *Les Lieux du Sujet* (Places of the Subject), Le Seuil, 2001 >>. Well, I would venture to say that the algorithms, indispensable to the digitalisation of photography, would build, and reveal, a *Real* consisting of tokens, a *Real* of *writing*, beneath the swelling *Reality* of analog photography full of significances and unbridled intentions. This « Real » could be exclusively structural. But above all, in my opinion, neurophysiological, indicating how, little by little, in pursuing multiple paths, our sensorial data are being arranged in perceptions, albeit incomplete.

**Francis 1st** – I'm not sure I understand all of your abstractions correctly. But, more precisely, would you attribute the same importance to analog, digital photography and to the *ways of writings* in the course of all four stages of our Genesis ?

**Léonard** – Well, I'll venture a survey (1) **First series**. As far as the general topology, of the initial Tohu Bohu is concerned, with its black wings without the wind, painting is too coarse, whereas photography, especially *digital photography*, would work wonders. (2) **Second series** . On the other hand, in the case of the differential topology of the elementary catastrophes, I am inclined to believe *the ways of writings* to be more appropriate, because it is all about pursuing, coil by coil, bowel or mental movements. But let's not anticipate, and above all let's go on trying. (3) **Third series**. As regards the birth of geometries, *digital photography* would prove perfectly suitable, even to the point of the revolutionarily. (4) **Fourth series** . When we speak of lips, smile, size of a head, I think all of the aforementioned techniques will do, whether photographic or pictural.

**Francis 1st** – And would you say the same workmen that produce plastic art works, paintings or sculptures could make analog or digital photos, as well?

**Leonardo** – I wouldn't want to run ahead of things. As a painter, sculptor and architect myself, I can only say that a digitalising photography would require the specific talents of a **sculptural mind** instead. In our times, he who senses the surfaces of a volume as an expression of inner force pressions, is a sculptor. Just look at the Greek and Michelangelo. And on the

porch of your cathedrals, it would be he who perceives the slightly bulging radiance of its interior. But he could also be, one day, the one who detects the internal cracks (strokes, algorithms, writings) that establish a volume in one or more perceptions. It would be he who, instead of perceiving easily identified objects, will rather sense the constructive or perceptive virtualities that they result from. Not for the purpose of an ideal perception or construction, which anyhow does not exist, but for the purpose of generating sequential, and evolving constructions. << Meaning mainly the *re-presentations* in the neurophysiological sense, similar to the way in which, from ganglions to ganglions, areas to areas, our nervous systems *re-present* their data, as in presenting them again (re) and in a different way (re), sometimes isotopically, at times allotopically, depending on their motor purposes, as J.Z. Young, from 1964 on, insisted, in *A Model of the Brains* .>>

**Francis 1st** – Well, Leonardo, regardless of our efforts, we have nevertheless managed to relax. We are part of a generation of crazily wise men, easily distracted by the extraordinary and the impossible. The generation of Erasmus' *môria*. Of Machiavelli's *Mandragola* , the plant that drives one mad, of the same Greek root as *môria*. We belong to the same generation as the erudited prostitute philosopher of de Rojas' *Celestina* , which will affect our theatre and novels for an entire century. Behold our young generation. Paracelse is in Bâle and Nostradamus in Salon-de-Provence.

**Henri Van Lier**