“Painting is dead - long live painting”: Notes on Dalí and Leonardo

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A hilarious drawing in the opening pages of Salvador Dalí’s 1948 book *50 Secrets of Magic Craftsmanship* portrays him naked astride the mighty battle horse of craftsmanship about to make his triumphal return to post-war Europe. The image is a flamboyant pastiche of Leonardo da Vinci’s studies for an equestrian monument of Francesco Sforza, a gigantic statue he never executed that was to have been three times life-size and cast in some sixty tons of bronze. Leonardo himself must have seemed to Dalí a no-less-sturdy bulwark in the quixotic crusade he launched to rescue painting from the mire into which he feared it had sunk. In reality, Dalí’s ambition to bring about a renaissance of painting was in jeopardy from the start, undermined in advance by a seemingly trifling gesture - Marcel Duchamp’s 1919 defacement of a postcard of the *Mona Lisa* - that nonetheless spelled the end of painting as an activity whose cultural value had persisted unquestioned until the early years of the twentieth century, with Leonardo one of its highest pinnacles. Of his belatedness in relation to that history of art, Dalí was acutely and painfully aware.

While it was still unfinished, Dalí took the quite unusual step of exhibiting his painting *Leda Atomica* at the Bignou Gallery, New York, from November 25, 1947 to January 3, 1948 (fig. 1). He justified the exhibition of a work in an unfinished state on the grounds that it allowed the study of his painting technique more readily than would the finished picture. As the publication of his book *50 Secrets of Magic Craftsmanship* soon afterward confirmed, technical mastery had become a number one priority for Dalí. In his notes for the Bignou catalogue, he remarks:

I can give no assurance that my “Leda” - where everything gravitates in space - will be a real masterpiece. In the period of frightful mechanical progress and spiritual decadence in which we are living, this seems impossible to me. But I can guarantee this picture will be a masterpiece in the work of Dalí.

While the statement betrays an anxiety about the possibility any longer of painting a real masterpiece, it leaves one in no doubt as to the importance Dalí attached to this particular work. That he chose a theme that conjures up an indisputably real though now lost masterpiece by Leonardo, his *Leda with the Swan*, proves to be no coincidence. *Leda Atomica* is a manifesto picture and a watershed that marks more clearly than any other in his oeuvre the point of transition to late Dalí, a still contentious and not fully understood entity. Merging the classical tradition of the Renaissance with the most up-to-date science he could lay his hands on, in an anachronistic compound that he called nuclear mysticism, is not the least important respect in which Dalí is indebted to Leonardo’s example.
In Dalí’s extensive and well-thumbed collection of books on Leonardo, is a copy of the Péladan French translation of Leonardo’s *Trattato della pittura* (*Traité de la peinture*)⁴ A sinuous blue pencil line running down the left margin, scarcely omitting a passage in many sections of the book, tracks Dalí’s attentive reading of this critically important textual source and testifies to an unsuspected interlacing of two artistic personalities. Dalí listens in as Leonardo advises on the nobility of painting and the learning in all the branches of knowledge it demands. When it reaches the famous passage about seeking inspiration from stains on walls, his pencil reacts like a seismograph excitedly screeching up and down, before moving on.⁵ Once assimilated, the *Tratatto della pittura* re-emerges as inimitably Dalí in *50 Secrets of Magical Craftsmanship*.⁶ Written in the manner of a handbook for painters, this book is a counterpart to *Leda Atomica* which is illustrated within its pages along with two studies for the painting. It is not difficult to grasp the legitimacy that Leonardo could lend to Dalí’s enterprise. The *paragone*, the first section of the posthumously arranged notes that comprise the *Tratatto della pittura*, argues compellingly


**Painting is dead - long live painting!**³
for the superiority of painting to all the other arts, exhaustively pre-empting every conceivable objection. But Dalí’s eccentric book mixes spoof with honest emulation in a way that distances Leonardo at the same time as it recalls him. *50 Secrets of Magic Craftsmanship* is couched in the form of advice to young painters, a rhetorical conceit Dalí borrows from Leonardo, though the secrets he divulges are often patently nonsensical. There is a strong sense in Dalí that the second time can only be irony or farce. Dalí’s misfortune, though not his alone, was to be a painter - and the *50 Secrets of Magic Craftsmanship* shows that he was passionate about the craft of painting - after the end of painting.

In an essay entitled “The Death or Decline of Art” (1985), Gianni Vattimo considers the death of art under three aspects.

Hegel’s prediction of art’s sublation by philosophy is realized, he says, albeit in caricatured form, in modernity. Vattimo speaks first of art’s obsolescence at the hands of the mass media. Walter Benjamin had earlier described the withering away of the auratic qualities of art in the age of its technical reproducibility. The aura, originally a function of the cultic value of art works within a fabric of religious belief and ritual, came to be associated in the era of autonomous bourgeois art with the uniqueness of the original work of art. (Its corollary, seen from the artist’s point of view, Vattimo observes, is the idea of genius.) The generalization of art in the mass media as entertainment is one of the forms of art’s death; a second is the avant-garde ambition to bring about a utopian reintegration of art into life; and a third is the path of high modernism, which sets an ever more restricted programme for art as a reaction to the perceived insidious encroachments of mass culture or kitsch. The last-mentioned, in which authentic art paints itself into a corner - Adorno and Greenberg offer versions of this modernist doctrine - is a form of death by suicide. Vattimo states that the actual event of art’s death, that ought to coincide with a complete cessation of art production, is indefinitely postponed, hence one should more accurately speak of the *decline* of art. This situation, in which art continues to be produced while contemplating its own death, he contends, ‘constitutes the historical and ontological constellation in which we move.’

Late Dalí, I believe, evolved in a paradoxical relation of avowal/disavowal to the death or decline of art, as defined by Vattimo. Abandoning the revolutionary aspirations of the historical avant-garde - he declared surrealism over - and suspicious of autonomous abstraction, Dalí set himself an alternative programme: ‘Instead of Reaction, or Revolution, RENAISSANCE!’ The goal of restoring painting to the status it once had would occupy him for the next decade or more. One of the symptoms of the death of art identified by Vattimo is that “the work no longer seeks a success which would permit it to position itself within a determinate set of values (the imaginary museum of objects possessed of aesthetic value).” The absence of any shared and agreed-upon aesthetic criteria in relation to which artworks are judged is a crisis that the Duchamp readymade reflects upon and also exacerbates. The readymade object becomes a work of art simply by virtue of being designated as such by the artist.
Dalí tried to fill the resultant vacuum by placing a renewed emphasis on traditional painting skills, a rearguard effort that shares much in common with the stance of Giorgio de Chirico, the former surrealist idol who, to the dismay of André Breton, reverted in the 1920s to making pastiches of the Old Masters. Dalí’s vitriolic diatribes against modern art in such tracts as Les Cocus du vieil art moderne (The Cuckolds of Antiquated Modern Art; 1956) echo very similar pronouncements by de Chirico blaming the decadence of contemporary painting on a decline of technical competence. While purporting to deplore our ‘era of frightful mechanical progress and spiritual decadence’, in Dalí’s words, it is striking that the practice of both artists was marked by the very conditions of reproducibility held responsible for the decay of art’s aura. There is not space here to examine the myriad ways in which Dalí’s painting was infiltrated by photographic technologies and associated modes of perception, but like de Chirico’s practice of copying, which only gathered pace in the 1920s, it registered the very conditions that his reversion to a traditional painterly craft supposedly was reacting against. Thus the death of painting was recognized at the same time as it was strenuously denied.

Putting a psychoanalytic slant on the matter, Yve-Alain Bois, in his essay ‘Painting: The Task of Mourning,’ argues that the task of mourning the death of painting that one might more naturally associate with postmodernism also fell to modernism at the beginning of the twentieth-century. The end of modern art is foretold in its birth. The origins of modernist abstraction can be located in the liberation from mimesis brought about by the invention of photography, with which it is historically co-terminus. At the same time, the crisis of art in industrial modernity brought about by the appearance of photography, and of mass reproduction, was understood as signaling the end of art. In a remark that underscores the unavoidable centrality of Duchamp to this rhetoric of the ‘end’, Bois states, ‘Mass production seemed to bode the end of painting through its most elaborate mise-en-scène, the invention of the readymade.’ These same conditions also engender, by way of reaction, ‘the essentialist urge of modernist [abstract] painting’ - to which, of course, Dalí was inveterately opposed. Although it would be foolhardy to apply any diagnostic label to Dalí, his response to what he understood as the decline of art bears many of the hallmarks of a manic defense, such as Bois discerns in appropriation art, more so than of mourning. Mania is a defensive operation equivalent to denial; its behavioral correlates are over-activity, triumphalism, and oral cannibalism. Aside from such traits, all of which Dalí exhibits in abundance, mania is also evident in his trademark humor. The absence of an overtly melancholic tone would thus be a red herring that ought not to prevent us from recognizing its underlying causes.

leonardo complex

Dalí’s Leonardo infatuation (earnest, un-ironic) began early, with an essay on ‘The Great Masters of Painting: Leonardo da Vinci’ written in 1919 for the journal Studium produced by Dalí and his
Catalan friends. Leonardo afforded an inexhaustible resource from which Dalí drew in distinct ways at various moments throughout his career, but most intensively when he embarked on a neo-traditional return to painting. It is not my intention to compile here an inventory of the many Leonardo references in Dalí. Rather, by analyzing his multi-faceted engagement with Leonardo during the transitional period of the 1940s and early 1950s, I hope to arrive at a better understanding of late Dalí.

My special intention had been to create a purely morphological drawing of the genius of psychoanalysis.

Of all the writings of Sigmund Freud, his foray into the life of the great Renaissance artist, Leonardo da Vinci: A Memory of His Childhood, was one the surrealists cherished most after its French translation by Marie Bonaparte in 1927. This psychoanalytic novel, as Freud called it, admitting the role of fantasy in its construction, was also one of his personal favorites. Prominent in the case study is what Freud identifies as the “double nature” of Leonardo as an artist and scientific investigator. (Freud was no less anxious to demonstrate the double nature of psychoanalysis as a science but one with special insights on art and culture.) The essay is also a sustained meditation on the nature of genius, though whether the referent of that discussion is always Leonardo, and not on occasion Freud himself, is not clear. Freud’s Leonardo mediates what I shall be calling here Dalí’s Leonardo complex.

Fig. 2: Salvador Dalí. Original drawing for The Secret Life of Salvador Dalí (New York, 1942), 24.

Dalí was already thoroughly apprised of Freud’s Leonardo case study when he produced a portrait drawing for his 1942 autobiography, The Secret Life of Salvador Dalí, to accompany the account of his visit to Freud in London in July 1938 (fig. 2). A number of features of this heavily
citational drawing are reminiscent of Leonardo: the combination of multiple variant images on a single sheet, for example, is highly typical, a manifestation of Leonardo’s restless intellect that was never satisfied with just one solution. Dali said of his meeting with Freud that he had wanted to appear a “kind of dandy of ‘universal intellectualism’” (like Leonardo) but learned later that the impression he created was exactly the opposite. The grimacing profile portrait repeated three times at the left of the sheet exacts his revenge, recalling the pitiless caricatures in which Leonardo poked fun at the ravages of old age (Freud was indeed on the eve of his death at the time of Dali’s visit). Another signature trait is the inclusion of notation on the sheet, in this case explaining that the drawing represents the morphology of Freud’s cranium according to the principle of the volute and of a snail. The adjoining text in The Secret Life compares Freud’s brain with that of Leonardo, which Dali says is like a walnut. The spiral or vortex is moreover a nearly ubiquitous leitmotif in Leonardo’s art. By so deliberately and self-consciously depicting Freud in the manner of Leonardo, Dali alluded in 1942 to a complex set of psychic investments in Leonardo and a play of identifications in which he too participated.

It is as a result of his reading of the Leonardo case study that Dali was led to equate painting as such with a maternal imago, a compound he termed the Mother as Work of Art. This is legitimated by Freud’s account of the Mona Lisa, whose sitter, the Florentine Mona Lisa del Giocondo, he claimed reactivated in Leonardo forgotten memories of his own mother. The creation of this most beautiful work of art was thus the recreation of the blissful experience of an infant suckling at the mother’s breast, the conclusive evidence of which he found in the enigmatic smile that Leonardo conferred not only upon the Mona Lisa herself but on all his subsequent creations, including the Madonna and Child with Saint Anne, where he, so to speak, gave back the smile to its rightful owner:

For if the Giaconda’s smile called up in his mind the memory of his mother, it is easy to understand how it drove him at once to create a glorification of motherhood, and to give back to his mother the smile he had found in the noble lady.

Sidestepping the Mona Lisa, perhaps because it was already thoroughly colonized as a site of avant-garde gambits, Dali chose instead to stage the rebirth of painting around an absent origin. Leonardo’s painting of Leda and the Swan, a subject that occupied its creator for almost a decade, is known only from pen-and-ink studies for the painting and from several variant copies, of which the Wilton House version attributed to Cesare da Sesto is believed to be the most accurate. In 1516 Leonardo took the completed picture with him to France, where it was housed in François I’s Appartements des Bains at Fontainebleau in conditions that caused the panel to deteriorate, and it was lost in the course of the next century. By an extraordinary coincidence, Dali was forced to abandon a first version of Leda Atomica after the wood panel on which it was painted was subject to extensive fine cracking of the surface, in effect suffering the fate of the lost
Leonardo original. He repainted the work on canvas, and although it would appear to have been largely finished when it was first exhibited at the end of 1947, an entry in Dalí’s Diary of a Genius for September 2, 1958, indicates that it underwent some repainting at that time. It must be said that Dalí’s composition does not conform at all closely to Leonardo’s, yet any doubts about a rapport between the works is dispelled by a later picture by Dalí of 1954, whose longwinded title infers that Leda as portrayed by Leonardo was physically reconstituted in Gala’s DNA. The idea of a repetition without an origin that we find here is a familiar enough topos within Dalí’s oeuvre that inevitably tinges the repeated instance with connotations of lack and belatedness as well as inauthenticity. It is a pattern that applied with some poignancy to the artist himself. The story is well known that an older brother also called Salvador died just over a year before Dalí was born, causing him to believe throughout his life that he was a surrogate for this lost original. Viewed from Dalí’s post-Freudian perspective, the myth of Leda and the Swan (in which Zeus, disguised as a swan, impregnates the object of his desire) represents a primal scene of parental intercourse in which Leda is invested with maternal associations as the original, now-lost object of desire - Freud, in his only passing reference to Leonardo’s Leda, sees in her yet another avatar of the enigmatic mother’s smile. Conflated with painting as such, Leda Atomica is the occasion for a restaging of this scene with Leda-painting now magically reincarnated in, and personified by, Gala. Dalí’s desire for Leda-painting, transferred onto Gala, consequently has the structure of human desire in general, in which, to quote Freud, ‘the final object of the sexual instinct is never any longer the original object but only a surrogate for it.’

He also had been such a vulture child - he had had a mother, but no father.

It was while Dalí was residing in the United States in the 1940s, far from home, that he began to conceive of a biblical pageant set against the backdrop of Port Lligat in which he and Gala would both have their parts to play. The theme of the Madonna of Port Lligat that culminates in two versions of Gala portrayed as the mother of Christ in 1949 and 1950 first makes an appearance in a pen-and-ink drawing reproduced as a frontispiece to 50 Secrets of Magic Craftsmanship. That the burgeoning of this religious iconography overlapped with the painting of Leda Atomica created conditions that were ripe for cross-fertilisation between the two subjects.

Dalí’s self-aggrandizing tendency to dramatize his relationship with Gala in terms of the biblical narrative points to a crucial parallel with Freud’s Leonardo. Owing to the peculiar circumstance that as an illegitimate child he, so to speak, ‘had had a mother but no father’, Freud contended that for Leonardo the question of his own origin was a riddle for which the Immaculate Conception of Christ held a solution. Leonardo identified himself with the Christ Child and his mother with the Virgin Mary, which Freud saw reflected in the artist’s later life in his treatment of biblical subjects. Leonardo’s vulture fantasy - a memory of a bird coming down and waving its tail
about in his mouth when he was an infant in the cradle - is adduced by Freud in support of this interpretation. In a lengthy excursus through mythology, we are told that the Egyptians believed that only female vultures existed. Freud cites an ancient authority who recorded that ‘at certain times these birds pause in mid-flight, open their vagina and are impregnated by the wind.’29 That vultures were thought to be able to reproduce in this fashion was later cited by the church fathers in support of the doctrine of the Immaculate Conception. Freud supposed that Leonardo knew of this theological line of argument, thus enabling the vulture to act as a symbolic substitute for his mother in the screen memory that arose in adult life and was projected back to his early childhood. In support of this reasoning, one of Freud’s followers, the Reverend Oscar Pfister, discovered the hidden outline of a vulture in Leonardo’s picture of the Virgin and Child with Saint Anne, an unconscious picture puzzle by Leonardo that Freud reports, albeit with a degree of skepticism, in the published case study.

There is no doubting that Dalí appreciated all the intricacies of Freud’s argument. He refers to the essay in an article for the surrealist journal Minotaure in 1933 that sets forth plans for a book-length interpretation of Jean-François Millet’s Angélus, and the eventual study has a knowing, parodic relation to the methodology of Freud’s text.30 Some time later, in an essay written in 1939, Dali suffered a curious but explicable (Freudian) lapse in misattributing the hidden vulture to the Virgin of the Rocks:

Sigmund Freud, in analyzing the famous invisible vulture (which appears in that strangest of all pictures, Leonardo’s Virgin of the Rocks), involuntarily laid the epistemological and philosophical cornerstone of the majestic edifice of imminent ‘paranoiac painting’.31

This mistake may simply reflect Dalí’s preference for a composition that in placing the Virgin and Child in an outdoor setting can be regarded as a prototype for his Madonna of Port Lligat. The background of the Virgin and the Rocks is a veritable geological delirium, one destined to appeal to his sensibilities; it may have recalled the strange rock formations in the vicinity of Port Lligat that were a longstanding source of inspiration. The rocky outcrops that frame Leda on either side of a cove in Dalí’s painting are relatively restrained by comparison, yet their carefully delineated forms dimly echo this strangest of all Leonardo’s pictures. In the pages of 50 Secrets of Magic Craftsmanship, Dalí tells of a book he is writing that is to be called The Geomorphology of Painting, showing that the subject was one he was actively thinking about (a marginal note amends this to the even more evocative term ‘geomorphopsychology’).32

Leda Atomica is a staging post in the makeover of Gala as the Madonna of Port Lligat - her passage from bride to Virgin, so to speak - and is therefore also the prelude to a later series of works by Dalí on the theme of the Assumption of the Virgin. A detail of the Leonardo case that chimes with the weightless suspension of Gala is the description of the mythic vulture pausing to conceive in mid-flight. The theme of the Immaculate Conception, so prominent in Freud’s
interpretation, also accords with a possible reading of *Leda Atomica* as a veiled Annunciation, itself the subject of an early picture by Leonardo. In this hypothetical scenario, the swan with outspread wings would be equivalent to the archangel Gabriel, announcing possibly the miraculous rebirth of painting. No swansong then.

The hierarchized libidinous emotion, suspended and as though hanging in mid-air.

*Noli me tangere*: If pictures had subtitles, I can imagine the Gala of *Leda Atomica* uttering these words, spoken by Christ in his appearance to Mary Magdalen before his ascent to heaven. *Leda Atomica* is a picture in which nothing touches upon anything else: neither the sea, the sand, nor the rocky outcrops, the sea - above all, not Gala, who hovers over a pedestal resplendent in her nakedness but untouched even by the swan. Running counter to the usual treatment of a theme in which flesh and feathers frantically entwine, Dalí’s is a purely ideal union of Leda and the swan. Although their contours overlap at the point of Gala’s left ear, they do not make contact. This unorthodox visualisation of a stock mythological subject was made possible for Dalí when he learnt that at the atomic level particles do not touch. Here, as elsewhere, a fairly banal fact gleaned from popular science books became in Dalí’s hands a recipe for bizarre, not to say surreal, effects.

Following for a moment his errant logic, which recalls the ratiocination of the church fathers on the matter of the Virgin birth, one could say that modern physics proved once and for all Gala’s virginal chasteness - a ramification of atomic theory that not even Einstein had foreseen! The stark lighting and hard-edged photorealism distinguish Dalí’s treatment from the blurred, indeterminate contours that cloak Leonardo’s subjects with a more elusive intangibility. Another notable difference is the absence of any visible offspring in Dalí’s painting. A broken eggshell hovering in the foreground casts a perfectly elliptical shadow, as if to imply that the only progeny of this immaculate conception is abstract geometry. An unidentified book with a red cover inscribed with an ovoid form also floats tantalizingly out of reach in near proximity. Dalí attested that ‘Leonardo always tended to produce eggs, which were the most perfect form, according to Euclid.’

If physics supplies one explanation as to how Gala manages to stay aloft, the sublimation of libidinal energy also contributes its propulsive force. In the Leonardo case, Freud remarked that ‘we cannot imagine the mental life of any human being in the formation of which sexual desire in the broadest sense - libido - did not have its share, even if that desire has departed far from its original aim, or has refrained from putting itself into effect.’ The notion of sublimation pertains to the capacity of the libido to replace an immediate sexual aim with other aims that are culturally valued more highly. Freud accounts in this manner for Leonardo’s exalted artistic and scientific accomplishments. The theory of sublimation demands that Leonardo be stunted in his sexual life in order that there be surplus energy left over to fuel an overpowering instinct for
research. Freud concludes, too hastily possibly, that ‘Leonardo was enabled to live in abstinence and to give the impression of being an asexual human being’ (a claim that is belied by the scant biographical information Freud adduces). Sublimation is a theoretical concept, but it is also a metaphor and is linked with recurring motifs of flight and ascent in the Leonardo essay. ‘But why do so many people dream of being able to fly?’ Freud asks.

There is no doubting that Dalí was thoroughly cognizant of the psychoanalytic notion of sublimation as it relates to cultural, and especially artistic, production. Recalling that Freud was occupied with the problem of religion and Moses when he visited him in July 1938, Dalí observed, 'and I remember with what fervor he uttered the word “sublimation” on several occasions.' The meeting with Freud certainly made a huge impression on Dalí and can be taken as marking something of a watershed in his views about painting. A remark that Freud evidently made in response to Dalí’s *The Metamorphosis of Narcissus* (1937), which he had taken with him on his pilgrimage, convinced Dalí that the surrealist project of representing the unconscious was untenable (this is corroborated by the letter that Freud wrote the following day to Stefan Zweig). It was tantamount, in Dalí’s view, ‘to the pronouncement of a death sentence on surrealism as a doctrine, as a sect, as an “ism”’. This event does appear to have presaged a shift from the de-sublimatory drive that predominated in Dalí’s surrealist phase to a new aesthetic predicated on sublimation that finds its quintessential expression in the strangely hovering figure of Gala in *Leda Atomica*. On the final page of *The Secret Life*, immediately after the account of his meeting with Freud, Dalí rousingly declares, ‘One must sublimate!’ - while the *50 Secrets of Magic Craftsmanship* reiterates in conformity with a Freudian orthodoxy that sublimation is ‘the constitutional basis of the artistic phenomenon.’ When Dalí speaks of the libidinous emotion being *suspended*, we can understand this in the sense of an upward thrust that cancels out gravity but also as a postponement of sensual gratification. 'It is doubtful whether Leonardo ever embraced a woman in passion', speculates Freud at one point in his analysis; this too concurs with what has been reported of Dalí’s phobic avoidance of actual physical contact. Freud inferred that the separation of male and female was overcome in Leonardo’s representations of androgynous youths - Saint John the Baptist, for example - which he suggests are the realization on an ideal, sublimated plane of an incestuous wish for a blissful union with the mother. Gala’s alternation between wife and mother inclines one to think that Dalí extended this reading of an incestuous union to the myth of Leda, which somewhat curiously (given that the screen memory underpinning his entire analysis concerns a bird consorting with a human being) occupies only a very minor place in Freud’s study. If, as Dalí maintained, sublimation is the necessary corollary of a classical aesthetic, its essential propulsive force as it were, the ludicrous explanation he gives of it and the very odd way he pictures it, points in the direction of a parody that threatens to bring down what is ostensibly being elevated and revered. Gala-Leda may be the sublime incarnation of painting, but the subversive drag of Dalí’s comic sense pulls the rug from beneath
her feet.46

**sacred geometry**

Enter, at this juncture in Dalí’s booming American career, Matila Ghyka, a Romanian expatriate and renowned devotee of the golden section. Ghyka had the title of prince, which doubtless commended him to Dalí’s attention when they met at a dinner party, just as he was at work on *Leda Atomica* and in the process of writing *50 Secrets of Magic Craftsmanship*.47 In a letter to Dalí dated August 13 (probably in 1947), Ghyka wrote that he was glad to hear Dalí had received the French edition of his book and to learn that he had a part in the composition of the *Leda Atomica*. ‘I await the tracing of the latter with the keenest interest,’ he added.48

Fig. 3: Jacopo de Barbari. *Portrait of Fra Luca Pacioli with a Young Man*. 1495. Oil on panel. Museo e Gallerie Nazionale di Capodimonte, Naples.

By means of his newfound acquaintance with Ghyka, Dalí learned about a side of Leonardo - namely his mathematical pursuits - that he would not have fully grasped without Ghyka’s expert tutelage. Leonardo had long regarded optics and the study of perspective and proportion as the necessary foundations for a science of painting. With the arrival of Luca Pacioli in Milan in 1496 (fig. 3), his mathematical studies gained new impetus. The illustrations that Leonardo created for Pacioli’s *De divina proportione*, a treatise on geometry written in manuscript form in 1498, are regarded as an astonishing feat of draftsmanship.49 With the aid of wooden models, Leonardo devised hollowed-out (*vacuus*) representations of an array of regular polyhedrons conventionally known as Platonic solids that he depicted in perspective, the open
skeletal armature affording a startlingly direct apprehension of complex three-dimensional geometry (fig. 4). The Leonardo illustrations accompanied an Italian translation of Piero della Francesca’s treatise on geometry, *Libellus de Quinque Corporibus Regularibus*, which was included as one of the sections in *De divina proportione* (Pacioli reputedly played the role of an intermediary, transmitting Piero’s theories on perspective to Leonardo). Inspired by Pacioli, from 1497 Leonardo was motivated to undertake an independent study of Euclid’s *Elements*. So absorbed did he become in the pursuit of mathematics for its own sake that a letter by a contemporary in 1501 reports that he could not even bear to pick up a paintbrush. The preeminence of the exact sciences of geometry and mathematics in establishing the incorruptible foundations of painting is a message reiterated throughout the *Trattato della pittura*, from the famous proclamation in the opening section that ‘no activity shall merit the name of science unless it rests upon mathematical proof’ to the individual chapters dealing with linear perspective and proportion, the correct depiction of shadows and lighting, and other constituents of a science of painting.

Fig. 4: Icosahedron and Dodecahedron drawn by Leonardo da Vinci for *De Divina Proportione* of Fra Luca Pacioli. From Matila Ghyka, *Le Nombre d’or: rites et rythmes pythagoriciennes dans le developpement de la civilisation occidentale* (Paris: Gallimard, 1931), plate VII.

For a time, Ghyka played Pacioli to Dalí’s Leonardo, proferring advice to his eager pupil on matters of geometry and proportion. Dalí’s personal library included two books by Ghyka, one an American edition, *The Geometry of Art and Life* (1946), and the other an earlier French-language publication, *Esthétique des proportions dans la nature et dans les arts* (The Aesthetic of
Proportions in Nature and in the Arts; 1927).\textsuperscript{50} From the previously cited letter, it would seem that they were given to him by the author around the time of their first meeting, and both have extensive annotations by Dalí. The final chapter of \textit{50 Secrets of Magic Craftsmanship} contains a proficient if not altogether serious digest of Ghyka. The Platonic solids - tetrahedron, cube, octahedron, dodecahedron, and icosahedron - these new playthings of Dalí’s imagination are strewn like toys in the margins of the book, their Latinate names flaunted like the mantras of an esoteric religion. Dalí recommended to students that they have a joiner build portable geometric figures out of wooden strips, similar to the structures employed by Leonardo but large enough so that live models could be posed within them.

Also reproduced in \textit{50 Secrets of Magic Craftsmanship} are two drawings relating to \textit{Leda Atomica}, together with a photograph of the unfinished painting. The drawings contain too much surplus information to be regarded simply as working studies for the painting, tending to suggest that their purpose was a didactic one, with the book their intended destination. Both incorporate Leonardesque elements. One of the images, drawn on tracing paper, is an ostentatious display of Dalí’s mastery of perspective and the oblique geometric projection of shadows, technical skills that defined the Renaissance ‘science’ of painting.\textsuperscript{51} The background on either side of this drawing is filled with shapes and figures, none of which appear in the painting and which seem to have coalesced from thin air. An equestrian figure and a curious domed building, overt pastiches of Leonardo, perhaps were meant to convey the message that a painter must also be capable of invention and fantasy. The second drawing, recalling Leonardo’s famous drawing of a Vitruvian man, shows the finished composition for \textit{Leda Atomica} upon which is superimposed a pentagon inscribed within a circle. This was almost certainly done post facto,\textsuperscript{52} its purpose to underscore the role of mathematical geometry in the pictorial construction. At the bottom right of the sheet is a formula relating the radius of a circle to the side of a pentagon contained within it, an example of a golden section ratio. One has a sneaking suspicion that Dalí may not have understood this equation, which he copied out verbatim from Ghyka’s \textit{Geometry of Art and Life}, which suggests there was a degree of bluff in his claim that mathematical competence is a necessary requisite to the painter’s art. A geometer’s set square occupies the equivalent position in the painted version of \textit{Leda Atomica}, repeating the same message loud and clear.

\textbf{Morphology [...] has in this book just married with royal pomp the most lucid aesthetic geometry of the Renaissance.}\textsuperscript{53}

It ought to be noted that a concern for geometric rigor was not altogether unheralded in Dalí’s work. The rigid application of a priori geometry recalls the use of so-called \textit{trace régulateurs}, geometric coordinates that govern the placement of objects in Purist still-life compositions by Le Corbusier and Amédée Ozenfant, in whose work Dalí evinced a lively interest in the early 1920s prior to his contact with surrealism. His marked animus toward Le Corbusier in his later period, a
knee-jerk response by a one-time surrealist, ought not to obscure the fact that *Intra-Atomic Equilibrium of a Swan Feather* of 1947, and other works of similar ilk, hark back to much earlier interests in geometric pictorial construction. A renewed passion for geometry inspired by Ghyka also married up with Dalí’s longer-standing studies of morphology. During the 1930s he avidly read such classics as Édouard Monod-Herzen’s *Principes de morphologie générale* (Principles of Morphology; 1927) and D’Arcy Wentworth Thompson’s *On Growth and Form* (1919), along with other, lesser-known sources. These authors collated the results of scientific studies of morphology in such fields as mathematics, physics, engineering, and biology, presenting them in a form that was palatable for the non-specialist. Ironically, one of the main audiences for this literature, which aimed to reveal the hidden order of nature, was the very abstract artists whom Dalí now purported to despise.

![Figure 5: Logarithmic spiral. From Matila Ghyka, *The Geometry of Art and Life* (New York: Sheed and Ward, 1946).](image)

Ghyka acknowledged that his own project was indebted to Theodore Cook’s *The Curves of Life* (1914), an exhaustive compendium of spirals of all conceivable kinds in nature and art that makes frequent reference to the ubiquity of spirals and vortices in the work of Leonardo. The spiral, a geometric form that results from patterns of growth (Cook regarded it as literally synonymous with life), assumes a particular form known as a logarithmic spiral in shells like the nautilus, where the intervals between successive turns of the spiral increase progressively rather than staying constant (fig. 5). Termed a $\phi$ progression by Cook, the mathematical series formed by these intervals has properties that relate it to the golden section. Ghyka states that it was as a result of reading *The Curves of Life* that he was led to reexamine Luca Pacioli’s *De divina proportione* and came to the realization that the divine proportion of Pacioli was none other than the $\phi$ ratio as defined by Cook.\(^{54}\) Dalí’s analysis of Freud’s brain in terms of the spiral of a snail shell, referred to earlier, shows that he was already apprised of this literature even before his encounter with Ghyka, and it is apparent from his informed discussion of logarithmic spirals in 50
Secrets of Magic Craftsmanship that he read Ghyka not in isolation, but hand in hand with these other authors. Dalí reported that his obsession with radiolaria, and also sea urchins, arose from the discovery that the skeletal structures that support these minuscule marine organisms comprise regular Platonic solids. Monod-Herzen illustrates radiolaria in which the delicate exoskeleton recapitulates on a microscopic scale the hollow skeletal models that Leonardo, totally unaware of their existence, had created for Pacioli. In general terms, the aim of popular scientific writers on morphology was to draw out commonalities of form and structure in order to illustrate basic principles in the natural world, as in art. It is clear from the body of works that Dalí produced in the mid-1930s, sometimes known as morphological echoes, that exposure to the literature on morphology sharpened his eye for detecting unexpected resemblances between forms, and that this propensity represents one of the most convincing points of convergence between Dalí and Leonardo. On this score, they were like birds of a feather.

The golden section, [...] called the *divina proportione* by Luca Pacioli in his memorable book, the most important of all aesthetic treatises.

Can we assume that Dalí had firsthand knowledge of a treatise on which he bestowed such lavish praise, or was he simply name-dropping on the basis of rudiments picked up from Ghyka? His tongue-in-cheek advice to young American artists in the *50 Secrets of Magic Craftsmanship* that they keep Pacioli’s book at their bedside is certainly preposterous, since there was (and still is) no English translation. Nevertheless, the number and variety of figures from this treatise that Dalí sprinkled throughout the pages of this book exceeds those reproduced by Ghyka. Additional evidence that he had access to the original source is the adoption of a system of lettering invented by Pacioli, which he expounds in a section of *De divina proportione*, for Dalí’s name as printed on the cover and title page of *50 Secrets of Magic Craftsmanship*. This lettering first appears in association with Dalí in 1941 on the cover of the catalogue for an exhibition of his works at the Julien Levy Gallery, New York, raising the possibility that he was acquainted already with Pacioli at that time. Had Dalí consulted *De divina proportione* independently of Ghyka, as seems likely, he may have been aware of the theological significance that Pacioli (unlike Euclid, who described the same ratio) ascribed to the divine proportion. Its attributes are those that belong to God himself. The first of these is unity, and the second relates the ratio to the Holy Trinity: ‘Just as in God a single substance resides in three people - Father, Son, and Holy Spirit - in the same manner it follows that a single ratio or proportion is always found between three terms.’ A third property is the ineffable nature of the divine: ‘Our proportion cannot be determined by a number that one can know, nor express by any rational quantity, but is always mysterious and secret, and qualified by mathematicians as irrational.’ Pacioli also supplied a number of other reasons in favour of the proportion’s divinity, but for Dalí, the former exponent of concrete irrationality, the last-mentioned would have been of no little interest.
The appeal of geometry for Dalí at that moment seems not unconnected with his quest for a rather oddball synthesis of science and spirituality. In an appendix to the French edition of his book *Ésthétique des proportions dans la nature et dans les arts*, Ghyka carried his geometrical analyses of the Platonic solids into the fourth dimension - an ever-popular refuge for artists and others of a mystical or anti-materialist persuasion, from the *fin de siècle* to more recent times. Ghyka had an established following in these fringy circles, but this section also caught the eye of Dalí, who in the 1950s militantly denounced ‘sordid’ materialism. Ghyka supplied a table illustrating various bodies, including the four-dimensional projection of a cube, a so-called hypercube, upon which Dalí overdrew in his copy of the book a miniature homunculus in a crucifixion pose, possibly the first sketch of an idea for *Crucifixion (Corpus Hypercubicus)* of 1953-54.60

Dalí’s boldest attempt to imbue geometry with attributes of the sacred, however, occurred in *The Sacrament of the Last Supper* of 1955, an ambitious painting that overtly references the famous Leonardo masterpiece.61 The subject of Dalí’s picture is not the Last Supper, however, but rather the sacrament of Holy Communion accompanied by a mystical apparition of Christ who he depicts in the upper section of the painting. Dalí carried over many of the features of Leonardo’s composition such that his own image is set in dialogue with the biblical event that the communion symbolically re-enacts. The long horizontal table and symmetrical disposition of figures is retained, with Christ positioned at the apex of a pyramid formed by strongly accented lines of visual recession. Not least among the reasons for his interest in this particular work, we may conjecture, is that the *Last Supper*, painted around 1495–97, coincided precisely with the period of Leonardo’s closest collaboration with Pacioli, when he produced the geometric figures for *De divina proportione*. An overriding interest in mathematical geometry, evident in the very rigorous application of single-point perspective, is also underscored by a study for the *Last Supper* that Dalí would have known in which a geometrical drawing of an octagon appears in the lower section of the sheet. Whether or not Leonardo ever applied the golden section in this or any other of his compositions, it certainly would have suited Ghyka’s purposes to claim that he did. In *The Geometry of Art and Life*, one of several extant copies of Leonardo’s *Leda* is subjected to a highly elaborate geometric analysis with the aim of imputing to Leonardo a dependence on the golden section, something that Dalí was probably disposed to accept (fig. 6).62 His makeover of the *Last Supper* is a heavy-handed object lesson in *divina proportione*. The cassocks of the priests, their heads bowed in prayer, form a repeated series of pentagons, and the overall dimensions of the canvas are those of a golden section rectangle. Dominating the upper part of the work, in a daring departure from the original, is a giant three-dimensional version of one of Leonardo’s drawings for Pacioli, the skeletal armature of which opens window-like onto a vista formed by the sea and sky of Port Lligat. The geometric figure looming over the scene like a strange hallucination is a dodecahedron of the *vacuus* type, about which Dalí had quizzed Ghyka
in an exchange of letters in 1947, as is apparent in Ghyka’s reply:

For the questions that you put to me on the subject of solids corresponding to the Macrocosm and Microcosm: for the Macrocosm it is evidently the Dodacahedron, already mentioned by Plato in *Timeas* as the model employed by the grand designer (“the God disposing with Art”) for the Cosmos.⁶³

Ghyka accompanied this passage with a hand-drawn diagram illustrating how the upper part of a dodacahedron can be used to denote the cupola of the sky, a prescription that Dalí followed to the letter. The body of Christ with arms outstretched in the upper register of the picture evokes the concept of man as microcosm contained by the geometry of the celestial sphere, or macrocosm. As unexpected as the chance meeting of an umbrella and a sewing machine on a dissection table,⁶⁴ the combination of discordant elements within Dalí’s image, though all are derived from Leonardo, is not something that Leonardo himself ever would have dared. While there is an element of overkill in Dalí’s zealous and inflexible application of geometric principles, he leaves little room for doubt that he comprehended fully the theological reasoning that underlay Pacioli’s *divina proportione*.

**Sticky and retarded Kantians of scatological sections d’or.⁶⁵**

The ferocity of Dalí’s attacks on abstract art throughout this period is somewhat perplexing in so far as the mix of transcendent spirituality, mysticism, and geometry that drove the pioneers of modernist abstraction is not dissimilar to Dalí’s ambitions for his own painting. When he pours scorn on the ‘abject misery’ of abstraction-creation, whose exponents he brands ‘sticky and retarded Kantians of scatological sections d’or’, the terms of his invective are more than a little contradictory in light of his own enthusiastic embrace of the golden section.⁶⁶ The pictures that best exemplify Dalí’s search for a sacred geometry are the kind of Dalís before which the public gawps in amazement while critics unanimously recoil. There is no denying the oddly compromised status of a picture like *The Sacrament of the Last Supper* that ostensibly takes as its theme a vision of Christ provoked by extremes of religious faith when Dalí by his own admission had none. ‘At this moment I do not yet have faith, and I fear I shall die without heaven’, he confesses on the closing page of *The Secret Life*, nor is there any reason to think that Dalí ever found the faith he was seeking. In this regard, he possibly felt a secret affinity with Leonardo, whose strict reliance on the empirical data of perception made him the target of accusations of unbelief.⁶⁷ One gets the sense that Dalí knew that a technical bag of tricks alone would not suffice to restore painting’s lost aura, and that he felt he must also revive the religious subject matter that he associated with the most glorious epochs of Western art. But in the absence of true religious belief such an enterprise was bound to seem hollow and to render more acute the lack of
conviction that afflicts the project as a whole.

Easily overlooked among the innumerable ideas cramming the pages of *50 Secrets of Magic Craftsmanship* is a charming little sketch for an icosahedral studio that was to have been built at Port Lligat, a project for which Dalí enlisted the services of the architect Gabriel Alomar after his return to Spain. In making this novel excursus into architectural design, which startlingly anticipates the geodesic forms of Buckminster Fuller and other postwar architects, it is likely that Dalí was again self-consciously emulating Leonardo. Alas, the icosahedral studio, more appealing than the wooden and sanctimonious *Sacrament of the Last Supper*, was to remain an unrealized dream, just as none of Leonardo’s architectural projects ever made it off the drawing board.

**paranoiac ambiguities and nuclear mysticism**

Not content to occupy himself with a cuisine of paint, with the mere revival of painting technique, Dalí set himself the far more ambitious goal of becoming a new *homo universalis* in the mould of Leonardo, but re-kitted for a nuclear age. Armed with the rigour (*sic*) of the paranoiac-critical method, Dalí’s self-declared aim was to furnish a new cosmogony systematically integrating all of philosophy, science, and religion. Quite aside from the practical matter of whether it was any longer possible for one individual to master all these specialized spheres of knowledge, it is surely important to bear in mind the status of the paranoiac delirium as a parodic double of true knowledge - a paradoxical double, moreover, as Freud realised, asking rhetorically whether the future would decide that there was more truth in Schreber’s delusion or more delusion in his psychoanalysis. To be sure, Dalí’s cosmogony does have an ‘architecture,’ as he insisted, but it is not the architecture governed by logic or reason (which, true to his surrealist roots, Dalí rejected) being nearer to his description of Art Nouveau architecture and ornament as the ‘realization of solidified desires’. It is an anti-architecture at the service of the pleasure principle, cathected by libido and supplying a continuous erotic delight. With perverse, regressive, oral cannibalistic satisfaction, Dalí ingested physics together with biology, combining science with religion and metaphysics in a totalizing synthesis whose only logic was pleasure.

**Painting is consubstantially linked to geography, to geology, to botany, etc.**

Dalí’s claim that painting is linked to the natural sciences *consubstantially*, a theological term meaning ‘of the same substance’, runs counter to the spirit of an age that in the main saw art and science as polarized opposites. What Dalí says, in fact, owes more to Leonardo and to an epoch in which the terms ‘art’ and ‘science’ were not construed antithetically. Art could be a science for Leonardo if founded on mathematical truths. Moreover, since painting partakes of the whole of the visible world, it follows that the painter, in order to be the master of his art, should have a
complete knowledge of all that he seeks to represent. In short, he should be a scientist as well as an artist. Dalí, for his part, asserted in his own inimitable fashion that ‘if caviar is the life experience of the sturgeon, it is also that of the surrealists, for, like it, we are carnivorous fish who, as I have already insinuated, are swimming between two kinds of water, the cold water of art and the warm water of science.’ Leonardo afforded a role model for an artistic practice situated at the interface with science, but with the key difference that whereas for Leonardo it was possible to be a scientist as well as an artist, for Dalí - living in another era - that simply was not a feasible option. Faced with trying to grasp the rudiments of quantum mechanics or, in later life, chaos theory, he must have envied Leonardo. Universal genius was a product of simpler times.

There is a vast gulf between the physics that excited Dalí and science as it was understood and practiced in the sixteenth century. One of the problems Dalí wrestled with as he tried to create an iconography for the atomic era was the fact that modern physics is abstract as well as abstruse, a rich source of theoretical concepts expressed as mathematical formulae, but from the point of view of an artist, visually impoverished. Anachronistic though it may seem, I want to argue that Dalí discovered in Leonardo a fund of imagery that compensated for the relative paucity of such material offered by modern physics and that permitted him to give visual form to his sense of a world in a state of disaggregation. Of particular relevance to Dalí’s nuclear style is Leonardo’s inventive use of transparency and so-called exploded views that enable the inner workings of mechanical contraptions or of the human body to be displayed.

Matter is in a constant and accelerated process of dematerialization, of disintegration.

It emerges from Dalí’s assorted sound bites on the subject of physics that he was especially fascinated by the discovery that at the atomic level matter consists mostly of empty space; he saw this dematerialization of solid bodies as being somehow equivalent to a process of spiritualization that now fell to artists. To a considerable extent, the dissolution of form was something Dalí had already accomplished before nuclear science became an abiding preoccupation. This is notable, for instance, in a cluster of his works from the mid-1930s based on the idea of morphological echoes, the production of which coincided with his recruitment of Leonardo as ‘an authentic innovator of paranoiac painting’, a genealogical filiation he underlined by overtly referencing Leonardo within the images. It is as though Dalí dutifully followed Leonardo’s advice to seek inspiration in stains on walls but took it one step further, seeking out his inspiration in battle scenes and other studies by Leonardo that were themselves products of this method. One hardly needs to be reminded that Dalí hated simplicity in all its forms! How he generated his double images can be quite readily seen in the case of the painting Spain (1938; Museum Boijmans Van Beuningen, Rotterdam), one of the most impressive of these works, in
which an allegorical figure representing Spain in the throes of civil war emerges from a background composed of fighting figures that are very obviously based on Leonardo’s battle scenes. Dalí mined the same terrain repeatedly. He did so in The Secret Life where his account of the panicky mobilization of troops in France against an imminent threat of German invasion is leavened with a whimsical drawing à la Leonardo showing how a battle can be won using the surprise tactic of infantry on stilts. Dalí, who had this flash of inspiration after he had wisely fled the war in Europe for the safety of New Hampshire, like Leonardo tends to score high on imagination but low on practicality. A similar procedure was employed in a page of studies for Suburbs of the Paranoiac-Critical Town of 1935 (fig. 7). The stain on the wall in that instance was the Sforza equestrian monument (also pastiched by Dalí in the opening pages of 50 Secrets of Magic Craftsmanship, as previously noted). This particular sheet, however, is noteworthy for the emergence of a globular, quasi-molecular treatment of the body that strikingly anticipates Dalí’s later nuclear style.

Fig. 7: Salvador Dalí. Study for ‘Paranoiac-Critical Suburbs.’ 1935. Ink and pencil, 32 x 22.8 cms.

My hunch is that Dalí repeatedly gave free rein to his paranoaic-critical faculties while perusing his well-stocked Leonardo library. A passage in The Secret Life relates a childhood memory of watching storm clouds gather in the afternoon sky over Figueres. Before long, winged horses appear, followed by a colossal elephant that divides into two immense wrestlers who merge again into a formless mass. Just as the storm breaks, the now hugely swollen dark
cloud assumes the appearance of Beethoven’s cranium, which a bolt of lightning splits open to reveal the frontal lobes of his brain. Accompanying this fanciful screen memory is a superb sketch in which a brooding storm cloud recalls the curls of Beethoven’s wig as well as the fissured surface of his massive cerebral cortex. The drawing, related to the ongoing study of the morphology of genius, is overtly Leonard-esque in style, just as the episode as a whole reverberates with Leonardo’s injunction to seek out in a stain ‘heads of men, various animals, battles, seas, clouds, woods, and similar things.’ In this instance, an exact source can be posited in one of Leonardo’s numerous studies for apocalyptic scenes (Windsor Leoni volume, 12388). With the wisdom of hindsight, one can readily see how Dalí might have alighted upon this sheet and discovered in the explosive form of an angry cloudburst high above a mountainous landscape a Baroque hairpiece or the lobulated structure of a brain.

No great leap of imagination is required to see how the self-same image might have accrued a whole new resonance after atomic bombs were detonated in the skies above the Japanese cities of Hiroshima and Nagasaki in 1945, raining their destructive force upon a pitiful humankind. It is strange that despite the invention of photography Dalí had to look back almost five hundred years, to Leonardo, to find a mind capable of conceiving an image adequate to that terrible event. A nightmarish vision of a world torn apart by spiraling centrifugal energies that shatter whole mountains, causing floods and ferocious winds to rise up and batter cities, had become reality. A chapter in the Trattato della pittura that is intended to be read in conjunction with Leonardo’s imaginary visions of world catastrophe instructs artists in how to represent a deluge:

And let some mountains collapse headlong into the depths of a valley and dam up the swollen waters of its river. But soon breached, the river bursts the dam and gushes out in high waves. Let the biggest of these strike and demolish the cities and country residences of that valley. And let the disintegration of the high buildings of the said cities raise much dust which will rise up like smoke of wreathed clouds through the descending rain.

Leonardo’s writing is wavelike in its repetitions and crescendos, in its relentless accretion of images that assault and finally overwhelm the reader. The evocation of scenes of great horror interspersed with dryly-analytical descriptions of waveforms strikes a peculiar note, suggesting an intellectual coldness or lack of ordinary human sympathy that recalls certain passages in Dalí.

Dalí read this chapter in his volume of the Traité de la peinture attentively, and he knew well the deluge studies to which it corresponds. Other drawings by Leonardo might also have triggered associations with the idea of matter in a state of accelerated dematerialization: Leonardo’s studies of geologic strata represent the solid fabric of earth buckled and splintered in response to untold forces operative in the remote past, and in a very delicate study of drapery, the ridges of a diaphanous fabric appear to define a spiral orbit around the forearm. Among the
numerous instruments of war invented by Leonardo, a page in the Atlantic Codex depicts a type of cluster bomb that explodes after being fired from a cannon, setting off what to a contemporary eye looks for all the world like a nuclear chain reaction (fig. 8). A number of these possible sources cohere in Dalí’s Corpuscular Madonna of 1952, a drawing in sepia ink that succeeds in an improbable fusion of the Italian Renaissance and the nuclear universe. It must be borne in mind that while Dalí was living in the United States he would have been shielded from the ghastly consequences of what had taken place in 1945. Much of what he has to say about nuclear science - his naïve enthusiasm for it - conforms to a sanitized Scientific American worldview of unlimited low-cost energy, rather than untold, ghastly destruction. The madonnas that Dalí produced aplenty in the early 1950s share the spirit of a decade that was in denial about the dangers of nuclear energy, as molecules innocently whiz about within the reassuring outlines of the mother of Christ. A reading of the marked-up passages in his copy of the Traité de la peinture, though, points to something darker. And in certain images inspired by Leonardo’s disaggregative vision it is possible to discern a residue of ambivalence: Raphaelesque Head Exploding of 1951, which has an overall shape not unlike the iconic image of a mushroom cloud, is ambiguous as to whether it portrays the resurrection of a classical tradition in modern garb, as Dalí intended, or its opposite, the obliteration of that very civilization.

Mystical ecstasy is explosive, disintegrated, supersonic, undulatory and corpuscular.81

In 1954 Dali produced a picture, Head Bombarded with Grains of Wheat, a sort of neo-pointillist explosion of confetti in the skies above the village of Cadaqués from which suddenly precipitates a vision of Leonardo’s Leda, the enigmatic object of his obsessive brooding during these years.
The source for Dalí’s vision is a sheet of pen-and-ink sketches by Leonardo (fig. 9), copied with such precision that he must have had an open book in front of him as he worked, or else made a tracing. Leonardo studied in great detail the elaborate coiffure that he intended for the figure of Leda. Plaits are gathered up on either side of the head in the form of a spiral that Theodore Cook, in The Curves of Life, compared with an ammonite shell. The plaits of hair with their beadlike pattern may have suggested the idea of an ear of wheat to Dalí, who also mimicked the stippled hatching that defines the volume of the sinuous neck. Wavelike strands of loose hair in the Leonardo drawing mutate in Dalí’s picture into motile spermatozoa that invade and fecundate via the ear, provoking an explosion that is voluptuous, ecstatic, and corpuscular. The ear motif harks back to a 1933 photocollage, auspiciously titled The Phenomenon of Ecstasy (Coll. Vercamer, Paris). It is not implausible that Dalí was aware of a medieval tradition according to which the Virgin was impregnated aurally by the medium of the angel’s speech, as indicated by the Latin term annuntiatio. One recalls that in Leda Atomica the beak of the swan appears to touch the figure of Gala at the point of her left ear. It is, to quote Dalí, ‘immaculately corpuscular.’

Contrary to reports that Dalí abandons Freud, the deliberate semantic confusion in this and other formulations points to a peculiar amalgam of eroticism and nuclear science underpinned by his knowledge of psychoanalysis. Other works of this period, for example the Corpuscular Madonna, contain hints that molecules attract and repel on the basis of libidinal forces. ‘With lucid ecstasy I understood the discontinuity of matter, and that the particles themselves are animated by libido,’ Dalí reflected at a later date.

Fig. 9: Leonardo da Vinci. Studies for the Head of Leda. c.1505-07. Pen and ink on black chalk, 19.8 x 16.6 cms. Windsor Leoni volume.
Leonardo ‘investigated instead of loving,’ in Freud’s formulation. Of undoubted interest to Dali was the claim that the quest for scientific knowledge could be traced back to an original impulse of an erotic nature that has undergone sublimation. The insatiable character of Leonardo’s appetite for knowledge betrays its origins in the unconscious, Freud claimed. Freud also refers to ‘an intense desire to look, as an erotic instinctual activity’ originating in a child’s curiosity about the mother’s genitals. For Dali, seeing as well as knowing were both intensely cathected, pleasurable activities. Dali had a lifelong fascination with optical devices and with visual illusions. The fanciful optical device known as an aranaerium, whose use is explained at length in the 50 Secrets of Magic Craftsmanship, belongs to a long line of inventions whose ostensible purpose is to assist in obtaining correct perspective. All such instruments have the effect of reifying sight, laying bare a preternatural instinctual investment in vision. Leonardo advocated the use of a wooden frame as a window through which the artist was advised to look at the scene to be represented. Dali reproduced in 50 Secrets of Magic Craftsmanship an engraving by Dürer demonstrating the use of an ‘Instrument of Mathematical Precision for Designing Objects in Perspective.’ Regrettably, it is not Dürer’s notorious engraving in which the line of sight is directed at the sex of the reclining woman, though it is very probable Dali knew of this work. In Leda Atomica the line of vision is neatly intercepted by Gala’s left knee. Thwarted from reaching its instinctually ordained goal, vision is offered a surrogate satisfaction in the minutely observed optical phenomena arrayed at and below the level of her feet. A large droplet hovering in midair as if caught in a freeze-frame photograph casts a shadow toward the back of the plinth on which Gala is posed. Within the elliptical shadow is a bright spot where the same droplet has acted as a lens focusing the light that passes through it. Nearer the front of the plinth is another, smaller droplet of water whose shadow disappears within a darker surrounding area of shadow, leaving only the beam of focused light visible. The intricacy of these observations, and the meticulous recording of multiple permutations of light and shadow, is certainly not inferior to Leonardo.

The exterior world - that of physics - has transcended the one of psychology.

Viewers of Dali’s exhibition at the Bignou Gallery were given an opportunity to compare the unfinished Leda Atomica with a picture completed some three years before, Dream Caused by the Flight of a Bee Around a Pomegranate, One Second before Awakening (1944). The parallels between the two images are striking indeed. In the earlier picture, Gala, who is nude, levitates above ground as in a fairground trick but without any assistance from atomic science; exotic beasts are in similarly close proximity, and the setting is once again the sea and rock formations at Port Lligat. Most surprising of all is the similar confection of pictorial effects in the foreground of
each picture: virtually the same droplets in the same places and casting the same shadows, as if
time, too, had been suspended. There is just one major difference between them. Where the title
of the earlier work points to an oneiric, Freudian explanation for the gravity-defying feats and
assorted incongruities, the later painting sends would-be interpreters scurrying to the physics
library. The comparison is instructive because it points to the need for caution in accepting at face
value Dalí’s contention that he jettisoned his ‘father’ Freud for the physicist Werner Heisenberg,
especially as his oft-repeated definition of the hero as he who revolts against paternal authority
and ends by conquering it is such a close paraphrase of Freud. In Dalí’s cosmogony - a sort of
mock serious, subjective psychophysics - sex and science are indissolubly blended together.

cosmic genius / comic genius
Dalí’s *Diary of a Genius*, first published in French in 1964, chronicles the very time period when, it
has been argued, Leonardo was never very far from his thoughts. At the back of the book Dalí
compiled a league table in which he doles out scores under a number of headings to his favorite,
or not so favorite, artists. Though more sober in his judgment than either Freud or Paul Valéry, for
whom Leonardo the man was a masterpiece, Dalí still ranks Leonardo high in the genius stakes
- slightly higher even than his estimation of himself. *Diary of a Genius* is peppered with mock
serious reflections on the subjects of genius and success, many of them not surprisingly echoing
Leonardo. A series of aphorisms are expounded for May 1953, for instance, that spoof
Leonardo’s pronouncements in the *Trattato della pittura* such that the insights of genius now
sound fatuous. Where Leonardo solemnly counseled artists to seek fame and renown rather than
material wealth, Dalí tells them to follow his advice so that they might be rich and not poor. The
jealousy of other painters has always been the barometer of his success, Dalí confides. In an
entry for September 16, 1953, he reports an alarming setback while working on *Crucifixion
(Corpus Hypercubicus)*, a picture in which he pulls out all the stops to compete with the Old
Masters on their own turf. Dalí had been experimenting with liquid amber mixed with oil paint,
which enabled him to lay down color in glassy, nearly transparent layers. On this occasion,
however, a technical mishap caused the paint to go dark and splotchy as it dried, and the whole
section had to be removed. The anecdote of a technical experiment gone badly awry recalls the
sad fate of Leonardo’s *Last Supper* with the key difference that Dalí triumphantly averted disaster
whereas Leonardo did not. Dalí’s *pièce de résistance* was to have been the painting of the
sumptuous robes that bedeck Gala in the foreground of the picture. Numerous entries in the *Diary
of a Genius* attest to a painstaking determination to get the drapery right. More than likely, he
consulted the chapter Leonardo devotes to the subject in the *Traité de la peinture*. Giorgio Vasari
recorded that as a student Leonardo made studies of drapery using figurines covered with soft
linen dipped in clay. Dalí turned down the corner of a page in the *Traité de la peinture* showing
one of these exquisitely detailed drawings, and one can imagine him with the book open on the
floor as he labored away under Leonardo’s inspiration. ‘A plague on lazy masterpieces!’ reads another of his tongue-in-cheek utterances.⁹¹

There is little doubt that Freud’s Leonardo case study was a crucial factor in the genesis of Dali’s genius obsession. Ignoring his own warnings against the tendency of biographers to idealize their heroes, presenting us with ‘a cold, strange, ideal figure, instead of a human being to whom we might feel ourselves distantly related,’⁹² Freud indulged in a rampant over-identification with Leonardo that Dalí cannot have failed to notice. Paraphrasing one definition of narcissism, we can say that Leonardo, who in Freud’s exalted prose ‘soared upwards to the highest realisations of a conception of the world that left his epoch far behind it,’⁹³ corresponds to an idealized image of what the writer himself would like to have been. Freud conjures up an unreal image of humanly perfection in everything he says of Leonardo:

> He was tall and well-proportioned; his features were of consummate beauty and his physical strength unusual; he was charming in his manner, supremely eloquent, and cheerful and amiable to everyone. He loved beauty in the things that surrounded him; he was fond of magnificent clothing and valued every refinement of living.⁹⁴

Freud’s Leonardo essay implanted a kernel from which Dalí’s genius obsession grew and grew. The ink drawing of Freud, analysed above, was one in a series of portraits of geniuses, including a highly unflattering portrait of Picasso that was exhibited at the Bignou Gallery.⁹⁵

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Fig. 11: Salvador Dalí. *Condottiere*. 1943. India ink on paper, 30 x 22 inches.
Dalí, we can be quite sure, was mesmerized by the image of Leonardo as a dandy in the court of Ludovico Sforza. It is unlikely that, as he held court at the Saint Regis Hotel in New York surrounded by an entourage of the curious and sycophantic, Dalí did not on occasion imagine himself as Leonardo, whose capacity to delight and entertain was legendary. Freud draws attention to an unexpectedly childish side to Leonardo’s personality that manifested in a love of triviality and games, traits Dalí also cultivated to excess. A well-known profile drawing by Leonardo of a warrior with a fantastical winged helmet and lion’s head on his breastplate in the British Museum (fig. 10) was erroneously identified in one of the volumes in Dalí’s library as a Leonardo self-portrait, a fact that may not be entirely incidental to the pastiche Dalí made in a drawing known as Condottiere of 1943 (fig. 11), a figure whose wildly eccentric dress and insane glint are telltale clues to a self-caricature. In Diary of a Genius, Dalí lets Georges Mathieu do his bidding for him, citing at length a passage in which Mathieu (a staunch monarchist as well as avant-garde artist - like Dalí, a picture of contradictions) draws an analogy between Dalí and the artists and architects of the Italian Renaissance, and specifically Leonardo, to whom princes entrusted the organization of lavish pageants and festivities:

Endowed with the most prodigious imagination, with a taste for splendor, for theater, for the grandiose, and also for games and the sacred, Dalí disconcerts superficial minds. . . . For those who take the trouble to discover the esoteric meaning of his movements, he appears as the most modest and the most fascinating magician, who carries lucidity to the point of knowing that he is more important as a cosmic genius than as a painter.

The boundaries between art and entertainment were willfully blurred by Dalí who consorted indiscriminately with the debased worlds of kitsch, fashion, and commerce. Branded Avida Dollars by the surrealist leader André Breton for his apostasy, Dalí scorned neither shop window displays nor the creation of a surreal fun parlor for the New York World’s Fair in 1939 (the latter included on its façade Leonardo’s Saint John the Baptist, whose enigmatically pointing finger beckons the punters to come inside). Such a pluralistic art practice is capable of appearing oddly in tune with a postmodern era of environments, happenings, and performance, but who would have thought it could also have been licensed by what Dalí knew of Leonardo?

O, Salvador Dalí! You know it now! If you play at genius you become one!

The notion of merely asserting or certifying one’s own genius, the premise of Diary of a Genius, is an affront to the post-Romantic conception of genius. But Dalí goes a step further than that. He admits that as a precocious and indulged child, ‘I was vaguely confusedly aware that I was in the process of playing at being a genius.’ As for the paradoxical idea that one might in fact become what one merely pretends to be, or simulates - of a performance that becomes real - an
antecedent can be found in the artificial construct of the bohemian poet or artist, that rare plant cultivated in the hothouse atmosphere of the fin de siècle. Could Dalí possibly have known about kaloprosopia, a neologism coined by the symbolist Sar Péladan (who we have already met as the translator of Leonardo’s Tratatto della piturra) and pertaining to a notion of identity conceived as a self-styled work of art, a culmination of the nineteenth-century artistic persona of the dandy? Péladan explains: ‘The law of kaloprosopia is to realize the exteriorisation of the character one claims for oneself.’100 Claiming as a precedent Saint Ignatius’s nostrum that by carrying out acts such as prayer, faith itself will eventually follow (an idea especially germane to Dalí, who, as noted above, admitted his lack of true faith), Péladan’s kaloprosopia reverses the usual order of an interiority or essence that is only secondarily rendered visible through such things as dress or mannerisms. ‘To appear what one is requires a force of exteriorisation’; more preferable, however, is ‘to appear what one would like to be [which] confirms already that one is a work of art’. Owing to his translations of Leonardo’s writings, Péladan’s influence extended well beyond the avant-garde circles of the Rose et Croix, the obscure symbolist group that he founded. Dalí, for his part, evinced a highly developed awareness of his artistic identity and self-presentation, which he freely reinvented from his very earliest works: the arch, stylized Self-Portrait with the Neck of Raphael of 1920-21 (Fundació Gala-Salvador Dalí, Figueres), an obvious case in point, being not too far removed from our subject of Leonardo.

What cynic could consciously have played this rôle through to the end?101

Karl Marx famously remarked that all great world-historic facts and personages appear twice: the first time as tragedy, the second time as farce. Dalí was very conscious of his own belatedness, something that both colored and undermined his self-identity. Believing that he had been brought into the world by his parents as a substitute for his deceased older brother, of whom he retained an idealized image, and regarding himself as a secondhand copy of this more perfect avatar, Dalí, I am suggesting, imagined himself in a similar relation to Leonardo as a degraded, inauthentic copy. He was only too aware that his performance must inevitably fall short of the image, as phantasmagoric and unreal as that of his dead brother, conjured by the name Leonardo. A very early essay by Dalí, ‘Le chêvre sanitaire’ (The Sanitary Donkey), one of the texts included in La Femme visible (1930), is a veritable manifesto, published soon after he joined the surrealist group, and contains a passage that could very well be understood as an allegory for his entire artistic persona and art practice. There Dalí is attempting to define what he calls a point gratuit, a parody of Breton’s point sublime, one suspects. He gives as an example the gesture of a would-be pianist who ‘without knowing how to play the piano, imitates (perfectly) on a marble table the confident fingering of a true pianist, convinced of the absolute similarity of his imitation.’102 The gratuitous point would materialize, he says, ‘precisely at the moment when the
fake pianist would lose for a moment his absolute faith in his imitation, but would continue with it nonetheless and with no less enthusiasm.’ One has to imagine that our fake pianist is so absorbed in his imitation that he is unaware of not making any sound! Dalí’s enactment of genius was a farce and an imposture of this order yet he continued with it all the same, bravely or crazily - who is to say? Dalí is very funny, but his humor, which puts one in mind of that other Marx (Groucho), is often cruel and cynical. Where André Breton discerned an element of rebellious insubordination in Dalí’s 

*humour noire*, to my mind it reflects more his sense of defeat and resignation. After all, as (Karl) Marx went on to state, men may make their own history, but they do not do so under circumstances of their own choosing. Dalí’s misfortune, as indicated earlier, was to be a painter after the end of painting.

Genius, writes Vattimo, is essentially the aura as seen from the artist’s point of view. Why is it that Dalí’s repeated protestations of his genius fail to convince? The notion of simply asserting or certifying one’s own genius is antithetical to the Romantic conception of genius as a transcentent expression of qualities intrinsic to the person, a product of his or her innate essence rather than an identity chosen for oneself and performed. Comparing himself with Leonardo, Dalí must have realized the impossibility in his day of artistic genius in a form epitomized by the Renaissance artist. The inauthenticity of Dalí’s parodic enactments merely heightens awareness of the atrophy of the aura - by which Benjamin meant art’s organic embeddedness in a network of value and belief - that pervades his artistic practice as a whole. Indeed, it is far from clear that Dalí meant to endorse without any irony the idea of genius, either his own or anyone else’s: *Diary of a Genius* concludes with a coda on farting that has, at the very least, a deflationary effect. It may be that every age gets the genius it deserves: Dalí’s media-savvy exhibitionism smacks more of a very contemporary notion of celebrity than of a possibly defunct concept of genius à la Leonardo. Amending Mathieu, one should perhaps say that Dalí is more comic than cosmic genius.

**painting is dead - long live painting**

This chapter has argued for the pre-eminence of Leonardo within Dalí’s neo-traditional project to bring about a restoration of painting. An equally strong case could be made that Leonardo was just as important as an arena for avant-garde gambits in twentieth-century art, and particularly as a target of one of its most famous iconoclastic negations. It has already been noted that Leonardo was hailed by Dalí as a progenitor of the paranoiac-critical method during his surrealist phase at a point when he and Max Ernst were making competing claims for priority with regard to a method that Dalí saw as his. However it is Marcel Duchamp, more than any other artist, who hovers in the background of Dalí’s Leonardo transference, even including that over-determined site, *Leda Atomica*, where his ‘bride’ is left hanging in mid-air in frozen emulation of Duchamp’s *The Bride Stripped Bare by Her Bachelors, Even (The Large Glass)* of 1915-23 (Philadelphia Museum of
Art). While Dalí omitted him from his table of genius, Duchamp is one modern artist for whom his respect apparently remained undiminished, and as a photograph of the pair in *Diary of a Genius* attests, they were intermittently in contact during this period. The literature on Duchamp and Leonardo, by contrast with that on Dalí and Leonardo, is copious.105

*LHOOQ can be taken quite adequately as the epitaph of modern painting.* 106

Fig. 12: Philippe Halsman. *Dalí as Mona Lisa.* 1953. Photomontage.

Dali was the author of two short articles on Duchamp in 1959 and 1963 that constitute a fitting coda to our tale.107 Both are concerned with the subversive, dadaist gesture of Duchamp’s *LHOOQ* of 1919, which Dalí termed an ultra-intellectual aggression in order to differentiate it from the actual physical violence that works by Leonardo have on occasion incited. In keeping with Freud’s interpretation of the *Mona Lisa*, Dalí understood Duchamp’s burlesque desecration of that painting as a transgression directed against the Mother as a Work of Art. Dalí, too, had violated the sanctity of the mother as a young avant-gardist, let us not forget, in his scandalous 1929 picture *Sometimes I Spit with Pleasure on the Portrait of My Mother* which was the source of a bitter row with his father at the point when he joined the surrealist group.108 Duchamp had already abandoned painting when he made the graffito mark over the *Mona Lisa* that signed its death warrant: ‘*LHOOQ* can be taken quite adequately as the epitaph of modern painting’, Dalí sanguinely observed. It was widely thought at the time that Duchamp had in truth renounced art altogether for the game of chess (*partie d’échecs*), a belief to which Dalí evidently subscribed, punning remorselessly throughout the first of his two Duchamp articles on the word *échec*, which...
also means failure. Duchamp’s failure ironically repeats that of Leonardo, another artist given to making ultra-intellectual moves, whose entire life story, wrote Dalí, was a continual and dramatic game of failure (or chess).  

It was a game from which Dalí, by contrast, hoped to emerge a winner. A photograph of him by Philippe Halsman reproduced in the book Dalí’s Mustache (1954) shows Dalí impersonating the Mona Lisa but with a real moustache, his own - a witty retake that ostensibly trumps Duchamp (fig. 12). At the same time, however, it unwittingly reveals the omnipresence of a gesture that stalks Dalí’s every move. The compulsion to repeat implies that Duchamp’s economical gesture putting an end to painting was a trauma that had not been entirely abreacted, nor could it be. Behind the embarrassing tawdriness of late Dalí, the glib clowning, and the hyper-manic renaissance of painting rests the ineradicable memory trace of that act.

Dalí is too well-versed in Freud not to have realised that by masquerading as the phallic mother, as the Mona Lisa wearing a moustache, the traumatic insistence of Duchamp’s LHOOQ is acknowledged and repeated at the same time as it is seemingly disavowed: ‘Painting is dead - long live painting!’

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1 The photograph in the Bignou catalogue reveals that the picture, although described as unfinished, was in fact all but complete by November 1947 when the exhibition opened.


3 Ibid. Dalí reprises a traditional expression: ‘The king is dead - long live the king!’ is uttered in response to news of the death of a king, an event that triggers the immediate crowning of a successor, so guaranteeing the continuity of the institution of the monarchy. The phrase takes the form of an epanalepsis - a rhetorical figure in which beginning and ending mirror each other symmetrically. It doubtless appealed to Dalí because of his penchant for doublings, and also on account of his love of self-contradiction: that which is so emphatically affirmed is also, in the same breath, denied. The ostensibly conservative, monarchical temper of this period of Dalí’s work is riddled with similar kinds of ambiguities.

4 Léonard de Vinci. Traité de la peinture. Traduit intégralement pour la première fois en français sur le Codex Vaticanus (Urbinus) 1270...par Péladan (Paris: Librairie Delagrave, 1928 [1910]).

5 See ibid., 66. Dalí’s Péladan edition has an alternative version of this passage on page 74.

6 It is the most crucial inter-text, though by no means the sole one. Dalí also refers to a treatise on painting by Cenino Cellini and many of the technical prescriptions concerning oil colours are recycled, hugely embellished, from a rather dry manual by Jacques Blockx. The title itself makes reference to Giambattista della Porta’s Magia Naturalis (Naples, 1558). It may not be irrelevant, either, that the Manifesto of Surrealism contains a section entitled ‘Secrets of the Magical Surrealist Art.’ Salvador Dalí, 50 Secrets of Magic Craftsmanhip, trans. Haakon Chevalier (New York: Dial Press, 1948).
7 Michael Taylor detects a staging of the Renaissance *paragone*, or comparison of the arts, in *My Wife, Nude, Contemplating Her own Flesh Becoming Stairs, Three Vertebrae of a Column, Sky and Architecture*. It is indicative of its significance for him that Dalí chose to reproduce this work in *50 Secrets of Magic Craftsmanship*.


10 Vattimo, ‘The Death or Decline of Art,’ 52.


12 Vattimo, ‘The Death or Decline of Art,’ 53.

13 See Giorgio de Chirico, ‘The Technique of Painting,’ in *The Memoirs of Giorgio de Chirico*, trans. Margaret Crosland (New York: Da Capo Press, 1994). Dalí on this point would have found himself wholly in agreement with De Chirico that: ‘The one cause of the decadence in painting today is the total loss of skill, *technique*.’ In the same essay, De Chirico says one should not forget that the word ‘technique’ comes from the Greek *techne*, meaning art.

14 Suffice to note Dalí’s definition of painting as: “Photographie” à la main et en couleurs de l’irrationalité concrète et du monde imaginatif en général.’ In ‘Derniers modes d’excitation intellectuelle pour l’été 1934,’ *Documents* 34 (June 1934), pp.33-5. The same article begins by asking the question: ‘Comment devenir anachronique?’ (‘How to become anachronistic?’). Dalí’s invocation of anachronism is interesting not least as it looks back to a surrealist discourse on the ‘outmoded’ but also forward to his willful resurrection of painting as an anachronistic, outmoded cultural form.


16 Ibid., 31. In a comment that bears interestingly upon Dalí’s emulation of Ernest Meissonier’s technique, Bois observes that traditional painterly finish and the mechanical come together and are fused in the slick surface of nineteenth-century academic painting - to which modernism, of course, arose in opposition.

17 Salvador Dalí, ‘Los grandes maestros de la pintura: Leonardo de Vinci,’ *Studium* (Figueres, Spain) 4 (April 1, 1919). Leonardo was evidently not among the artists in the series of Gowans Art Books that Dalí’s father gave him when he was a boy.


21 Dalí, *The Secret Life*, 23 - 4. Frédérique Joseph-Lowry very kindly supplied me with a transcript of the original Dalí manuscript: ‘Le crane de Léonardo et encoure autre elle et une noi que lon ecrasse, cet a dire cet celui qui resemble le plus a un brai serveau.’


24 ‘My little space monkey [i.e., Gala] has come to sit on my naked feet to rest from her role as Leda Atomica, which I was busy repainting.’ See Dalí, *Diary of a Genius*, 184.

25 The full title of the picture is *Dalí Nude, in Contemplation Before the Five Regular Bodies Metamorphized into Corpuscles, in Which Suddenly Appear the Leda of Leonardo Chromosomatized by the Visage of Gala* (1954; Fundació Gala-Salvador Dalí, Figueres). Had the term been available to him, one suspects that Dalí would have said ‘cloned’ instead of the cumbersome ‘chromosomatized.’


29 Ibid., 179.


32 Dalí, *50 Secrets of Magic Craftsmanship*, p. 64. An endearing trait of Dalí’s was his habit of announcing yet other forthcoming volumes within the pages of the one he was at that moment writing; the accomplishment of all those volumes would have required a gargantuan energy that not even he possessed. In this respect he resembles Leonardo, none of whose numerous projected books, including the treatise on painting, were ever completed. Some of Dalí’s at least were.


34 Dalí, ‘History of Art, Short but Clear.’ See also ‘Notes for the Study “Leda Atomica”’, in *Dalí News*, November 25, 1947. Is this a veiled reference to Duchamp’s *Bride*, who also was left
hanging in midair? Duchamp hovered around Dalí’s transferential relationship to Leonardo as a continual albeit latent presence, or so I argue hereunder.

35 The Bignou Gallery catalogue lists a work intriguingly titled *Leda with Disintegrated Swan*, an oil on panel of exactly the same dimensions as *Leda Atomica*. The picture *Intra-Atomic Equilibrium of a Swan Feather of 1947* (Fundació Gala-Salvador Dalí, Figueres) contains body parts of said bird.

36 Dalí, *Diary of a Genius*, 47 (July 5, 1952). The egg dangling above the head of the Virgin in Piero della Francesca’s Brera Madonna which Dalí incorporates in both versions of the *Madonna of Port Lligat* is the subject of a lengthy disquisition in *50 Secrets of Magic Craftsmanship* (170-174).


38 Ibid., 225.

39 Ibid., 219.


42 Ibid., 397.

43 Dalí, *50 Secrets of Magic Craftsmanship*, 68.

44 Dalí claimed to be the inventor of a new perversion called *clédalism* in which sexual arousal is conditional upon a strict avoidance of physical contact. Unpacking this neologism, Ian Gibson discovers ‘léda’ overlapping with the words ‘clé’ and ‘dallì.’ See Ian Gibson, *The Shameful Life of Salvador Dalí* (London: Faber and Faber, 1997), 440. *Leda Atomica* (pl. XXXV) is printed back to front in this book.

45 Dalí tended to shy away from those aspects of Freud’s analysis that touched most directly on the psychogenesis of Leonardo’s homosexuality. That is not to say that Dalí did not evince an interest in androgyny, however, as shown by several drawings of louche, androgynous adolescents that emphatically recall Leonardo’s study for Saint John the Baptist.

46 It is a general rule in Dalí that things that are raised up are precariously aloft. The ubiquitous crutches propping things up imply that they would totter and fall down were they not supported artificially; it evokes a generalized state of infirmity. Likewise, for the phallic obelisk atop an elephant with spindly, spider legs, a motif inspired by Bernini’s monument in the Piazza della Minerva, Rome, collapse is inevitable.


48 Matila Ghyka, letter to Dalí, August 13, [1947?], archives, Fundació Gala-Salvador Dalí, Figueres.

49 ‘Made and formed,’ Pacioli averred, ‘by the ineffable left hand [of the] most worthy of painters, perspectivists, architects and musicians, one endowed with every perfection, Leonardo da Vinci.’


In his copy of the Spanish edition of *La divina proporción*, Dali overdrew a pentagram on top of a reproduction of Leonardo’s Vitruvian man. It is clear from an appended note to Amanda Lear that this was done late in Dali’s career when his passion for these topics had plainly not lessened. It may be that a similar impulse to alter or correct Leonardo lay behind the earlier image.

Dali, *50 Secrets of Magic Craftsmanship*, 177.


At the top of the sheet, Freud’s brain is analyzed in terms of a logarithmic spiral with superimposed rectangles. This appears to be based on an illustration in D’Arcy Wentworth Thompson’s *On Growth and Form* (fig. 356) showing the principles of gnomonic growth. Dali excerpted this particular section as an appendix to *50 Secrets of Magic Craftsmanship*. Dali’s 1930 portrait of the architect Emilio Terry at his desk includes a model of the latter’s snail house, another possible stimulus for Dali’s interest in the spiral form.

In Leonardo’s case, the license to find morphological equivalences arose from an early modern worldview premised on a belief in the underlying connectedness of all things. An astonishing example of Leonardo’s similar bent for unusual but telling analogies is found in a marginal note and diagram to a sagittal section of the human skull in which he compares the layers covering the brain to coats of an onion that must be peeled away one by one by the anatomist. On reading this, I was reminded not only of Dali’s irreverent description of the brain of Leonardo, which he likens to a walnut, but also of the Catalan expression ‘an onion in the head’ cited in the prologue to his self-referential poem about *The Metamorphosis of Narcissus*, an expression which has, according to Dali, the precise meaning of a neurosis. See Dali, *Collected Writings*, 325.

Dali, *50 Secrets of Magic Craftsmanship*, 177.

By this time, a Spanish translation existed. See Luca Pacioli, *La Divina proporción: obra muy necesaria a todos los ingenios perspicaces y curiosos* . . . (Buenos Aires: Editorial Losada, 1946). A copy in Dali’s library has a frontispiece inscription dated 1976, tending to suggest it was not acquired until later.


Ghyka, *Ésthétique des proportions*, pl. 94: ‘Déroulement et projection de l’octaédroïde (communément appelé hypercube).’ Dali’s copy with this fascinating doodle is in the Fundació Gala-Salvador Dali, Figueres.

A page with illustrations of the *Last Supper* (pp. 53–54) is manually excised and lies loose in a volume in Dali’s library (Fundació Gala-Salvador Dali, Figueres). One imagines Dali removing...
this in order to have it at his side as he painted. However, the publication date of the book *Leonardo da Vinci* (New York: Reynal & Company, 1956) postdates the generally accepted date of *Sacrament of the Last Supper* - 1955 - that seems secure on other grounds.


63 Ghyka, letter to Dalí, August 13, [1947?], archives, Fundació Gala-Salvador Dalí, Figueres. Ghyka is essentially paraphrasing Pacioli here.

64 The reference is to the Comte de Lautréamont’s simile ‘comme la rencontre fortuite sur une table de dissection d’une machine à coudre et d’un parapluie’ from *Chants de Maldoror* (1869).


66 Ibid.

67 Freud inclined to the view that Leonardo’s commitment to a scientific standpoint eventually reached the point that religious belief became untenable for him. See Freud, ‘Leonardo da Vinci,’ 217-18.


69 ‘And from the problems of the physical kitchen of technique, I fell back into that “all” that was the spirit of Leonardo - all, all, all. Cosmogony, cosmogony, cosmogony! The conquest of all, the systematic interpretation of all metaphysics, of all philosophy, and of all science, according to the fund of Catholic tradition which alone the rigour of the critical-paranoiac method would be capable of reviving. Everything remained to be integrated, to be architectonized, to be morphologized.’ Dalí, *The Secret Life*, 383.


71 Dalí, *50 Secrets of Magic Craftsmanship*, 64.

72 ‘We know that painting embraces and contains within itself all things produced by nature or whatever results from man’s passing actions - and ultimately everything that can be taken in by the eyes.’ See Leonardo da Vinci, *Leonardo on Painting*, ed. Martin Kemp (New Haven and London: Yale University Press, 1989), 201.


75 ‘Leonardo da Vinci proved an authentic innovator of paranoiac painting by recommending to his pupils that, for inspiration, in a certain frame of mind they regard the indefinite shapes of the spots of dampness and the cracks on the wall, that they might see immediately rise into view, out of the confused and the amorphous, the precise contours of the visceral tumult of an imaginary equestrian battle.’ See ‘Dalí, Dalí!’ (1930), in *Collected Writings*, p. 335. The relevant passage in Dalí’s copy of the *Traité de la peinture* is heavily marked and the corner of the page turned down.

77 Ibid., 105-7.


79 Ibid., 184.


81 Dali, ‘Mystical Manifesto,’ 364.


83 Dali, ‘Mystical Manifesto,’ 364.


86 Ibid., 187.


88 Salvador Dalí, ‘Anti-Matter Manifesto’ (1958–59), in *Collected Writings*, p. 366. The full quotation reads as follows: ‘In the surrealist period I wanted to create the iconography of the interior world - the world of the marvelous, of my father Freud. I succeeded in doing it. Today the exterior world - that of physics - has transcended the one of psychology. My father today is Dr. Heisenberg.’

89 It comes from *Moses and Monotheism*, the manuscript of which had just been finished when Dalí visited Freud. In 1974 Dalí would produce an illustrated edition of this book undeterred by the fact that it is Freud’s final debunking of religion. One suspects, though, that religion was a factor in Dalí’s greater ambivalence toward Freud in the 1950s. The issue is directly confronted in somewhat unsavory terms in *Diary of a Genius*, 163.


91 *Diary of a Genius*, entry for May 10, 1953.

93 Ibid., 227.

94 Ibid., 152-53.

95 Listed in the Bignou Gallery catalogue as ‘Portrait of Pablo Picasso in the Twenty-first Century (one of a series of portraits of Geniuses: Homer, Dalí, Freud, Christopher Columbus, William Tell, etc.’ An unprovable though not implausible hypothesis is that Dalí was also encouraged in this direction by his amateurish enthusiasm for physics; in terms of sheer hubris, the immodest proclamations of his own genius are rivaled only by a profession that viewed its science as the bedrock of all others and that, moreover, counted Einstein among its number.


99 Ibid.


103 In his ‘Abrégé d’une histoire critique du cinéma’ (1932), Dalí heaps lavish praise on the Marx brothers film Animal Crackers. Breton also refers to it in sketching a cinematic genealogy for his notion of humour noir, which incidentally stems from a 1935 essay that attempts to theorise the role of humour in Dalí.

104 A question has been raised as to whether Max Ernst may have alluded to the Leda myth before Dalí, in the context of his ménage à trois with Gala and Paul Eluard in the early 1920s. Evidence for this appears inconclusive. On the other hand, were one to contextualise Dalí within a nexus of avant-garde gambits around Leonardo, Max Ernst would be an obvious point of reference.


107 Dalí, ‘The King and the Queen Traversed by Swift Nudes’ (1959) and ‘Why They Attack the Mona Lisa’ (1963), in Collected Writings, 367-70.

108 I am referring to Dalí’s picture Parfois je crache par plaisir sur le portrait de ma mère, 1929.
On the study of failure as a prominent strand in French psychoanalysis, of which Dalí was quite possibly apprised, see René Laforgue, *Psychopathologie de l’échec* (Paris: Payot, 1944).

Showing the muse of painting plying her wares for money, Dalí thematises a loss of innocence, but also cocks a snook at Breton who nicknamed him *Avida Dollars*.

Dalí’s formulation is reminiscent of the mixed avowal/disavowal of the fetishist: ‘Je sais bien, mais quand même…’.

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