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Xavier d'Hérouville, Aurore Caulier

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The Great Work of Leonardo

Xavier d'Hérouville ¹ & Aurore Caulier ²

The Great Work of Leonardo is a small-format (29 × 36 cm) painting on oak panel, composed of two horizontal boards joined together with a butt joint. It bears the inventory number "229" on its reverse. The apparent theme is *the Temptation*, in the tradition of *the Temptations of St. Anthony*, which first appeared in the Middle Ages, were revived by Hieronymus Bosch around 1500, and continued until the mid-20th century, when Max Ernst and Salvador Dali clashed over their Surrealist versions. Another reading of this painting reveals the theme of *the Great Alchemical Work*, in an esoteric mode intelligible only to initiates.

The Great Work of Leonardo was first unveiled and presented to the general public in the documentary "*Le Doute dans les œuvres d'art publiques et privées*" broadcast by the French television channel France 3 Centre Val-de-Loire in October 2016 ³.



Figure 1 | "Le doute dans les œuvres d'art publiques et privées" by Alain-Georges Emonet, Grégoire Grichois & Philippe Gay © France 3 Centre Val-de-Loire, 2016.



Figure 2 | "Château de La Motte" (Lyon) owned by the de Villeneuve family in the late 15th, early 16th century.

History

The Great Work of Leonardo appears under the title *Temptation of St. Anthony* in the inventory of the gallery of paintings in the castle of the Marquis de Cotton du Puy-Montbrun ⁴, built not far from Tarare in the Rhône département. This castle - located on the trade route linking Italy to France ⁵ and, even further north, to the southern Netherlands (Brabant) - was owned by his ancestor, Humbert de Villeneuve ⁶, in the late 15th and early 16th centuries.

¹ PhD, Art expertise consultant.

² PhD, Scientific Director, Richelieu Museum, France.

³ <https://france3-regions.francetvinfo.fr/centre-val-de-loire/touraine/indre-loire/doute-oeuvres-art-publiques-privées-1115623.html> : Alain-Georges Emonet, Grégoire Grichois & Philippe Gay, « Le doute dans les œuvres d'art publiques et privées », sur France 3 Centre Val-de-Loire, 2016.

⁴ Du Puy-Montbrun family archives.

⁵ Exhibition catalog : « Léonard de Vinci en France, le maître et ses élèves 500 ans après la traversée des Alpes, 1516-2016, p. 118, p. 124 à 126 et p. 134 à 136, Skira, Milan (It.), 2016.

⁶ Humbert de Villeneuve was seneschal of Lyon from 1490 to 1505, then Second President of the Parlement de Toulouse before being appointed First President of the Parlement de Bourgogne in Dijon. Humbert Villeneuve also owned Château de La Motte in Lyon, 50 km to the south, on the same trade route linking the south to the north.

Datation

In 2007, the dendrochronological examination of the oak panel from *The Great Work of Leonardo* was completed on the lower board, the other being narrow and therefore containing few growth rings ⁷. This examination allows us to place the earliest year from which the tree on the lower board could have been felled at 1439 ⁸.

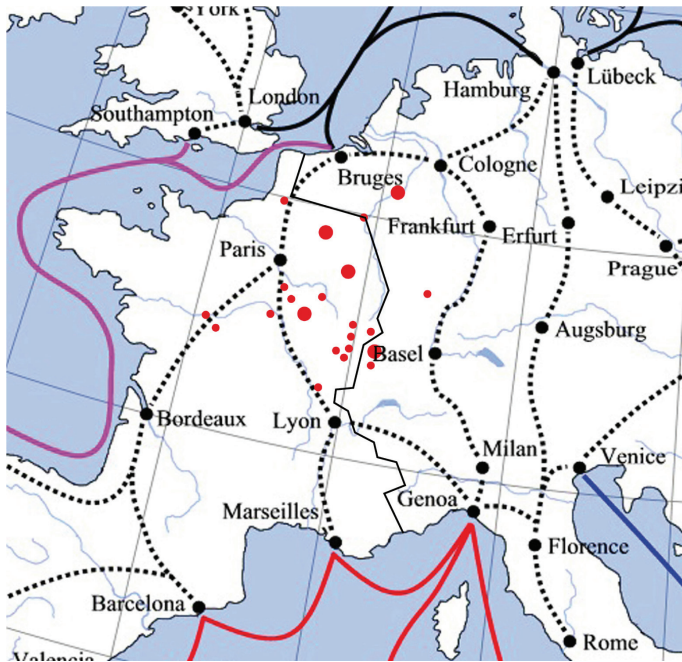
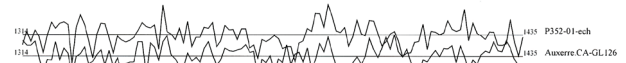
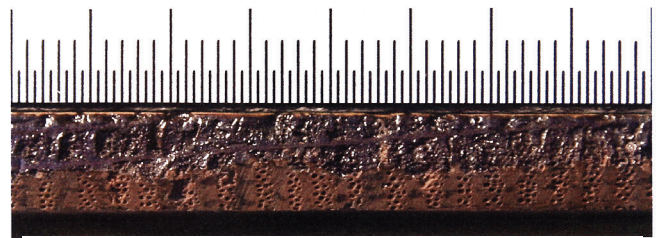


Figure 3 | Trade routes of the late 15th, early 16th century (black dotted lines) and location of the felled oak from which the panel supporting *The Great Work of Leonardo* was taken (red dotted lines), based on dendrochronological analysis by IRPA/KIK, Brussels (Belg.).

The time elapsed between felling the trees in the forest and using the wood for panels must also be taken into account. This includes the time required to square the trunk, transport the wood, cut it into boards, dry them and manufacture the panel itself.

Historical and archaeological research suggests that, for the period between the 15th and 16th centuries, this timeframe can be reduced to just a few months ⁹. However, some dendrochronological studies show a much longer interval between the dendrochronological result and the known or estimated date of use ¹⁰. No generalizations can be made in this respect. Consequently, the dendrochronological terminus proposed for the felling (1439) is also given for the making of the support.



t de Student	Probabilité	Premier cerne	Dernier cerne	Chronologie de site
5.07	1.0000	1314	1435	Laon.PEpisc-PHs4
5.04	1.0000	1314	1435	Auxerre.CA-GL126
4.27	0.9999	1314	1435	Bes.Granv-GL02
3.92	0.9998	1314	1435	Montsoreau-LCE09
3.66	0.9997	1314	1435	Beaune.HD-09
3.50	0.9996	1314	1435	Dijon.TPign-GL16
3.47	0.9995	1314	1435	Sully-LCE10
3.43	0.9995	1314	1435	Lemere.Riv-LCE08b
3.20	0.9991	1314	1435	Gray.GAncier-CD11
2.95	0.9974	1314	1435	MillyForet-PH03
2.58	0.9938	1314	1435	Sens.cath-LCEtr
2.54	0.9929	1314	1435	Autun.StAu-GL11
2.49	0.9919	1314	1435	Mellecey.G-GL03
2.49	0.9919	1314	1435	Veurdre.Pt-LCE
2.41	0.9894	1314	1435	Selongey.c-GL12
2.39	0.9905	1314	1435	Ormans.StL-GL14
2.37	0.9900	1314	1435	Pacaudiere-YT
2.31	0.9878	1314	1435	Amiens.F-GL102

Figure 4 | Calculations of the synchronization between the dendrochronological sequence of the lower panel (P352-01-ech) and the chronologies of the Besançon reference frame, based on dendrochronological analysis results from IRPA/KIK, Brussels (Belg.).

Of course, as this is a terminus post quem and not a felling date, a later date, in the second half of the 15th century, is perfectly plausible, given the unknown number of heartwood rings lost, the actual number of sapwood rings in the tree, and the unlikely but not unthinkable hypothesis that the wood was stored. While,

⁷ The most recent ring measured is dated 1435, with no sapwood preserved. Nevertheless, it is impossible to determine precisely how many years separate the dendrochronological date of the last measured ring from the actual felling date. Statistical studies carried out by Georges Lambert on 600 oak trees from France, Switzerland, Belgium and western Germany, covering a period from the Iron Age to the present day, give a range from 4 to 34 sapwood rings with a probability of 96.5%.

⁸ Pascale Fraiture & Georges Lambert : *Rapport d'analyse dendrochronologique, peinture sur panneau, La Tentation de saint Antoine, production flamande de la fin du XVe ou du début du XVIe siècle*, N° de dossier : 2007.09573, IRPA/KIK, Bruxelles (Belg.), 2007.

⁹ Pascale Fraiture et Kristof Haneka : *The dendrochronological analysis of the panel paintings depicting the Life of Saint Martin and the Passion of Christ by Frans Pourbus the Elder*, p. 122-129, in Monique Maillard-Luybaert : *François Pourbus l'Ancien à Tournai. Les panneaux peints pour l'abbatiale de Saint-Martin. Histoire, iconographie, style, technique, restauration*, Scientia Artis n°14, IRPA/KIK, Bruxelles (Belg.), 2017.

¹⁰ Pascale Fraiture : *Dendro-archaeological examination of paintings by Pieter Brueghel the Younger*, p. 1002-1017, in Dominique Allart & Christina Curie : *The Brueghel phenomenon, Paintings by Pieter Brueghel the Elder and Pieter Brueghel the Younger with a special focus on technique and copying practice*, Scientia Artis n°8, IRPA/KIK, Bruxelles (Belg.), 2012.

on the whole, the type of panel in *The Great Work of Leonardo* is close to the supports used by Flemish artists in the late Middle Ages (a small panel made of oak planks joined together at butt joints, with a carefully planed reverse), several peculiarities were revealed during examination (absence of burrs and unpainted edges on the face of the panel, as well as the absence of thinning of the panel edges on the reverse), the most striking of which is the geographical origin of the wood, which is not Baltic, contrary to systematic Flemish usage¹¹. The wood's northeastern French provenance for a panel painted in the Flemish style could be the sign of production outside Flanders, either by a Flemish artist who had transited and/or worked in France, or by a French artist - or one who had transited France - trained in Flanders. This type of exchange was common between Flanders and Burgundy in the 15th century, the former belonging to the latter⁸.

In 2008, radiocarbon (C14) dating of the oak panel from *The Great Work of Leonardo* was completed on both the lower and upper boards¹². The results provided by the laboratory allow us to calibrate an age range for the panel of 1427 to 1467, confirming the dendrochronological analysis carried out previously, and thus confirming the hypothesis already put forward of a pictorial achievement in the second half of the 15th century at the earliest, without being able to rule out the idea of a later achievement¹³.

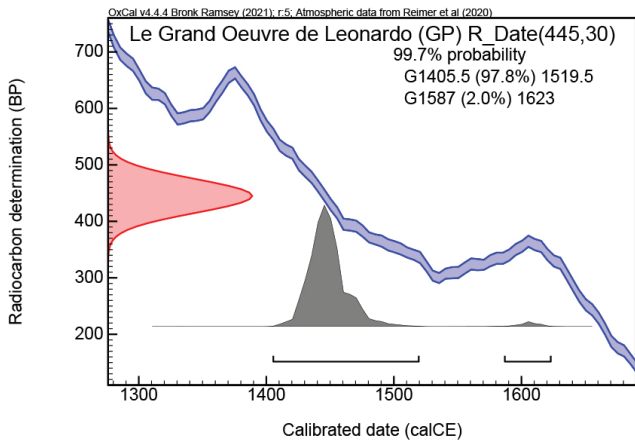


Figure 5 | Radiocarbon dating (C14) of the lower board of the oak panel from *The Great Work of Leonardo*: Curve and data (Oxcal v4.4.4 Christopher Bronk Ramsey 2021) based on analytical results from the CDRC in Lyon.

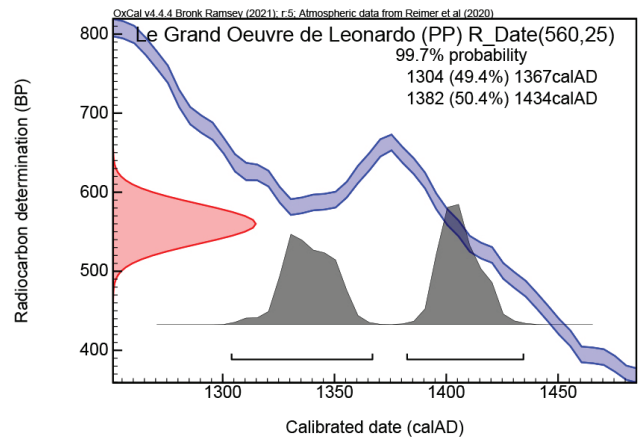


Figure 6 | Radiocarbon dating (C14) of the upper board of the oak panel from *The Great Work of Leonardo*: Curve and data (Oxcal v4.4.4 Christopher Bronk Ramsey 2021) based on analytical results from the CDRC in Lyon.

In 2023, the dendrochronological examination of the oak panel from *The Great Work of Leonardo* was completed on the upper board¹⁴, thanks to the latest developments in the database of the laboratory that carried out the same examination in 2007, as well as those of two French laboratories (C.E.D.R.E., Besançon¹⁵, and Dendrotech, Rennes - Angoulême¹⁶). The two plates are from distinct trees that grew, at least in part, at the same time: the lower plate ring series is dated from 1314 (1st ring) to 1435 (last ring) and the upper plate ring series from 1315 (1st ring) to 1377 (last ring).

Vérification de la datation par comparaison visuelle avec les chronologies de référence Dendrotech

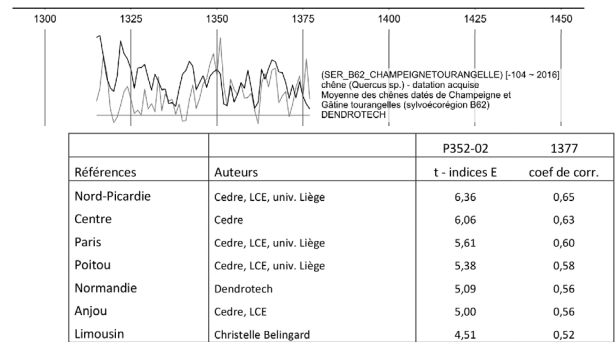


Figure 7 | Calculations of the synchronization between the dendrochronological sequence of the upper panel (P352-02-ech) and the chronologies of the C.E.D.R.E.¹⁷ repository, based on the results of dendrochronological analysis by IRPA/KIK, Brussels (Belg.).

¹¹ Pascale Fraiture : *Results of three campaigns of dendrochronological analysis on the altarpiece of the Adoration of the Mystic Lamb by Hubert and Jan van Eyck (1986-2013)*, p. 76 à 95, in Christina Currie, Bart Fransen, Valentine Henderiks, Cyriel Stroo & Dominique Vanwijnsberghe : *Van Eyck Studies, Papers presented at the Eighteenth Symposium for the Study of Underdrawing and Technology in Painting, Brussels, 19-21 September 2012*, Peeters Publishers, Louvain (Belg.), 2017.

¹² To achieve this, two deep core samples were taken on either side of the joint that joins the two youngest edges of the two boards that make up this panel. These two samples were taken from the most recent rings - chronologically speaking - of both the upper and lower boards.

¹³ Christine Oberlin : *Résultats d'analyse par le Radiocarbonate, La Tentation de saint Antoine X*, échantillons 30805 et 30807, CRDC –UMR 5138 CNRS, Université Claude Bernard Lyon 1, 2008.

¹⁴ Pascale Fraiture : *Rapport de révision de données dendrochronologiques*, N° de dossier : 2023.15357, IRPA/KIK, Bruxelles (Belg.), 2023.

¹⁵ <https://dendro-cedre.fr>

¹⁶ <https://dendrotech.fr>

¹⁷ Christophe Perrault, comm. pers., 23/03/2023. Synchronization calculations are performed using Sylphe software (Meignier, Copyright GNU-GPL 2001) after calibrating the dendrochronological series in Besançon E indices (LAMBERT G.-N. & LAVIER C., 1992, p. 123-156).

Dating indicates that both trees originated in the northern half of France. Dendrochronological analysis and radiocarbon dating are consistent. The gap of almost 60 years between the last-ring dates of the two boards is explained by the differences in their widths, the upper board being half as wide and having half as many rings as the lower one. The absence of sapwood on the boards makes it impossible to determine the precise felling period of the two trees, but provides a terminus post quem for the panel's manufacture: after 1439 (last ring measured on board 1435 + 4 minimum sapwood rings). The same considerations apply as before, namely that beyond this terminus post quem, the loss of heartwood rings is unknown, the amount of sapwood taken into account is minimal (up to 34 rings) and the time between felling and use of the wood is also unknown ¹⁴.

Code dendrochronologique IRPA	Localisation (vue de dos)	Nb. de cerne	Date du premier cerne	Date du premier cerne d'aubier	Date du dernier cerne	Estimation de fabrication du panneau ¹⁸
P352-01-ech	Planche inférieure	122	1314	/	1435	Après 1439 (1434 + 4)
P352-02-ech	Planche supérieure	63	1315	/	1377	

Figure 8 | Table summarizing the dating of *The Great Work of Leonardo*, by plate.

From 2012 to 2016, various non-destructive analyses (X-ray fluorescence spectrometry or SFX), then destructive (stereomicroscopy of paint samples, cross-sections made by including the samples in polished polyester resin until the complete sequence of the different strata was obtained, visible and ultraviolet light microscopy of cross-sections, energy dispersive X-ray spectroscopy [EDS] coupled with scanning electron microscopy [SEM] of cross-sections) were carried out on the paint layer of *The Great Work of Leonardo* ¹⁹. SFX revealed a massive majority of lead (Pb). As the lead signal masked that of tin (Sn), the presence of this element could not be detected in any of the spectra during this non-destructive analysis. Subsequent destructive analyses not only detected this element in the paint layer of *The Great Work of Leonardo*, but also defined the full range of pigments used by the painter: lead-tin yellow (type I), but also azurite, lead white, calcite, fluorite, malachite, ivory black, red ochre and various natural earth pigments.

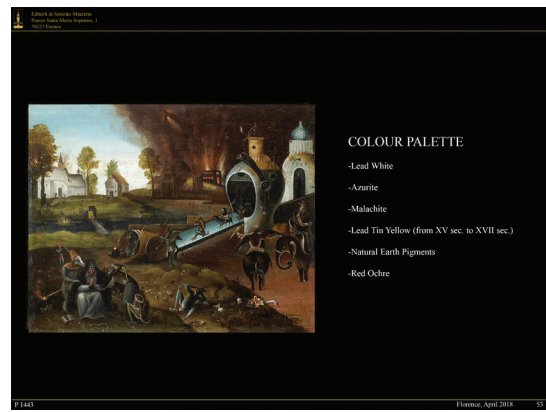


Figure 9 | Palette of the main colors in the paint layer of *The Great Work of Leonardo*, based on analysis by Editech, Firenze (Italy).

They also showed the presence of fluorite, as well as small quantities of natural earth pigments and ivory black in primer ¹⁹. What's more, inclusions of fossilized organisms were also formally identified, this type of inclusion having been documented among northern painters. Fluorite has been documented between 1470 and 1520 (Southern Germany, Austrian Tyrol, Switzerland, Hungary and Polish Silesia) and into the first half of the 16th century in Holland, as well as in the Massif Central (Puy-de-Dôme- France), Asturias (Spain) and the Pyrenees. Lead-tin oxide (type I) has therefore been identified in the painter's palette, this pigment having been used from the 13th to the 18th century, but even more so from the 15th to the 17th century ¹⁹.

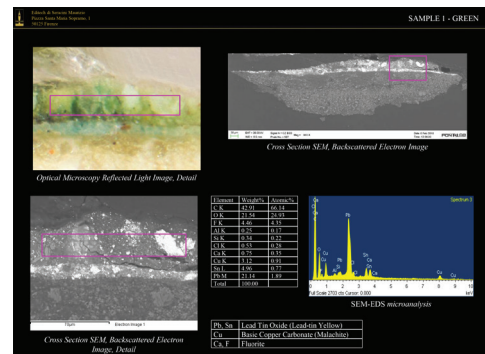


Figure 10 | Energy dispersive X-ray spectroscopy [EDS] coupled with scanning electron microscopy [SEM] of a cross-section of the pictorial layer of *The Great Work of Leonardo* revealing the presence of lead-tin oxide (type I), malachite and fluorite, based on analytical results from Editech, Firenze (It.).

¹⁸ According to LAMBERT G.-N., 2006 ; DUROST S. & LAMBERT G.-N., 2007.

¹⁹ Maurizio Seracini : *Analytical diagnostics, Temptations of St Anthony*, Editech, Florence (It.), 2018.

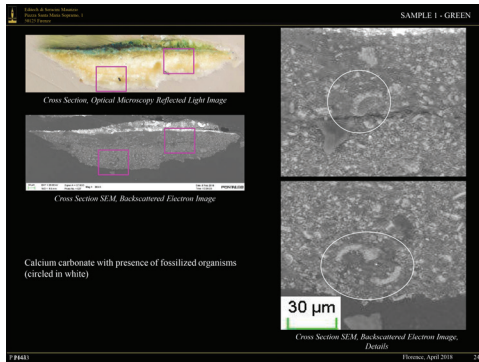


Figure 11 | Scanning electron microscopy [SEM] of a cross-section of the pictorial layer of *The Great Work of Leonardo* revealing the presence of fossilized organisms, based on the results of analysis by Editech, Firenze (It.).

In July 2018, new samples were taken to radiocarbon (C14) date the lead white in the paint layer of *The Great Work of Leonardo*, in an attempt to pinpoint the date of its completion. To date, due to a lack of infrastructure, the results are still pending²⁰.

Analysis

The scene from *The Great Work of Leonardo* is based on the motifs of two pen and ink drawings: *The Temptation of St. Anthony* from the Berlin Prints and Drawings Room (All.)²¹ and the *Hell Scene* from the Dresden Prints and Drawings Room (All.)²², both attributed to the workshop of Jheronimus Bosch or a follower.



Figure 12 | *The Great Work of Leonardo* [top] = *The Temptation of St. Anthony* from the Berlin Prints and Drawings Department (All.) [bottom left] + *The Hell Scene* from the Dresden Prints and Drawings Department (All.) [bottom right].

In 2009, image processing algorithms (thresholding and neural networks) were used in the lower right-hand section of Leonardo's *Great Work*. Two distinct forms of signature were thus formally located and identified: the monogram "JB" included in an anthropomorphic landscape element

²⁰ Cyrielle Messenger under the supervision of Lucile Beck: PhD thesis on the carbon-14 dating of ancient lead white paintings, CEA, Saclay, France, 2018.

²¹ https://commons.wikimedia.org/wiki/File:Possibly_Jheronimus_Bosch_003_recto_01.jpg

²² https://commons.wikimedia.org/wiki/File:Bosch_follower_Scene_from_Hell.jpg

(right profile of a shaggy grotesque head) and, further below and to the right, a cryptogram (still undeciphered to this day) included in a phylactery-shaped cartel. As the various pigments of the painter's palette had not yet been determined at the time this work was carried out, due to the very close - and therefore difficult to discriminate - spectra of the signatures and background at this point in the painting, no complete extraction could finally be carried out²³.

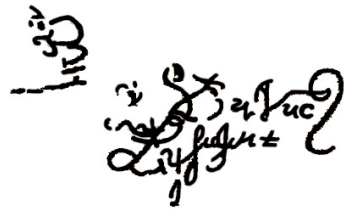


Figure 13 | Identification of the signatures [15 x 25 mm] of *The Great Work of Leonardo* by the Institut d'optique de Palaiseau from a false-color infrared photograph taken by Lumiere Technology, Paris, (Fr.) and partial extraction.

In 2015, one of the most powerful facial recognition algorithms on the world market²⁴ was used to identify (1:51) the face of the "holy hermit" in *The Great Work of Leonardo*. The system ranked all the faces in its database in descending order according to the matching scores obtained one by one. The first position is occupied by the face of the Turin (It.) red chalk portrait commonly attributed to Leonardo da Vinci. The face from the portrait of Leonardo da Vinci in the Royal Library, Windsor (UK), also ranks as a potential candidate - albeit to a lesser extent, given its lower score. This result was confirmed by a visual test-match proposed to a panel of eighty-five people: the ranking similarly placed the face of the portrait from Turin (It.) commonly attributed to Leonardo da Vinci in first position²⁵.



Figure 14 | Detail of the lower left-hand section of *The Great Work of Leonardo*, with the central figure in the triad, the "holy hermit", whose face [10 x 10 mm] is identified by the NeoFace© Watch facial recognition algorithm.

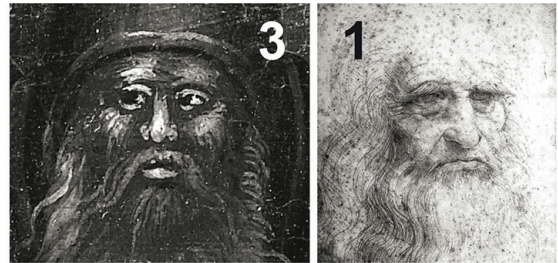


Figure 15 | Identification of the face of the "holy hermit" in *The Great Work of Leonardo* with that of the Turin (It.) portrait commonly attributed to Leonardo da Vinci by the NeoFace facial recognition algorithm © Watch.

The portrait by Leonardo da Vinci in the Royal Library, Windsor (G.B.) is ranked 2²⁵.



Figure 16 | Identification of the face of the "holy hermit" in *The Great Work of Leonardo* with that of the portrait of Leonardo da Vinci in the Royal Library, Windsor (G.B.) by the NeoFace facial recognition algorithm © Watch.

²³ Bertand Paviet-Solomon, Martin Piponnier, Pascal Berto, Amal Mir & Magali Lavoué under direction of Jean Taboury : Project *Traitement des images, recherche et mise en évidence de la signature d'un artiste dans un tableau*, Institut d'Optique, Palaiseau, 2009.

²⁴ NeoFace © Watch by NEC France society.

²⁵ <https://archive.wikiwix.com/cache/display2.php/attachment.pdf?url=https%3A%2F%2Fhal.archives-ouvertes.fr%2Fhal-01821933v2%2Fdocument> : Xavier d'Hérouville, Aurore Caulier & Claude Gaudeau de Gerlicz, « Biométrie appliquée à la reconnaissance faciale de quatre portraits présumés de Leonardo da Vinci », sur HAL archives-ouvertes.fr, 2018.

In 2017, the unexpected discovery of a new anthropomorphic landscape element in *The Great Work of Leonardo* confirms the hypothesis of a portrait by Leonardo da Vinci. This is the left profile of a bearded man, very clearly outlined full center horizontally in the lower third of the painting (so that the panel has to be rotated 90° counter-clockwise to view this left profile in its natural posture and posture)²⁶.

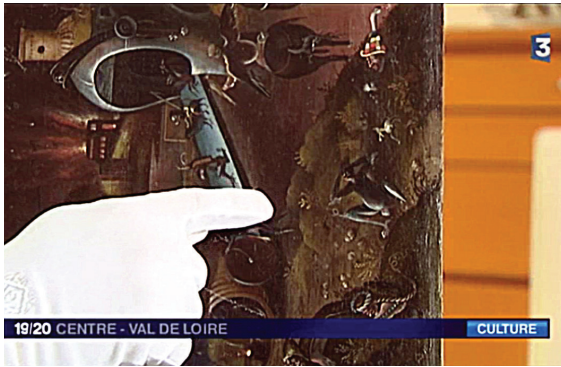


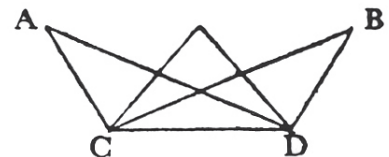
Figure 17 | « Le doute dans les œuvres d'art publiques et privées » by Alain-Georges Emonet, Grégoire Grichois & Philippe Gay © France 3 Centre Val-de-Loire, 2016.

Bushy eyebrows, an aquiline nose and a "flowery beard" are once again explicitly reminiscent of the face in *The Portrait of Turin* commonly attributed to Leonardo da Vinci. On the strength of this latest discovery, this painting - whose apparent theme evokes *the Temptation of St. Anthony* - has been renamed *The Great Work of Leonardo*, in reference to its philosophical meaning, intelligible only to circles of initiates.



Figure 18 | Anthropomorphic landscape element from *The Great Work of Leonardo* [right] depicting the left profile of a bearded man whose features and characteristics recall those of *The Portrait from Turin* (It.) commonly attributed to Leonardo da Vinci [left].

Leon Battista Alberti (1404-1472), polymath humanist, vowed "that the painter, as far as possible, should be learned in all the liberal arts", but he wished "above all that he should be skilful in geometry" (...) He considered that "those who are ignorant of the art of geometry have access neither to the rudiments nor to the reasoned principles of painting". Consequently, he asserted that "painters must beware of despising geometry"²⁷. Leonardo da Vinci made this precept his own. His entire oeuvre is imbued with the rules and principles of perspective, which he theorized in a famous treatise that has unfortunately been lost. His notebooks do, however, contain a few elements of advanced reflection on "natural perspective" and "accidental perspective" (or "constructed perspective") according to a well-defined classification. In line with this "sacrosanct" precept, a "regulating line" seems to stand out in *The Great Work of Leonardo*: a highly original line noted by Hans Schuritz in one of Leonardo's notebooks and reported as an improbable "perspective sketch by Leonardo" by Erwin Panofsky²⁸.



Léonard, esquisse de perspective (?) (copie).

Figure 19 | "Perspective sketch" by Leonardo da Vinci - noted by Hans Schuritz in a notebook by the Florentine master - questioned as such by Erwin Panofsky.

This "regulating line" applied to *The Great Work of Leonardo* raises the question of its possible membership of an original triptych, of which it would be the main central element, dissociated from its side panels²⁹.



Figure 20 | A regular layout of *The Great Work of Leonardo* [central panel of a dismembered triptych?], based on the improbable "perspective sketch by Leonardo" found in a notebook by the Florentine master, by Hans Schuritz.

²⁶ Annie Berthier, archivist and paleographer, honorary curator at the Bibliothèque Nationale de France and specialist in oriental manuscripts and illuminations.

²⁷ <https://archive.wikiwix.com/cache/index2.php?url=http%3A%2F%2Ffrede.over-blog.com%2F2017%2F10%2Fleon-battista-alberti-1404-1472-humaniste-polymathe.html#federation=archive.wikiwix.com> : Le Peintre », sur *La Culture de A à Z*, 2017.

²⁸ Erwin Panofsky : *La Perspective comme forme symbolique*, p. 151, Collection le sens commun, Éditions de Minuit, Paris, 1976 : "The drawing reproduced by H. Schuritz probably has nothing to do with perspective; indeed, it lacks precisely the most important line, namely the posterior side of the "base square" (op. cit. fig.15 Ravaisson-Mollien ms. M fol. 3v)".

²⁹ <https://archive.wikiwix.com/cache/display2.php/attachment.pdf?url=https%3A%2F%2Fhal.archives-ouvertes.fr%2Fhal-01821947%2Fdocument> : Xavier d'Hérouville, Aurore Caulier & Claude Gaudeau de Gerlicz, « Une "perspective secrète" à valeur de signature léonardienne ? », sur HAL archives-ouvertes.fr, 2018.

Attribution

After more than ten years of study, there is still no consensus on the definitive attribution of *The Great Work of Leonardo*. It therefore remains today attributed to an anonymous master of the late 15th, early 16th century. Nonetheless, a number of troubling elements that have come to light in the course of scientific analysis now seem to be definitively directing research into the Boschian and Leonardian spheres, in the case of a Flemish artist who transited and/or worked in France, or a French artist - or one who transited to France - trained in Flanders. This type of exchange was frequent between Flanders and Burgundy in the 15th century, the former belonging to the latter^{3,8}.

Giorgio Vasari, in the first version of "Lives of the greatest Italian architects, painters and sculptors from Cimabue to the present day", said of Leonardo da Vinci: " ³⁰ This proximity to heresy was part of the Florentine artist's reputation, as can be seen, for example, in the imaginary autobiography of Leonardo da Vinci written by Giovanni Paolo Lomazzo in 1563 ³¹. Claire Guillon, in her dissertation "La Pensée ésotérique de Léonard de Vinci : étude de son œuvre manuscrite" (The esoteric thought of Leonardo da Vinci: a study of his manuscript work), under the direction of Pascal Briost³², still supports this thesis today: "Having commented at length on Leonardo's writings, we can now consider da Vinci's work in the light of the four characteristics that define esotericism according to Antoine Faivre. Thus, it seems undeniable that Leonardo sees Nature as a living being, and that he builds bridges between the different levels of reality, since man proceeds from Nature, which itself proceeds from God. This filiation authorizes the existence of universal correspondences between these different levels of reality, as da Vinci envisages with the macrocosm and the microcosm. The experience of inner transformation is perhaps the most surprising notion to emerge from Leonardo, yet it seems to be at the heart of his scientific approach, this quest for knowledge that pushes him ever further in his understanding of things in the universe, from the Soul to the Intellect to the One (...) Da Vinci was interested in understanding the world, both tangible and intangible; Leonardo was a scientist and philosopher, a scientist because he was a philosopher. What we think of today as esoteric characteristics were not for him. He was not a necromancer, alchemist or enchanter, nor did he chase after chimeras that he himself condemned; he simply wanted to understand the universe at a time when everything had yet to be discovered. The study of Leonardo's manuscripts

thus leads us to reconsider the distinction between science and philosophy as it has been understood since the "scientific revolution", which we can more generally translate as the split between the exact sciences and the humanities. Several considerations come to mind. The first is in line with Bruno Latour's observations: why is this distinction still so prevalent today? The second is epistemological: we can legitimately ask ourselves whether it is not a historical misunderstanding to consider the understanding of the universe prior to the "scientific revolution" as part of an esoteric approach. Is it not simply the expression of men of the past seeking to understand the processes of the world they inhabited? Shouldn't the fact that the exact sciences and the humanities were only considered as part of a coherent whole lead us to reflect on how we seek to understand the universe today by compartmentalizing things? Leonardo is surely giving us something to think about. Michel Rapp, in his book "L'Ésotérisme de Léonard de Vinci"³³, reinforces this thesis: "Esotericism, as we understand it in this book, refers to an understanding of man and the universe that goes beyond the material and is expressed in a way that can only be read by the initiated. In other words, it is a spiritual conception of the world expressed in a coded, even symbolic language (...) Leonardo da Vinci's esotericism is therefore infinitely rich. Starting from a simple analogy between microcosm and macrocosm, between man and nature, he overcame both hasty assimilations and apparent oppositions to achieve the universal vision he so cherished. He thus inscribed man in nature, light in darkness, the feminine element in the representation of man. For both are only partial visions of reality, which only make sense when they are brought together".

Ultimately, when it comes to authenticating *The Great Work of Leonardo*, the author of such an esoteric pictorial manifesto could just as well be Leonardo da Vinci himself, as one of his students, collaborators or freemasons from his close or distant circle, who, through this painting, wanted to pay tribute - in the form of a testimony for posterity - to his work, devout for the profane, heterodox and sacred for the initiated³.

³⁰ <https://archive.wikiwix.com/cache/display2.php/attachment.pdf?url=https%3A%2F%2Fhal.archives-ouvertes.fr%2Fhal-01521286%2Fdocument> : Anne Sconza under direction of Emmanuelle Hémin, François Lecercle & Lise Wajeman, « Les Anecdotes vasariennes sur Léonard de Vinci, La Théorie subreptice, Les anecdotes dans la théorie de l'art (XVIIe-XVIIIe siècle), Brepols Publishers, 2012 » [archive], sur HAL archives-ouvertes.fr : "Baldassar Castiglione had already helped to spread a sulphurous image of Vinci as a genius with a "chimerical" mind, without even mentioning him explicitly. Vasari extends this judgment, reminding us that this artist's curiosity went very far, even to the point of investigating the fields of natural philosophy and astronomy. Indeed, the portrayal of Leonardo as a "magician", passionate about observing nature and "alchemical" experiments, stems from a lack of knowledge that had to wait several centuries before being filled (...). Vasari's biography contributes, on the contrary, to transmitting a distorted image of the artist, significantly summed up in a statement in the Torrentiana (original edition of 1550) of Le Vite de' più eccellenti architetti, pittori, et scultori italiani da Cimabue insino a' tempi nostri, which is eliminated in the Giuntina (following edition of 1568)".

³¹ Giovanni Paolo Lomazzo : Sciti sulle arti, vol.2, Marchi & Bertolli, Florence, 1974, p. 109 and others : "Eventually I became so possessed with science that I almost fell into heresy, for I was on the point of esteeming the Christian religion no more than philosophy".

³² <https://cgcesr.wordpress.com/la-pensee-esoterique-de-leonard-de-vinci/> : Claire Guillon, « La Pensée ésotérique de Léonard de Vinci : étude de son œuvre manuscrite », Mémoire de Master 1 "Renaissance et Patrimoine", Centre d'Études Supérieures de la Renaissance à Tours sous la direction de Pascal Briost, Carnet de recherche, 12 juin 2015, p.55-56.

³³ Michael Rapp : L'Ésotérisme de Léonard de Vinci, Éditions Bussière, novembre 2017, p.55, p.116 et 117.

ATTACHMENTS :

1- THE MASTER'S GREAT WORK FOLLOWERS



Figure 1 | Thomas Murner, illustration taken from *Du grand fou luthérien* - 1522.



Figure 2 | Herri Met de Bles, *Scene from Hell*.



Maitre anonyme c. 1500



Herri Met de Bles (1500 -1555)



Figure 3 | Pieter Huys, *The St Anthonyus temptation*.



Maitre anonyme c. 1500



Pieter Huys (1519-1584)

Le dragon rouge

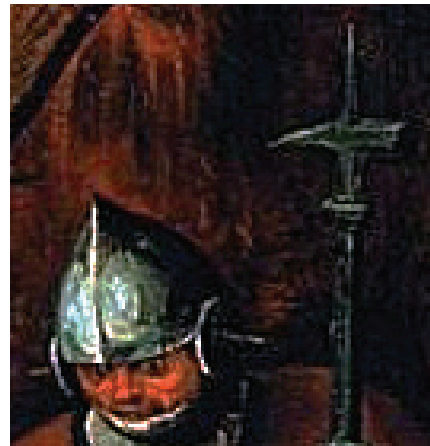


Figure 4 | Pieter Brueghel l'Ancien, detail from *The Adoration of the Magi* - 1564



LUCISUGE ROSOCALÉ



Gods Providence. CXLIX - *Providentia Dei.*



Figure 5 | Jan Amos Comenius, *The Divine providence*, extract from *Orbis sensualium pictus* - 1658.

ATTACHMENTS :

2- COMPARATIVE ICONOGRAPHY



Figure 6 | Jheronimus Bosch or follower.



Figure 7 | Jheronimus Bosch, detail from *The Garden of delights*.



Figure 8 | Jheronimus Bosch or follower.



Figure 9 | Jheronimus Bosch, detail from *The St. Antony temptation*.

The winged knight-falconer with a thistle for a head, astride a horse whose belly symbolizes an alchemical vessel, is one of the painter's most evocative creatures and could illustrate his "modus operandi", so typical is it. As the rider of this alchemical animal, Bosch conceived a falconer with a symbolic mood. (Virginia Pitts-Rembert : BOSCH, Parkstone Press LTD, 2004).

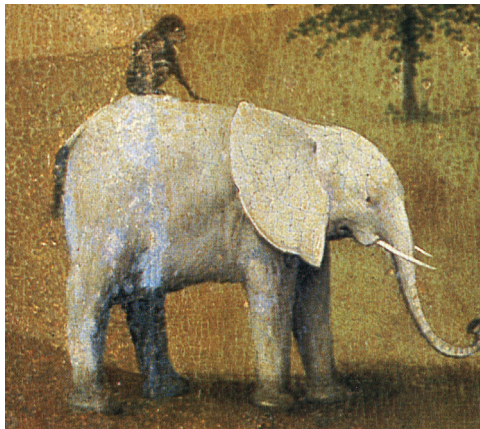


Figure 10 | Jheronimus Bosch, detail from *The Garden of delights*.



Figure 11 | Leonardo da Vinci, detail from *The Adoration of the Magi* (RIR © Editech, Firenze, It.).



Figure 12 | Leonardo da Vinci.



Figure 13 | Jheronimus Bosch, detail from *The Haywain Triptych*.



Figure 14 | Venetian barbute from the late 15th century.



Figure 15 | Jheronimus Bosch or follower.

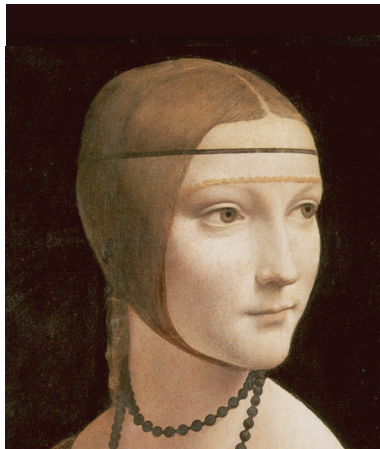


Figure 16 | Leonardo da Vinci, face of *The Lady with an hermin*.

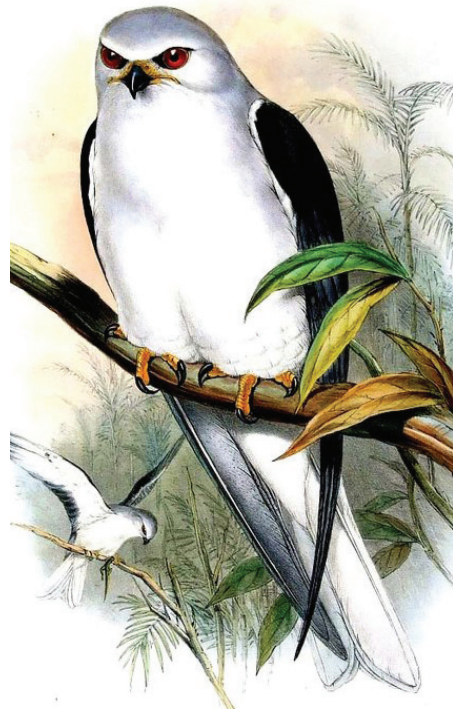


Figure 17 | Superposition/ transparency face + helmet.



Figure 18 | Nibbio bianco or White kite.

Questo scriver si distintamente DEL NIBIO par che sia mio destino, perche nella mia prima ricordatione della mia infantia e mi pareva che essendo io in culla, che UN NIBIO venissi a me e mi aprissi la bocca colla sua coda e molte volte mi percuotessi con tal coda dentro alle labbra (Leonardo da Vinci, CODEX ATLANTICUS, folio 66v).





Underlying drawing (RIR © KIK-IRPA, Brussel, Belg.).



Figure 20 | Jheronimus Bosch, detail from *The St Antony temptation*.



Figure 21 | Leonardo da Vinci, *Allegory of the wolf and the eagle*.



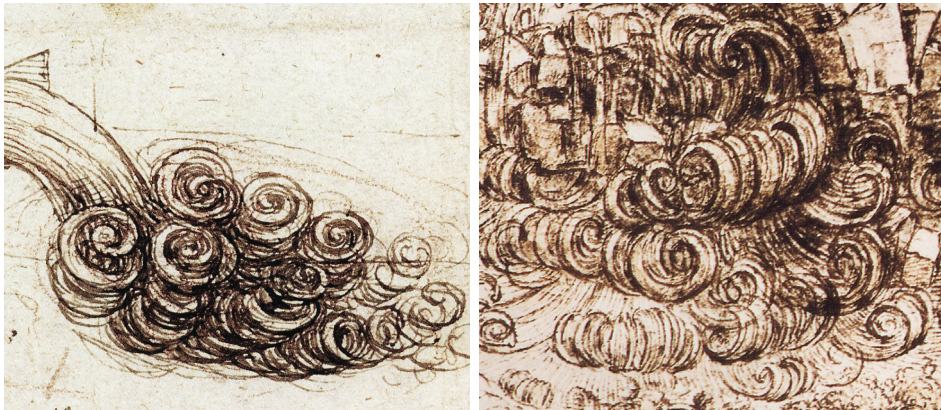
Figure 22 | Leonardo da Vinci, *Allegory with lizard*.



Figure 23 | Jheronimus Bosch, detail from *The Seven Deadly Sins*.



Underlying drawing positiv/negativ (RIR © KIK-IRPA, Brussel, Belg.).



Figures 24 et 25 | Leonardo da Vinci, *Turbulence studies*.



Figure 26 | after Leonardo da Vinci, detail of *Leda and the Swan*.



Figure 27 | Jheronimus Bosch, detail from *The Seven Deadly Sins*.



Underlying drawings (RIR © KIK-IRPA, Brussel, Belg.).



Figure 28 | Leonardo da Vinci, *grotesque figures*.



Figure 29 | *Portrait of Turin* attributed to Leonardo da Vinci.



Figure 30 | Leonardo da Vinci, *anthropomorphic landscape* from *The Adoration of the Magi* after 90° levogyral rotation.



Comet "Lord Astone" - 1500 ?

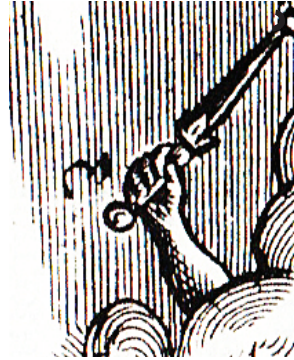


Figure 35 | Jan Amos Comenius, *The hand of God*, extract from *The Divine providence* - 1658.



Figure 35 | Jan Amos Comenius, *Comet and witch circle*, extract from *The Divine providence* - 1658.



Figure 35 | Nucleus of Halley's comet as seen by the European probe Giotto - 1986.



*The esoteric science revealed in this painting is so profound that one wonders where and how a man in the late Middle Ages could have acquired it. What universities or academies taught such anthropogony? Only in Italy, in the neo-Platonic Florence of Marsilio Ficino, Pico della Mirandola and Christoforo Landino, did a similar syncretism flourish, blending Christian doctrine of salvation, Greek philosophy of nature, the profound symbolism of the Hellenistic and Gnostic Mysteries, the practice of magic and theurgic therapeutics (Wilhelm Fraenger, *Le Royaume millénaire de Jérôme Bosch*, éditions Denoël - 1947).*