

Supplementary Information for

The actual sky of Van Gogh's *Starry Night*: a multidisciplinary reconstruction

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Supplementary Notes

Estimating the Painting Time of *Starry Night over the Rhône* (S1)

This rests on the arrangement in which β UMa is depicted to the right (east) of α on the canvas. According to the simulation, the east–west reversal of the two stars holds from around 22:16, just before the two stars successively pass lower culmination. The specific moment at which Vincent observed this night sky and captured it on canvas is thereby identified.

Maximum angular altitude of the sky region in *Café Terrace at Night* (S2)

The maximum altitude angle of the sky region in the painting was estimated by the following independent methods, and the results converge on about 28°.

Triangulation from building geometry. From a past photograph in which a figure was photographed in front of the hotel building depicted on the right of the painting, the building height was estimated using the figure's height as the scale reference. The total building height was set at a conservative upper bound of 16 m, a value within the façade limits of nineteenth-century French urban building (17.55 m under the Paris regulations); because the two photographic checks below corroborate the result independently, this bound was judged not to affect the outcome. Subtracting Vincent's eye height (about 1.6 m) gives a relative height of 14.4 m, which, together with the painting-site-to-building horizontal distance of 26.7 m measured on a modern satellite map, yields $\theta = \arctan(14.4 / 26.7) = \arctan(0.5393) \approx 28.34^\circ$. Because 16 m is an upper bound, the resulting 28.34° likewise corresponds to an upper bound on the altitude angle of the top of the sky.

Moon position and Sirius altitude: independent photographic corroboration. In field photographs uploaded to Google Maps (October 2022) [37,38], during civil twilight (19:20–19:49 CEST, 2 October 2022) the Moon's altitude angle was steady at 17.72°–17.98°, corresponding to the vertical mid-region of the sky region in the painting and yielding a maximum altitude angle of about 28°. In a photograph taken at the same spot in April 2023, Sirius (maximum altitude angle 29.98°) was confirmed at a position higher than the top of the sky region [39], independently supporting an upper bound below 30° on the altitude angle of the top of the sky.

Canvas and sky-fitted coordinates, coordinate transformation, and Procrustes computation (S3)

Gnomonic projection and flux-weighted centroid computation. The centroid of the entire star set ($\bar{x} = (1/n)\sum x_i$, $\bar{y} = (1/n)\sum y_i$) was computed and reset as the new origin; the celestial reference points were then obtained from the Hipparcos Catalogue (J2000.0 equinox) and gnomonic perspective-projected onto the local tangent plane with the field center (α_0 , δ_0) as the point of tangency:

$$D = \sin \delta_0 \sin \delta + \cos \delta_0 \cos \delta \cos(\alpha - \alpha_0)$$

$$\xi = \cos \delta \cdot \sin(\alpha - \alpha_0) / D, \eta = [\cos \delta_0 \sin \delta - \sin \delta_0 \cos \delta \cos(\alpha - \alpha_0)] / D$$

Applying the axis-conversion convention $x = -\xi$, $y = +\eta$ and multiplying by the initial scale S

yielded the sky coordinate matrix K ($k \times 2$) in mm. In the Hyades analysis, θ^1/θ^2 (angular separation 5.6') and δ^1/δ^2 (angular separation 17.6') each correspond to a single reference point (Sn6, Sn7), so the flux-weighted centroid was adopted as the representative coordinate. The weights are $w_i = F_i/\Sigma F_j$, $F_i = 10^{-(m_i/2.5)}$, and the Johnson V magnitudes were obtained from SIMBAD (θ^1 : 3.84, θ^2 : 3.40, δ^1 : 3.76, δ^2 : 4.80) [40]. Derived weights: θ^1 40.0%, θ^2 60.0%, δ^1 72.3%, δ^2 27.7%. The next brightest stars after these five reference points appear only after a gap of 0.45 magnitude and are clustered within 0.1 magnitude (κ^1 4.20, 90 Tau 4.27, υ 4.28, δ^3 4.30; SIMBAD Johnson V).

Closed-form 2D Procrustes computation. For the canvas coordinate matrix C and the sky coordinate matrix K , the cross-product matrix $M = C^T K$ was constructed. The optimal isotropic scale was computed directly from the singular values σ_0, σ_1 of M (obtained in 2×2 closed form) as $S_{\text{fit}} = (\sigma_0 + \sigma_1)/\text{Tr}(K^T K)$, and the optimal rotation angle in closed form as $\theta = \arctan2(M_{21} - M_{12}, M_{11} + M_{22})$. This is mathematically equivalent to the SVD-based Procrustes solution ($M = U \Sigma V^T$, $R = UV^T$), and because the closed-form rotation is always a proper rotation with $\det = +1$, reflections are excluded without computing a separate rotation matrix. The fitted coordinates are obtained as $\text{Fit}_x = S_{\text{fit}}(\cos\theta \cdot x_{\text{sky}} - \sin\theta \cdot y_{\text{sky}})$, $\text{Fit}_y = S_{\text{fit}}(\sin\theta \cdot x_{\text{sky}} + \cos\theta \cdot y_{\text{sky}})$, from which the per-point residuals r_i , the normalized residuals p_i , and the work-level fit pCS are derived. The derived rotation angle θ is a coordinate-frame alignment parameter and is independent of the actual tilt of the celestial pattern relative to the horizon.

Robustness of the central-asterism shape fit to point and label selection (S4)

The Hyades fit (R5) was derived from five canvas reference points designated in advance among the eleven stars in the painting. The robustness of this point and label selection was assessed by a random-placement test and a permutation test, all of which were run by repeating the same closed-form pCS engine described in Supplementary Note S3 with only the inputs changed (permutation and randomization procedures follow Manly [41]).

Statistical reporting. Both tests are non-parametric procedures that assume no particular distribution; the null distribution is constructed directly from the data, so normality is neither assumed nor tested. This is why they were chosen over parametric alternatives for the small samples used here ($k = 3-8$). The alternative hypothesis is directional — that the observed pCS is smaller than would arise by chance — and all P values are therefore one-tailed. The significance level was set at $\alpha = 0.05$, and exact P values are reported throughout. Because the permutation tests enumerate every possible labeling ($k!$) and every subset ($C(11, 5) = 462$) exhaustively, they are exact tests: no inflation of the Type I error rate arises from multiple comparisons, and no correction to α was applied.

Monte Carlo test on random point placement. To control for the probability that a chance placement produces a shape match, we generated the null distribution of pCS — obtained by placing k points at random within the comparison sky region and fitting them to the canvas asterism — from $n = 200,000$ draws and defined P as the proportion of samples at or below the observed value (one-tailed). The median of the null distribution was about 40% at $k = 5$. The

winter asterism in *Millet's Starry Night* (3.85%, $k = 8$), the Big Dipper (6.54%, $k = 7$) and the Summer Triangle and β/δ Cyg (5.46%, $k = 5$) never produced a value at or below the observed one in 200,000 draws, giving $P < 5 \times 10^{-6}$, while the Hyades (8.17%), the largest-residual fit among those adopted, appeared rarely, giving $P \approx 3 \times 10^{-5}$. Aries ($k = 3$, 5.36%) exceeded random placement at $P \approx 0.008$, but the null distribution of the low-DOF $k = 3$ case is very permissive (the 5th percentile of pCS is 13.2% at $k = 3$ and 26.8% at $k = 5$).

Permutation tests on point selection and labeling. When all $5! = 120$ labelings assigning the Hyades skeletal labels (ϵ , α , θ , δ , γ Tau) to the five selected stars were computed, the anatomically correct labeling ranked first as the unique minimum pCS (8.17%) ($P \approx 1/120 \approx 0.008$). In the same test, the winter asterism in *Millet's Starry Night* ranked first of $8! = 40320$, the Big Dipper first of $7! = 5040$ and the Summer Triangle and β/δ Cyg first of 120, whereas Aries ranked only second of $3! = 6$ and failed to form a unique optimum; at $k = 3$, the minimum possible permutation P is $1/3! \approx 0.167$. The $k = 3$ Aries result is therefore classified as reference-only rather than as identification evidence, even though it exceeds random placement. Furthermore, when each of the $C(11, 5) = 462$ subsets of five points drawn from the eleven stars (Sn1–Sn11) was fitted with its optimal labeling, the {Sn2, Sn3, Sn6, Sn7, Sn10} pre-designated by this study ranked first of 462 (8.17%), and no subset surpassed it. This optimal subset does not include Sn8, the bright object interpreted as Venus, supporting that the selection of the five points is not a post-hoc fit (Supplementary Table S7).

Bioclimatic proxy selection: rationale for the 30 °C threshold (S5)

Vincent's Arles and Saint-Rémy letters describe the sound of cicadas and the intense heat as core sensations of summer (R8). To convert this qualitative signal into a quantifiable variable, this study adopted the number of days with a daily maximum temperature ≥ 30 °C as a meteorological proxy for conditions suited to sustained cicada activity. Laboratory experiments on three western-Mediterranean cicada species showed that most individuals do not call below 24 °C and that, across the summer temperature range, calling-time parameters increase substantially with rising temperature [42]. Field measurements of three Tibicina species in southern France likewise confirmed a minimum calling-onset temperature of 22–24 °C, with the acoustic power of the calls increasing continuously as the temperature rose toward 30 °C and beyond [43]. The 30 °C threshold was therefore selected not as the activity minimum of a particular species but as a meteorological criterion representing the sustained high-temperature environment of Provence in which cicada song is not merely initiated but acoustically substantially intensified. This threshold was applied solely for the purpose of comparing the numbers of hot days in June and July 1889 at the Avignon station in Supplementary Table S8.

Meteorological record for 21–22 July 1889 (S6)

On 22 July 1889, convective storms developed across the region (Avignon, thunderstorm and lightning at noon; Nîmes, cumulonimbus at 06:00; Aix-en-Provence, a shower in the evening). Because convective precipitation is spatially localized and orographically influenced [44], an average

over widely separated stations does not represent the conditions at a specific site and time. We therefore adopt as a local proxy the observation record of Avignon, the nearest station (~19 km from Saint-Rémy) on the same (eastern) bank of the Rhône and within the same climatic zone.

At Avignon, the state of the sky (*état du ciel*) was clear (*beau*) throughout 21 July, became "few clouds" (*peu nuageux*) at 18:00 and 21:00, remained *peu nuageux* at 06:00 and 09:00 on 22 July, and turned to "cloudy" (*nuageux*) at noon. The night of 21 July does, however, carry a record of 2.5 mm of rain with the remark "Pluie de 10h s. et dans la nuit" (rain from 22:00 and during the night). The amount is small, and this entry alone cannot establish whether the sky was overcast during the pre-dawn observation window.

The observation window — from 01:53, when Venus crosses the operational horizon, to 03:20, the onset of nautical twilight — spans about 87 minutes and is therefore comparatively long, so the observation does not depend narrowly on a single instant. Taken together, the nearest local record shows neither overcast (*couvert*) nor sustained precipitation in the hours bracketing the pre-dawn window, and the overnight rainfall was slight; the hypothesis of a pre-dawn observation on 22 July is therefore not excluded by the meteorological record.

Vocabulary and syntax of Letter 782 in the original French (S7)

The relevant sentence of Letter 782 has been cited as the principal epistolary evidence for the June dating of *The Starry Night*. Boime [12] and Whitney [13] read it as indicating that *Olive trees* and *The Starry Night* came into being together in mid-June. This note examines, on the basis of the French original, what the sentence states about the time of completion.

Syntax. The original reads *Enfin j'ai un paysage avec des oliviers et aussi une nouvelle étude de ciel étoilé*. The adjective *nouvelle* attaches directly to *étude* and does not modify the preceding *paysage*; the two noun phrases are coordinated by *et aussi* and presented as independent objects.

Scope of the vocabulary. In Vincent's usage, *étude* does not indicate whether a work is finished. In the postscript of Letter 782 he calls the drawings made in the garden *des études hâtives*. In Letter 677 (9 September 1888), planning to exhibit the *décoration* of the Yellow House as an ensemble the following year, he writes that *études* should not be confused with *compositions*. Seventeen days later, in Letter 689 (26 September 1888), the same body of work intended for 1889 — the *décoration*, then including the two no. 30 *Sunflowers* (F456, F454) — is called *la série d'études*. Because the designation of a single group of works shifts even over a short interval, the word does not indicate a state of completion at a given time.

Time of dispatch. The future tense of *Lorsque pendant quelque temps tu auras vu ces deux études ainsi que celle du lierre* indicates that, at the time of writing, none of the three works had reached Theo. The two works are next mentioned together in Letter 805 (20 September) (Letter 782, n. 7). Letter 782 records the inception of the two works and the fact that they had not been dispatched; it contains no statement about the time of completion.

Supplementary Tables

Supplementary Table S1 | *Millet's Starry Night* — Orion & Canis Major. $\rho_{CS} = 3.85\%$, ρ_{CS} uncertainty (SEM-propagated): ± 0.004 pp

ID	Star	HIP	X_C (mm)	Y_C (mm)	Fit X (mm)	Fit Y (mm)	r_i (mm)	ρ_i (%)
Mi1	δ CMa	34444	-335.10	-75.38	-351.30	-70.86	16.82	3.38
Mi2	α CMa	32349	-221.75	28.83	-204.20	7.87	27.34	5.50
Mi3	κ Ori	27366	-12.56	-21.18	6.67	-21.41	19.23	3.87
Mi4	ζ Ori	26727	78.00	38.99	86.39	48.37	12.58	2.53
Mi5	ϵ Ori	26311	98.38	43.28	104.71	47.47	7.60	1.53
Mi6	δ Ori	25930	119.57	47.51	123.55	49.01	4.25	0.86
Mi7	η Ori	25281	130.59	10.81	127.18	11.14	3.43	0.69
Mi8	β Ori	24436	142.88	-72.85	107.01	-71.57	35.89	7.22

Supplementary Table S2 | *Starry Night over the Rhône* — Big Dipper. $\rho_{CS} = 6.54\%$, ρ_{CS} uncertainty (SEM-propagated): ± 0.016 pp

ID	Star	HIP	X_C (mm)	Y_C (mm)	Fit X (mm)	Fit Y (mm)	r_i (mm)	ρ_i (%)
Rh1	η UMa	67301	-243.76	-2.36	-217.50	-6.80	26.64	7.22
Rh2	ζ UMa	65378	-128.79	30.20	-123.13	32.81	6.23	1.69
Rh3	ϵ UMa	62956	-42.63	19.30	-59.95	15.95	17.63	4.78
Rh4	δ UMa	59774	26.37	-1.51	19.14	1.74	7.93	2.15
Rh5	γ UMa	58001	91.99	-44.74	49.89	-57.82	44.09	11.95
Rh6	α UMa	54061	144.02	28.55	165.58	47.53	28.72	7.79
Rh7	β UMa	53910	152.82	-29.43	165.96	-33.40	13.73	3.72

Supplementary Table S3 | *Café Terrace at Night* — Summer Triangle and β/δ Cyg. $\rho_{CS} = 5.46\%$, ρ_{CS} uncertainty (SEM-propagated): ± 0.056 pp

ID	Star	HIP	X_C (mm)	Y_C (mm)	Fit X (mm)	Fit Y (mm)	r_i (mm)	ρ_i (%)
Ct1	α Aql	97649	-140.22	66.41	-146.15	62.61	7.04	3.13
Ct2	β Cyg	95947	-48.64	4.50	-35.30	-2.77	15.19	6.75
Ct3	α Lyr	91262	31.95	-89.15	15.34	-84.41	17.27	7.67
Ct4	δ Cyg	97165	67.89	-26.81	70.42	-16.33	10.78	4.79
Ct5	α Cyg	102098	89.03	45.05	95.70	40.90	7.85	3.49

Supplementary Table S4 | *The Starry Night* — Hyades. $\rho_{CS} = 8.17\%$, ρ_{CS} uncertainty (SEM-propagated): ± 0.022 pp

ID	Star	HIP	X_C (mm)	Y_C (mm)	Fit X (mm)	Fit Y (mm)	r_i (mm)	ρ_i (%)
Sn2	ϵ Tau	20889	-182.18	109.75	-207.85	146.42	44.76	9.46
Sn3	α Tau	21421	-158.72	-207.92	-126.33	-204.00	32.63	6.90
Sn6	θ Tau †	—	20.40	-95.33	59.60	-108.49	41.35	8.74
Sn7	δ Tau ‡	—	38.06	113.46	27.33	121.67	13.51	2.86
Sn10	γ Tau	20205	282.45	80.04	247.25	44.40	50.09	10.59

†, ‡ (Tables S4, S5): θ Tau and δ Tau are the flux-weighted centroids of θ^1/θ^2 Tau (HIP 20732/20894) and δ^1/δ^2 Tau (HIP 20455/20542), respectively.

Supplementary Table S5 | F1540 — Hyades. $\rho_{CS} = 6.62\%$, ρ_{CS} uncertainty (SEM-propagated): ± 0.030 pp

ID	Star	HIP	X_C (mm)	Y_C (mm)	Fit X (mm)	Fit Y (mm)	r_i (mm)	ρ_i (%)
Rp2	ϵ Tau	20889	-143.22	67.93	-144.35	92.82	24.91	7.85
Rp3	α Tau	21421	-96.45	-134.98	-79.38	-141.18	18.17	5.72
Rp6	θ Tau †	—	25.10	-68.81	43.29	-71.47	18.38	5.79
Rp7	δ Tau ‡	—	36.32	81.57	14.96	82.83	21.40	6.74
Rp10	γ Tau	20205	178.25	54.27	165.47	36.99	21.50	6.77

Supplementary Table S6 | Measured canvas coordinates of the eleven star-marks in the central asterism of *The Starry Night* (mm).

ID	X1	Y1	X2	Y2	X3	Y3	$\bar{X}$	$\bar{Y}$
Sn1	40.94	398.14	41.65	397.9	41.31	397.84	41.30	397.96
Sn2	99.2	696.2	99.81	696.22	99.75	695.92	99.59	696.11
Sn3	122.93	378.37	123.24	378.36	122.96	378.61	123.04	378.45
Sn4	214.68	704.31	214.76	704.54	214.92	704.27	214.79	704.37
Sn5	219.3	600.67	219.33	600.67	219.01	600.62	219.21	600.65
Sn6	301.92	490.88	302.48	491.24	302.09	490.97	302.16	491.03
Sn7	319.23	700.01	320.76	699.94	319.47	699.51	319.82	699.82
Sn8	330.84	339.95	331.12	340.12	330.7	339.97	330.89	340.01
Sn9	380.1	681.07	379.8	681.27	380.03	680.9	379.98	681.08
Sn10	563.47	666.73	565.05	666.31	564.11	666.18	564.21	666.41
Sn11	654.31	558.35	654.12	557.91	655.18	557.55	654.54	557.94

Note: Three independent CAD measurements per point (M2); $\bar{X}$, $\bar{Y}$ are the per-point means in the raw canvas frame, used as the common input to all Procrustes fits. Centered coordinates (Supplementary Tables S4, S5) follow by subtracting the centroid of each matched subset. Skeletal Hyades points: Sn2, Sn3, Sn6, Sn7, Sn10. Aries points: Sn5, Sn10, Sn11. Sn8 is the bright object interpreted as Venus.

Supplementary Table S7 | Null-distribution test results for the six painting–asterism fits.

Fit	k	pCS (%)	Monte Carlo P	Anatomical labeling rank
Orion & Canis Major (<i>Millet's Starry Night</i>)	8	3.85	$< 5 \times 10^{-6}$	1 of 40320
Big Dipper (<i>Starry Night over the Rhône</i>)	7	6.54	$< 5 \times 10^{-6}$	1 of 5040
Summer Triangle and β/δ Cyg (<i>Café Terrace at Night</i>)	5	5.46	$< 5 \times 10^{-6}$	1 of 120
Hyades (<i>The Starry Night</i>)	5	8.17	$\approx 3 \times 10^{-5}$	1 of 120
Hyades (F1540)	5	6.62	$< 5 \times 10^{-6}$	1 of 120
Aries (<i>The Starry Night</i>)	3	5.36	≈ 0.008	2 of 6

Note: The Aries fit ($k = 3$) is reported for reference only. Although its Monte Carlo P value falls below $\alpha = 0.05$, it ranks only second of six in the labeling permutation test and does not form a unique optimum.

Supplementary Table S8 | Daily maximum temperature and number of hot days ($\geq 30^\circ\text{C}$) at Avignon, June–August 1889.

Month	June	July	August
Number of hot days ($T_{\text{max}} \geq 30^\circ\text{C}$)	4	18	19
Intra-monthly concentration of hot days	Concentrated on 6–8 June (early month)	Continuous from 4–18 July	Recurrent throughout the month
Mean daily maximum temperature ($^\circ\text{C}$)	28.2	29.2	29.6
Maximum daily temperature ($^\circ\text{C}$)	33.0	34.0	34.0

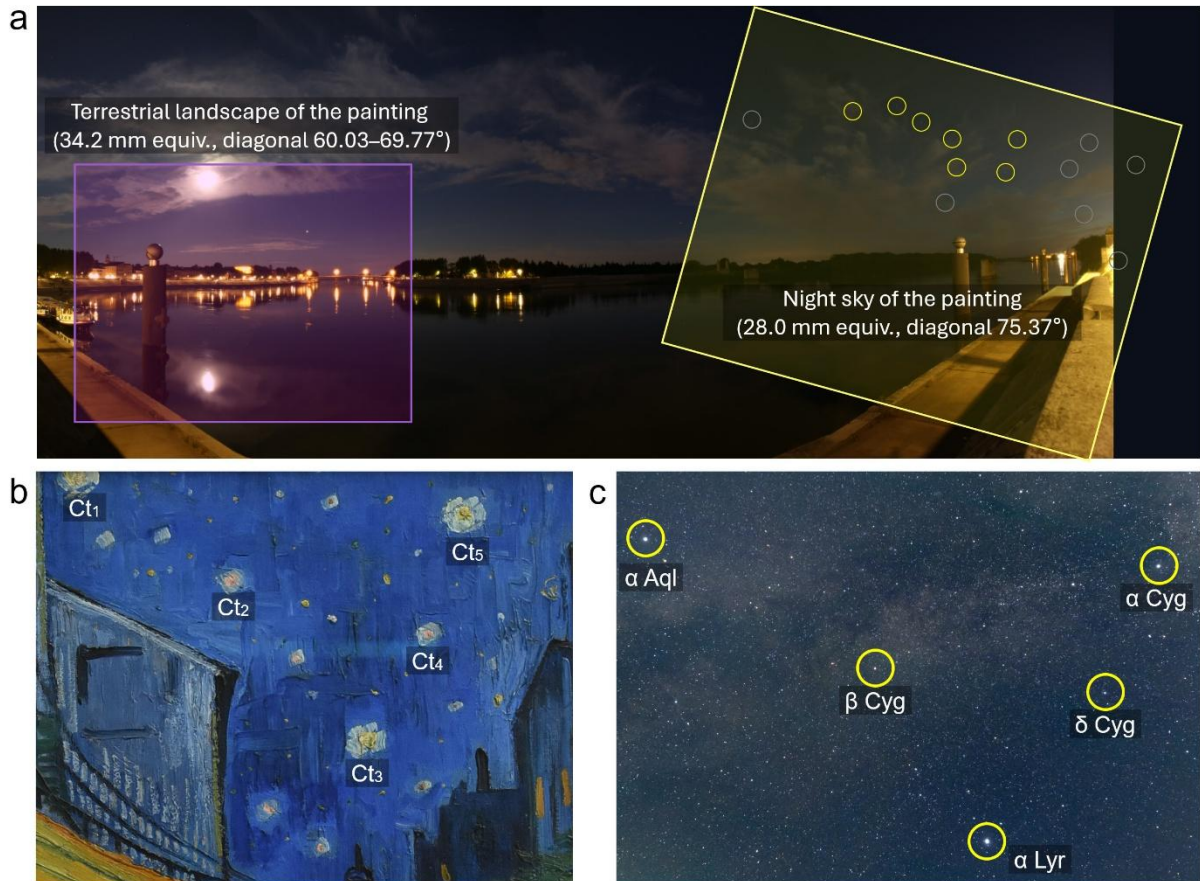
Note: Values are derived from 1889 meteorological records for the Avignon station in the Météo-France digital archive, as compiled and analyzed in this study (M5).

Supplementary Table S9 | GPS coordinates of painting sites and LMT offsets used in this study.

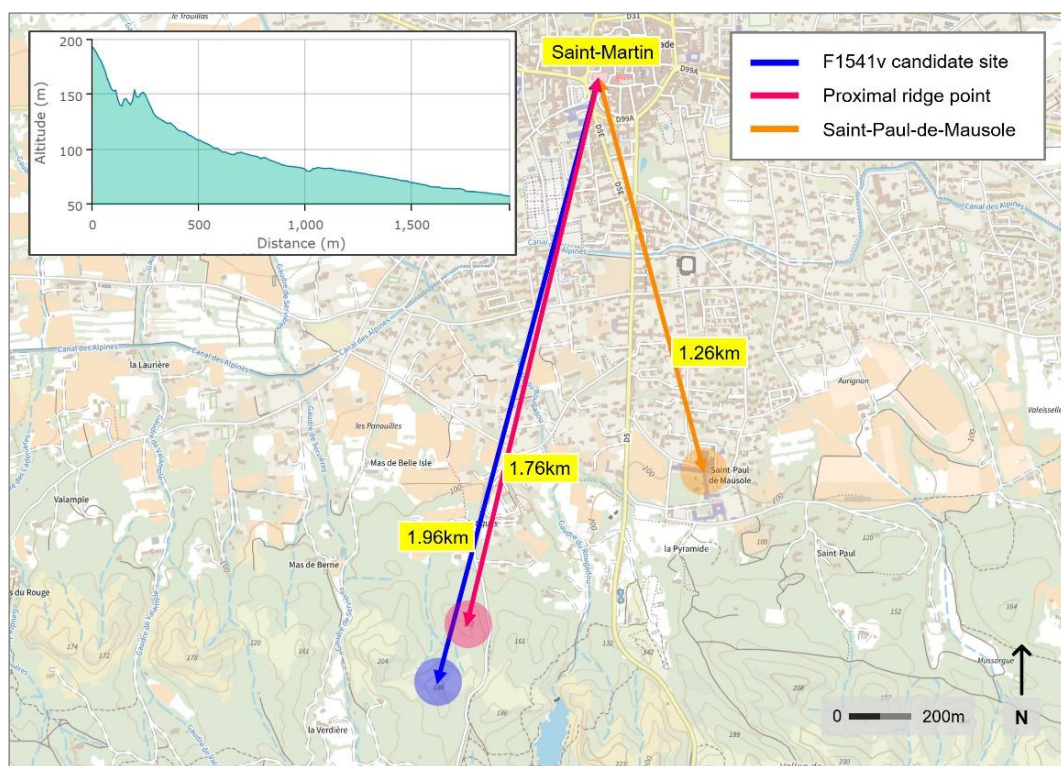
	Painting	GPS Coordinates	Altitude	LMT
1	<i>Starry Night over the Rhône</i>	43.6818° N, 4.6301° E	35 m	UTC +0.31 h
2	<i>Café Terrace at Night</i>	43.6775° N, 4.6272° E	51 m	UTC +0.31 h
3	F1541v drawing site	43.7717° N, 4.8242° E	273 m	UTC +0.32 h
4	<i>The Starry Night</i> viewpoint	43.7775° N, 4.8347° E	127 m	UTC +0.32 h

Supplementary Figs.

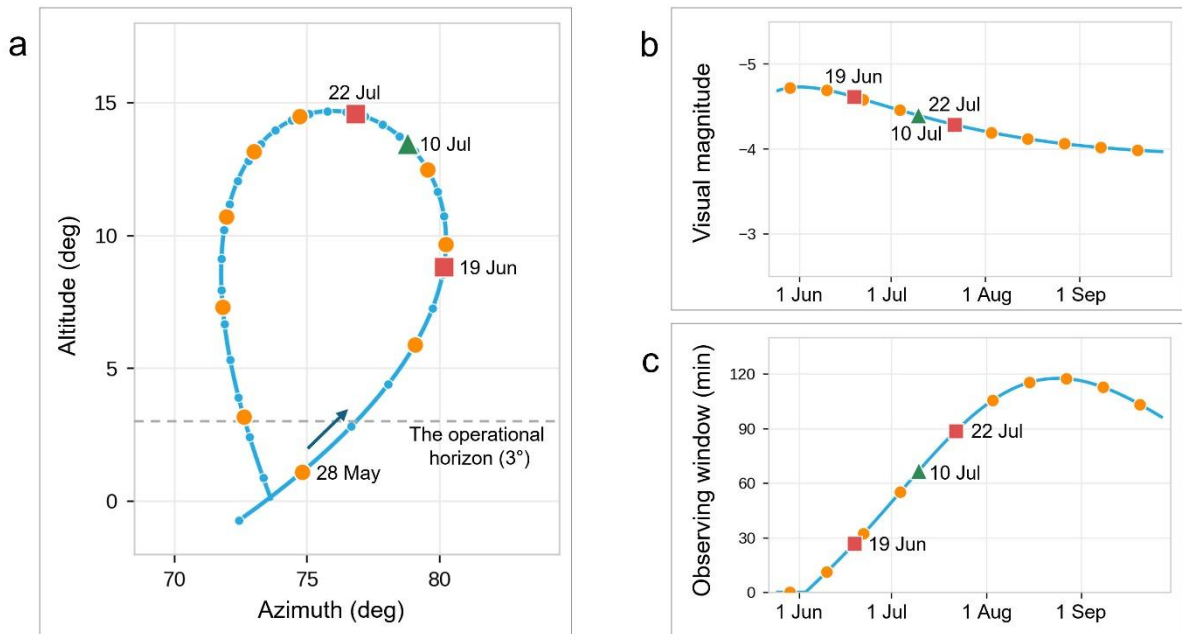
Supplementary Fig. S1 | Fields of view verified at the painting sites of the two 1888 night paintings. (a) *Starry Night over the Rhône*. Two field-of-view frames are overlaid on a panoramic photograph taken at the painting site (site no. 1 in Supplementary Table S9). The purple rectangle corresponds to the terrestrial landscape of the painting and the yellow rectangle to its night sky (M7). Circles mark stellar positions for the estimated date of execution (26–28 September 1888): yellow, the seven stars of the Big Dipper used in the Procrustes fit; grey, the other stars within the frame. The range given for the terrestrial field of view reflects the two registration cases, whereas that of the night sky is determined uniquely from the celestial coordinates of the stars. The photograph was taken at 04:53 CEST on 18 June 2019; the Moon and Jupiter in it belong to the sky of that night and are unrelated to the painting's configuration. (b) Sky region of *Café Terrace at Night* with the five corresponding points (Ct₁–Ct₅). (c) Photograph of the same region, with the five corresponding stars marked.



Supplementary Fig. S2 | Robustness of the F1541v focal-length estimate to drawing-site location. Map showing straight-line distances from central Saint Rémy (near the church of Saint Martin) to the primary candidate site (1.96 km), an intermediate spur on the ridge (1.76 km), and the Asylum of Saint Paul (1.26 km). Assuming the drawing was made from the asylum yields a 35 mm equivalent focal length of ~87 mm, still 1.7 times larger than the wide-angle threshold (50 mm). Because the same east–west ridge extends on both sides of the primary candidate site, any shift of the drawing position along the ridge maintains or increases the distance to Saint Martin, and no location shortens the focal length into the wide-angle regime (M7). Inset: elevation profile along the line from the primary candidate site to Saint Martin (total distance 1,959 m), showing a monotonic descent from ~195 m at the ridge through a low intermediate peak (~1.76 km) to ~60 m in town. Map and elevation data: geoportail.gouv.fr [45].



Supplementary Fig. S3 | Position, magnitude, and dawn observing window of Venus as seen from Saint-Rémy, May–September 1889. All values were computed with JPL Horizons (DE441); altitudes are geometric, without atmospheric refraction. Throughout the three panels, orange circles mark 12-day intervals, red squares 19 June and 22 July, and the green triangle greatest western elongation (10 July, 45.7°). **(a)** Track in horizontal coordinates at 03:00 LMT. Small blue circles mark 4-day intervals, and the arrow indicates the direction of motion. The loop is an artefact of sampling at a fixed clock time and does not indicate the optimum of observing conditions. **(b)** Apparent magnitude. **(c)** Observing window, defined as the interval from the time Venus reaches the operational horizon (3° ; M1) to the onset of nautical twilight. Throughout this period the apparent magnitude of Venus remains between -4.73 and -3.97 , so that brightness does not discriminate between dates, whereas the observing window changes from 27 minutes on 19 June to 87 minutes on 22 July.



Supplementary Fig. S4 | Procrustes alignment of Aries with the central asterism. Isotropic similarity fit between canvas coordinates (orange) and sky coordinates (sky blue). Red dashed lines indicate per-point residuals. α , β , and γ Ari were matched to Sn5, Sn10, and Sn11 of the painting ($k = 3$, $\text{DOF} = 2$, $\text{pCS} = 5.36\%$). The status of this fit is addressed in R6 and Supplementary Note S4.

