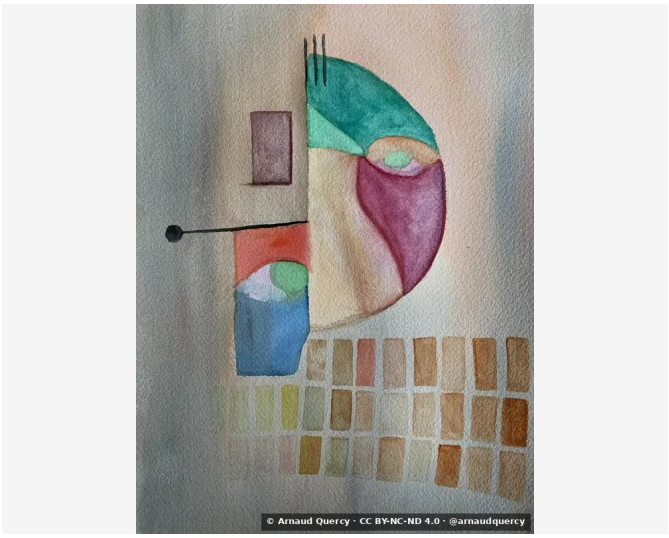
AQC0430 | NAN-COL000472

# Nanopublication — Computational Image Analysis - AQC0430

by Arnaud Quercy · The Stone Cutter · 2023




## CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS - AQC0430

K-means clustering (10 colors) performed on artwork The Stone Cutter (AQC0430) [1] by Arnaud Quercy [2] on 2025-10-03, according to IDS-CMP-2025 [3]. Documentation includes: color families, texture roughness, brightness distribution, spatial coherence.

## CONTEXT

Analysis performed according to IDS-CMP-2025 [3] includes four metric categories: (a) Color distribution via k-means (10 colors), (b) Texture analysis using Haralick features, (c) Brightness and contrast measurements, (d) Spatial pattern characterization. Source image: 1536x2048 pixels. Analysis date: 2025-10-03.

## A) COLOR ANALYSIS

| Rank | Color | Hex | % | Family | Name |
|---|---|---|---|---|---|
| 1 | | 95928B | 19.6 | gray | gray |
| 2 | | 7D7F7A | 18.8 | gray | grey |
| 3 | | AEA79D | 16.3 | yellow-orange | steel gray |
| 4 | | C7BDB3 | 13.2 | orange | silver |
| 5 | | 676965 | 13.1 | gray | dimgray |
| 6 | | 987164 | 6.2 | red-orange | dimgrey |
| 7 | | 7D4F43 | 5.0 | red-orange | burnt sienna |
| 8 | | 2B7579 | 3.3 | blue-green | seagreen |
| 9 | | 53969F | 2.8 | blue-green | cadetblue |
| 10 | | 442D25 | 1.6 | red-orange | darkslategray |
| 11 | | 71C5AE | 0.3 | green | mediumaquamarine [Accent] |
| 12 | | 6DA985 | 0.3 | yellow-green | cadetblue [Accent] |
| 13 | | 701B33 | 0.3 | red | brown [Accent] |
| 14 | | 21435A | 0.3 | blue | grayish purple [Accent] |
| 15 | | 6399C9 | 0.3 | blue-violet | cornflowerblue [Accent] |

### Color Families:

| Family | % |
|---|---|
| gray | 51.6 |
| yellow-orange | 16.3 |
| orange | 13.2 |
| red-orange | 12.8 |
| blue-green | 6.2 |
| green | 0.3 |
| yellow-green | 0.3 |
| red | 0.3 |
| blue | 0.3 |
| blue-violet | 0.3 |

### Accent Colors:

| Hex | Family | Name | Chroma |
|---|---|---|---|
| 71C5AE | green | mediumaquamarine | 31.3 |
| 6DA985 | yellow-green | cadetblue | 30.0 |
| 701B33 | red | brown | 39.6 |
| 21435A | blue | grayish purple | 17.7 |
| 6399C9 | blue-violet | cornflowerblue | 30.3 |

### B) TEXTURE ANALYSIS

| Metric | Value |
|---|---|
| Global Roughness | 0.132 |
| Mean Local Roughness | 0.035 |
| Roughness Uniformity | 0.016 |
| Edge Density | 0.26 |
| Mean Gradient Magnitude | 0.264 |
| Gradient Variance | 0.036 |
| Gradient Smoothness | 0.284 |
| Directional Coherence | 0.006 |
| Pattern Complexity | 0.112 |
| Pattern Repetition | 1.0 |
| Detail Frequency Ratio | 0.663 |
| Spatial Variation | 0.061 |
| Texture Consistency | 0.691 |

### C) BRIGHTNESS & CONTRAST ANALYSIS

| Metric | Value |
|---|---|
| Mean Brightness | 0.546 |
| Brightness Variance | 0.132 |
| Brightness Uniformity | 0.759 |
| Brightness Skewness | -0.111 |
| Brightness Entropy | 7.062 |
| Rms Contrast | 0.132 |
| Michelson Contrast | 1.0 |
| Weber Contrast | 0.47 |
| Mean Local Contrast | 0.035 |
| Contrast Uniformity | 0.599 |
| Dynamic Range | 0.98 |
| Effective Dynamic Range | 0.416 |
| Shadow Percentage | 4.053 |
| Midtone Percentage | 74.994 |
| Highlight Percentage | 20.953 |
| Shadow Clipping | 0.006 |
| Highlight Clipping | 0.0 |
| Tonal Balance | 0.0 |
| Fine Contrast | 0.021 |
| Medium Contrast | 0.044 |
| Coarse Contrast | 0.055 |
| Multiscale Contrast Ratio | 0.38 |
| Edge Contrast | 0.264 |
| Contrast Clustering | 0.309 |

### D) SPATIAL DISTRIBUTION ANALYSIS

| Metric | Value |
|---|---|
| Spatial Coherence | 0.7 |
| Color Clustering | 0.563 |
| Color Transition Smoothness | 0.332 |
| Transition Uniformity | 0.769 |
| Sharp Transition Ratio | 0.1 |
| Transition Directionality | 0.008 |
| Mean Saturation | 0.175 |
| Saturation Variance | 0.034 |
| Low Saturation Ratio | 0.816 |
| Medium Saturation Ratio | 0.161 |
| High Saturation Ratio | 0.023 |
| Saturation Clustering | 0.999 |
| Hue Concentration | 0.401 |
| Complementary Balance | 0.188 |
| Analogous Dominance | 0.672 |
| Temperature Bias | 0.425 |

## Methodology

This analysis employs standardized computational methods for objective image characterization. Color extraction uses k-means clustering algorithm. Texture analysis applies Haralick feature extraction. Brightness metrics include mean, variance, and distribution analysis. Spatial patterns are characterized through coherence and clustering measurements. All methods are deterministic and reproducible. Analysis performed by Ideamorphic Studies' computational imaging systems.

### REFERENCES

[1] Quercy, A. (2023). The Stone Cutter - Catalogue Raisonné. https://arnaudquercy.art/en/catalogue-raisonne/AQC0430.html

[2] Quercy, A. (2025). ORCID https://orcid.org/0009-0000-2662-7790

[3] Quercy, A. (2026). Computational Image Analysis Standard. https://ideamorphism.org/en/measurements/2025/09/ids-cmp-2025-computational-image-analysis-standard-5dq9.html

### EPISTEMIC PROFILE

| | |
|---|---|
| **Claim type** | computational analysis |
| **Voice** | third person |
| **Epistemic status** | empirical measurement |
| **Methodology** | computational analysis |
| **Certainty** | high |

### CHECKSUM (SHA-256)

a782af32c389fb188869e5486872b9ecdcf299ea14aacdfb2e98d47752726e7d



**Artist** Arnaud Quercy
**Date** 2023
**Collection** City of Lights, Shadows of Thoughts
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