The Origin of Human Creativity Was Surprisingly Complex [Preview]

New evidence of ancient ingenuity forces scientists to reconsider when our ancestors started thinking outside the box

By Heather Pringle

Scientists long thought that early humans were stuck in a creative rut until some 40,000 years ago, when their powers of innovation seemed to explode.

But archaeological discoveries made in recent years have shown that our ancestors had flashes of brilliance far earlier than that.

These findings indicate that the human capacity for innovation emerged over hundreds of thousands of years, driven by both biological and social factors.

Unsigned and undated, inventory number 779 hangs behind thick glass in the Louvre's brilliantly lit Salle des États. A few minutes after the stroke of nine each morning, except for Tuesdays when the museum remains closed, Parisians and tourists, art lovers and curiosity seekers begin flooding into the room. As their hushed voices blend into a steady hivelike hum, some crane for the best view; others stretch their arms urgently upward, clicking cell-phone cameras. Most, however, tilt forward, a look of rapt wonder on their faces, as they study one of humanity's most celebrated creations: the Mona Lisa, by Leonardo da Vinci.

Completed in the early 16th century, the Mona Lisa possesses a mysterious, otherworldly beauty quite unlike any portrait that came before it. To produce such a painting, Leonardo, who once famously wrote that he wished “to work miracles,” developed a new artistic technique he called sfumato, or “smoke.” Over a period of several years he applied translucent glazes in delicate films—some no more than the thickness of a red blood cell—to the painting, most likely with the sensitive tip of his finger. Gradually stacking as many as 30 of these films one on top of another, Leonardo subtly softened lines and color gradations until it seemed as if the entire composition lay behind a veil of smoke.

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