



POSTWEST 2a: ORNAMENT AND TRANSLATION

KANISHKA RAJA

BARBARA WALTERS GALLERY
Sarah Lawrence College
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PARALLEL PAINTING

On Kanishka Raja's Ornament and Translation

Philip Ording

The mathematician brothers Gregory and David Chudnovsky were looking for a problem to solve with their new supercomputer when a curator at the Metropolitan Museum of Art mentioned the Unicorn. In 2003, the Met's photo department had photographed the prized medieval tapestry, *The Unicorn in Captivity*, one square yard at a time, but their computer wasn't able to assemble the array of high-resolution images in Photoshop. A typical computer like the Met's handles data using a central processor. A supercomputer, like the one that the Chudnovskys built, distributes its computations across many, many different processors that work in parallel. Assembling one of the Met's tapestries was a task perfectly suited to a supercomputer because the data set—the overlapping grid of digital image files—was already, quite literally, in parallel form. This science-meets-art story, which appeared in the *New Yorker* in 2005, came to mind on a recent visit to the studio of painter Kanishka Raja.

¹Richard Preston, "Capturing the Unicorn: Two Mathematicians Tackle A Tapestry" *New Yorker* April 11, 2005: 28-33.

While unpacking the works that had recently returned from his exhibition *PostWest2a: Ornament and Translation* at Sarah Lawrence College, where I have gotten to know Kanishka as a colleague, he described the process of making the multi-part painting *I and I: SW1*. Like much of his art, the alternately figurative, abstract, and geometric works in the series range widely in style yet share a striking, visual complexity and a distinctive palette of bright, contrasting blues, greens, and reds. The point of departure, he explained, was a picture postcard of the Swiss Alps, a subject that he selected, not without irony, for being the most “neutral” possible choice. Dividing the image into a four-by-four grid of sixteen squares, he set himself the task of reproducing a single square at a time, first in a figurative style and then, on a second canvas, in an intensely patterned fashion. Raja completed each pair of corresponding squares using the same tools, palette, and amount of time. The “improvised abstractions,” as Raja calls the second set of squares, vary from nested triangles (where there are mountain tops) to a repeated saw tooth pattern (mountain rocks) to overlapping stripes (mountain grasses), among others. The parallel process that made these two paintings — hung side by side, they form the piece *I and I (Missed Twice); SW1-XY* — is taken a step

further in the next iteration of the series.

For this, Raja first photographed the more abstract painting of the diptych, loaded the image into Photoshop, reflected it vertically across its right side, and then reflected this pair of mirror mountains again, horizontally across their bottom edge. The composite image, a print of which I saw in the studio, still bears a ghostlike resemblance to the original postcard; the light blue central mountain peak is probably easiest to recognize, even as it appears in four different orientations. Raja then divided this intermediate picture into a three-by-three grid of nine squares. Instead of painting these squares himself, one at a time, as in the previous iteration, Raja now coordinated their reproduction by three different craftspeople working in three different media, in parallel. One group of three squares was hand woven in cotton by Deepok Halder, the second set was hand embroidered in silk by SMKD Hussain, and Al Kamhi printed the remaining squares using UV-cured, solvent-based inks on linen. Once completed and stitched together, the nine panels span a large square, over six feet on a side. The sequence of iterations continues with another double inversion. For *I and I (Others Hide), SW1*, Raja used a high resolution optical scanner to capture each part of

the reverse sides of *I and I (Translate)*; *SW1*, then inverted its color profile, before finally having it printed at one-to-one scale on cotton with fiber-reactive dyes. As an imaging device, the scanner differs from eye, camera, and brush in counterintuitive ways: its shallow depth of field exaggerates the wrinkles in embroidered silk, for example, introducing blurs and near-topographical details where none existed previously; it appears to almost *add* information selectively. Rectilinear black patches scattered across the surface of the painting show where the scanner failed to capture an image.

The complex processes by which Raja produces the ongoing *I and I* series of paintings and hybrid textile-paintings yields a visual impact that is, not surprisingly, complex. On first viewing, before I knew anything about how they were made, I was drawn in by the variety of patterns that reverberate within a single piece and between separate works in the exhibition. Knowing more about Raja's process, the mathematician in me can't help but begin to analyze the typology of ornamentation that *PostWest2a* presents. I see patterns in the composition of subject matter (e.g. tiling, mirroring, gridding), patterns in the subject matter itself (e.g. plant life, reflections in water,

in the abstract representation of subject matter (e.g. outlining, repetition, lattice), patterns associated with art/craft tools and media (e.g. brushing, stitching, weave), and color patterns (e.g. matching, inversion, interpolation). There's no particular reason to end the list here, but it is already interesting to consider alternative ways one might distinguish one type of pattern from another—for example, infinite (e.g. repetition) vs. finite pattern (e.g. mirroring); visual (e.g. in color) vs. non-visual pattern (e.g. in time); or intentional (e.g. tiling) vs. accidental pattern (e.g. scanning gaps). The more one looks, the more rhythms, reflections, and correspondences appear.

Raja describes the motivation behind the series as, in part, a desire to locate pattern and ornament within a figurative, as opposed to abstract, painting practice. “There's a long history of abstraction tracing its trajectory into pattern within 20th century Modernism. One of the challenges that I set for myself early on was to find a way to locate textile and weaving and craft traditions inside representation first.”² The operative

² Kanishka Raja, private communication, March 12, 2018.

potential of pattern emerges from the ambiguous role of the grid in the *I and I* series. Raja's grid is not quite the one inherited from twentieth century European and American Modernism, what Lucy Lippard calls "the grid principle (an arbitrary framework on which to build an entity, a self-restrictive device by which to facilitate choice)."³ For example, the visual detail and complexity of his work appear to both nod toward and be in direct opposition to the reductive and repetitive impulses of Minimalist practices. Rather, in *I and I (Missed Twice)*; *SW1-XY*, as in the rest of the works in this complex body of work, the grid enables a method of copying known as squaring, which dates back at least as far as ancient Egypt. Of course, taken to its natural limit, the process of squaring will decompose an image into picture elements or pixels.

Going back to the *Unicorn*, the task of suturing together the Met's photo-mosaic turned out to be, in the understated terms typical of the Chudnovskys, a "nontrivial" task. In the end, it took three months of programming and twenty-four hours of continuous computation on their supercomputer to assemble a complete image of a single tapestry. The

most significant and unexpected challenge emerged from the realization that the *Unicorn* was not a static two-dimensional surface, but rather more like a slow-moving fluid. The computer detected numerous threads that in the time between photographs had imperceptibly shifted or twisted due to changes in humidity among other factors. To correct these mismatches, the computer established a set of common features in the regions where photos overlapped and then applied millions of small but highly coordinated "warping transformations" to each pixel so as to neutralize the discrepancies between these anchoring features. "This is a funny thing here," Gregory Chudnovsky remarked. "There is really no unique picture of *Unicorn* which you will reconstruct this way since *Unicorn* is not solid...we are not correcting it. What we are trying to find is essentially a consistent picture of *Unicorn*."

For the final iteration of the *SW1* series, Raja set himself a similar puzzle. The digital color print *I and I (Return)*; *SW1* is a composite image of the Matterhorn that the artist assembled from the set of digital scans of the reverse of his *I and I (Translate)*; *SW1*. Unlike the Chudnovskys, however, Raja appears to approach the job with fewer assumptions about the dimension and solidity of his subject. In

³ Lucy Lippard, "Top to Bottom, Left to Right" catalog essay for *Grids grids grids grids grids grids grids grids*. [Exhibition] Jan. 27 to March 1, 1972, Institute of Contemporary Art, University of Pennsylvania, Philadelphia.

fact, a viewer of the exhibition would not be faulted for concluding that its guiding principle is the introduction and propagation of error, like a visual game of telephone. The final image is a riot of inconsistency with bright white gaps from incomplete scans, abrupt changes of color, loose threads, puckering surfaces, and gridlines. The resultant image evades an easy visual reading; each of its intricate competing patterns demands a viewer's sustained attention, allowing us, like the Chudnovky supercomputer, to see *more*.

Philip Ording holds a PhD in mathematics from Columbia University. His writing on mathematics and art have appeared in Cabinet, Bulletins of the Serving Library, and The Mathematical Intelligencer. He is professor of mathematics at Sarah Lawrence College.

