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## Measuring *Infinity*: José de Rivera's Smithsonian Sculpture on the National Mall

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### Abstract

Large works of public sculpture outside our museum doors reveal aspects of a museum's self-image. They beckon, reassure, or confront visitors with new ideas about what might lurk inside. Whether off-the-shelf or commissions by well-known sculptors, these pieces matter. They are the noses on our museum faces. In this essay, one museum curator reflects on the layered meanings of his museum's entry art—meanings that, he argues, have the potential to evolve over time.

Forty-one years ago, a federally commissioned work of abstract art arrived on the National Mall in Washington, D.C., opening the door to future permanent installations of outdoor modern art between the Lincoln Memorial and the United States Capitol. Today, the sculpture gardens of the Hirshhorn Museum at the Smithsonian and the National Gallery of Art bear witness to outdoor art forms that were altogether unknown on the Mall before the 1960s, in a sculptural environment of stone-carved Roman gods and goddesses, cast-bronze Civil War soldiers, and an enormous Egyptian obelisk.<sup>1</sup>

In March of 1967, the Louisiana-born sculptor José de Rivera (1904-1985) watched as a crane gently lowered his knife-edge arabesque of polished steel onto its motorized shaft atop a trylon of black granite outside the Mall entrance to the Smithsonian's newly opened National Museum of History and Technology. De Rivera, collaborating with fellow direct-metal sculptor Roy Gussow, had spent the last two years in a Long Island studio fabricating *Infinity* out of 800 pounds of threaded rod and stainless steel plate.<sup>2</sup>

Rivera's \$104,520 commission by the General Services Administration in 1965 was an outgrowth of the GSA's Art-in-Architecture program, instituted under the Kennedy Administration to encourage collaborations between public building projects and the fine arts. Under the policy, new federal construction would be urged to incorporate art into the design of public buildings. Commissions for works were not to exceed one half of one percent of the construction budget (Thalacker 1980, xii-xiv). Among other consequences, the Art-in-Architecture program became an important vehicle for the introduction of abstract paintings and sculpture to public buildings around the country.

But correspondence among Smithsonian staff, the GSA, and de Rivera suggest that *Infinity* was less an outright embrace of abstract art by the U.S. government than it

was an expression of trust that this particular sculptor had found a way to convey through his art specific aspects of the conjoined disciplines housed inside the museum.<sup>3</sup>

NMHT, now the National Museum of American History, opened in 1964 as an amalgam of two vast fields: the global history of science and technology, and U.S. national history. Both fields were expressed through collections, publications, and exhibitions of scientific apparatus, furniture, costume, medicine, engineering, guns, coins, toys, silverware, bicycles, flags, tools, photography, locomotives, folk art, and numerous other synoptic categories (Henson 1999).

De Rivera's long interest in exploring space, light, and motion through his abstract constructions had yielded World's Fair commissions and public works for office plazas, airports, college campuses, hotels, and museums (Ashton and Marter 1980).<sup>4</sup> Since his arrival in Manhattan from Chicago in 1932, de Rivera had led a reclusive artistic life, working in gritty one-man studios outside New York art circles. By 1952, his work was being sold exclusively through the Grace Borgenicht Gallery on Madison Avenue. In the early 1960s, his swirling fantasies in steel came to the attention of the new museum's architect, Walker O. Cain, as museum staff searched for an outdoor expression of their scholarly pursuits to accent the Mall-side entrance.

Cain sold the museum on de Rivera's *Infinity* proposal by framing it as a "twenty-first-century orrery."<sup>5</sup> Orreries were mechanical models of the solar system. The intricate gearing of orreries approximated planetary motion and were named for their first patron, Charles Boyle, the fourth Earl of Orrery (1676-1731). In actuality there is little about *Infinity* to suggest an orrery: no planets, stars, or moons; no visible gearing; only an eccentric loop of steel, enhanced by slow motorized rotation. Buttressing Cain's historical masquerade was de Rivera's practice of motorizing his sculptures to present gradually shifting fields of reference to the viewer—for Cain's selling purposes, evoking both the movement of history and *Infinity*'s breadth of meaning. *Infinity* turns almost imperceptibly at a rate of one revolution every six minutes, creating flashes of sunlight that creep up the edges and around the flat plane of its twisting triangular axis. "The sculpture," Cain wrote, "has the characteristic of stimulating everyone who has seen it to create his [or her] own personal imaginative interpretation . . . ."<sup>6</sup>

Requests to explain *Infinity* bewildered de Rivera, who saw it merely as his largest abstraction at 16 feet across: "What I make represents nothing but itself," de Rivera declared (Ashton 1956, 38). There is no record of de Rivera sharing Cain's orrery conception of *Infinity*. He consecutively numbered his other works under the series title "Constructions," but may have given this piece a unique name out of regard for "the infinite number of compositions" that Smithsonian Secretary Leonard Carmichael told the artist he found in the work as it was being designed.<sup>7</sup> To heighten this effect, the sectional twist that de Rivera placed in *Infinity*'s triangular form produces not three surfaces but a "mobius strip" (Pickover 2006)—one continuous, slowly spiraling surface without beginning or end.

Yet the "looks-like-feels-like-reminds-me-of" mimetic impulse continued, especially within the arc of a pragmatic museum of history, rather than a museum of art (Feldman 1967, 482-483; Kamhi 2003, 7).<sup>8</sup> Is it a mathematical symbol? A wisp of battlefield smoke? A tennis stroke? Regardless of de Rivera's determination to (as the phrase goes) "let the thing speak for itself" (*res ipsa loquitur*), our desire to organize and categorize new visual information exploits one of *Infinity*'s greatest attributes, an

expressiveness that can evolve in step with the evolution of the museum whose entrance it fronts.

De Rivera grants us this freedom in his dismissive approach to the names he assigns to his works and his mild indifference to the audience experience: “When I make an abstract sculpture, I give it an abstract name. Then they can discuss it all they want” (Richard 1967, B4). And this on his intent: “I’m concerned with having a prime experience and if I can formulate it into what I think is a qualified one, the social function is the contribution, there’s a giving of this form.”<sup>9</sup> One critic highlighted this transfigurative aspect of de Rivera’s work: “His forms will incessantly change and assume new relationships” (Ashton 1956, 41).

*Infinity*’s stately rotation reflects one artist’s personal, plastic experience with space, metal, and time, but it was the museum itself that began to turn in 1980. The newly renamed National Museum of American History turned away from recognizing the exceptional category of “technology” as an entity distinct from “history,” shunning the notion of a logical progression of technological improvement over time and across the globe (Molella 1995; Post and Molella 1997).<sup>10</sup> NMAH turned toward a synthesis of all fields of study under the general rubric of American history, comporting with the rise of the new vision of social history that swept campuses and museums in the 1970s: A fork no longer was just silverware but an emblem of an authority relationship. An iron bridge is a tool of management and labor control more than an improved mode of transportation. Innovations in Hollywood stagecraft and cinematography merge into a seamless web of popular culture.

And what of *Infinity*, that new-old orrery, now so irrelevant, so Sixties, and yet so prominent, so much a part of the setting for which it was designed? Loved by the visitors for its grace, understood by few, the sculpture seemed to yearn for a new role at the newly evolved museum. Usefully, among the changes at the museum was an openness to revisiting the one-dimensional classifications assigned to objects and to collections. Commenting on the museum’s display of a yellow-gold 18<sup>th</sup>-century wedding gown with multi-colored floral trim, the museum’s new director, Roger G. Kennedy, observed: “it is germane for the visitor to know that until about 1800 well over 30 percent of brides in New England were pregnant. Women, in fact, were expected to demonstrate their ability to bear children. That situation gave an entirely different meaning to the color white” (quoted in Durham 1987, 44).

Dynamic, asymmetric motion marks much of the American experience. In the spirit of de Rivera’s gifting impulse and the museum’s new zeitgeist, perhaps *Infinity* plucks allusions from its context: It undulates like the hem of Ginger Rogers’ feather dress as she dances with Fred Astaire in *Top Hat*. It spirals like Dorothy’s Kansas tornado. It swirls like the wire scientific-management motion models made by Frank Gilbreth to study the inefficient hand movements of a Detroit assembly line worker. It twists like an airborne Frisbee. Or a waving flag. Or a lazy strand of cotton lint floating down from the clattering frame of a New England power loom. Or the intersecting whorls of contested historical narrative.

Indisputably, *Infinity* reflects the era of its creation—a reminder of one architect’s kinship with a sculptor whose curvaceous, fluently open forms softened the severe, rectilinear architecture of the 1960s. Cain viewed *Infinity* as a foil for his museum, which was itself a stark departure from the architecture of the rest of the Mall.<sup>11</sup> De Rivera’s

mirror-finish steel zephyrs appealed to post-war architects such as Cain had who freed themselves from concerns with architectural detailing. Structurally, it was steel that made possible Cain's open beam-and-column, marble-skinned arrangement of his cavernous exhibition galleries, so unlike the Smithsonian's other temples of knowledge built of heavy, load-bearing stone.

Yet de Rivera's elegant artisanal approach to his metal recalls an even earlier age. He read the raw metal like a medieval artist-blacksmith, measuring by eye, hand-forging, cutting, bending, welding, grinding, and polishing, but using the industrial alloys and high-speed power tools of his time to achieve exacting levels of precision and durability, and a numinous kind of perfection. In the finished work, de Rivera's painstaking tooling disappears, *Infinity's* many elements meld into one flawless gesture, and the art is set in rotation, presenting to the stationary observer a pure movement of material through space, light, and time. "When you say something is beautiful," de Rivera observed in 1956, "you're saying that the relationships are beautiful" (Ashton 1956, 38-39).

Joseph V. Ruiz, the sculptor's father, was a mechanical engineer at Louisiana sugar mills. De Rivera (who took his maternal grandmother's name) acquired skills in metalworking in those mills, escaping to Chicago in 1926 to take his abilities with tools in an artistic direction. After a period of study at the Studio School in Chicago, with John W. Norton, and an extended tour of European and North African museums, classical ruins, and antiquities, he settled in New York in the mid-1930s to pound metal. A half-century later he rested his hammer, leaving behind a body of work slowly writhing and dancing in public spaces around the world, and a collection of papers and photographs in the Archives of American Art. In 1997, his son Joseph donated to the National Museum of American History the shop coat, work gloves, safety goggles, and a few of the tools his father had used 30 years earlier to construct *Infinity*.<sup>12</sup>

Whether construed as a *tabula rasa* or re-imagined as a Coney Island roller coaster, a jazz note riding on the air, a screen saver, or political spin, *Infinity* offers itself to a new day. The grounds around the entrances to American History may see dramatic change in the years ahead as the museum undergoes a phased renovation, but room should still remain for this confection, enlivening and flirting with a museum whose 1960s split personality presented a perfect stage for the visions pirouetting in the mind of José de Rivera.

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## Notes

1. De Rivera's *Infinity* was followed in 1968 by Alexander Calder's stabile, *Gwenfritz*, and in 1969 by George Rickey's kinetic sculpture, *Three Red Lines*, on the west and east sides, respectively, of the National Museum of History and Technology (Goode 1974, 261-264).

2. José de Rivera usually worked alone as a direct-metal sculptor. He asked Roy Gussow to work with him on *Infinity* in a rented studio in Long Island City due to the size of the

commission and Gussow's expertise in welding stainless steel. De Rivera was more at home with a blacksmith's hammer in his hand than he was with a torch. *Infinity* is composed of plates of steel welded to a triangular armature, graduated in thickness, and pierced by a screw-threaded steel rod. Gussow described the process to the author during an interview, April 17, 1997. Gussow donated clamps from his shop; these were made by de Rivera to hold *Infinity*'s plates as they were welded (NMAH Collection 1997.3057). See also Roy Gussow Papers, 1946-1968, Archives of American Art, Smithsonian Institution.

3. S. Dillon Ripley to Karel H. Yasko, General Services Administration, March 24, 1964 and GSA Contract GS-00-B-450, Project No. 49210, José de Rivera Papers, 1931-1985, Archives of American Art, Smithsonian Institution [hereafter de Rivera papers, AAA].
4. Five de Rivera sculptures reside indoors at the Smithsonian's Hirshhorn Museum and Sculpture Garden. The National Gallery of Art has one early de Rivera.
5. Walker O. Cain, Draft Notes re. Smithsonian M. H. & T. Sculpture, October 21, 1963, de Rivera papers, AAA: 1.
6. Walker O. Cain, Draft Notes: 2.
7. Walker O. Cain, Memorandum of Visit with Mr. Taylor, Dr. Carmichael and James Bradley in Washington on January 17, 1963, de Rivera papers, AAA. "In thanking Mr. de Rivera, Dr. Carmichael referred to his construction as possessing 'an infinite number of compositions.'" Frank Taylor was the museum's first director.
8. Cain's characterization of *Infinity* as "a twenty-first-century orrery" is an act of mimesis. "Mimesis . . . is the powerful means by which art works convey their cognition and emotional content" (Kamhi 2003, 7).
9. Paul Cummings, Oral History Interview with José de Rivera, February 24, 1968, de Rivera papers, AAA, typescript: 25.
10. Molella discusses NMAH efforts to place historical machinery and equipment, rather than art, outside the museum's doors (1995). The reduction of the museum's mission to themes exclusive to American history had political ramifications and kindled an ongoing debate over the museum's role (Post and Molella 1997).
11. Cain to George Berklacy, February 16, 1965, de Rivera papers, AAA. "Mr. de Rivera's sculpture . . . has been thought of as a foil to the deliberately restrained and severe rectilinear lines of the building envelope." And in Draft Notes: 3, he called it ". . . a symbol of our own time and a fitting adjunct to the first example of architecture on the Washington Mall to free itself of historic or 'period' precedents in its concept and detail." Museum director Frank Taylor noted that "the sculpture has long been an essential part of the architectural concept of the museum." (Smithsonian Institution Press Release, March 19, 1965, de Rivera Papers, AAA.)
12. NMAH Collection 1997.3068.

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