

# Lead in Modern and Contemporary Art

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# Lead in Modern and Contemporary Art

Edited by

Sharon Hecker and Silvia Bottinelli

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**Claudia Mesch** is Professor of Art History at Arizona State University. She writes on developments in 20th-century and contemporary art. Her publications examine modern art's cultural exchanges across national, disciplinary, and other borders, as well as modern art's engagement with politics. Her books include the anthology *Joseph Beuys the Reader* (2007), *Modern Art at the Berlin Wall* (2009), *Art and Politics: A Small History of Art for Social Change since 1945* (2013), and *Joseph Beuys* (2017). She is a recipient of multiple research awards from the Fulbright and the D.A.A.D., conference awards from the Terra Foundation for American Art, and fellowships from the Getty Library and the Henry Moore Institute. She is a founding editor of the *Journal of Surrealism and the Americas*, currently in its tenth year of publication. Her current projects include an essay on Charles Wilbert White's artistic activities in East Berlin in the 1970s, part of a book about trauma and community in art after 1970. She is a founding editor of the *Journal of Surrealism and the Americas*, and lives in Phoenix, Arizona.

**Luke Naessens** is a PhD candidate in the Department of Arts & Archaeology at Princeton University. His dissertation examines the place of deep history in American art of the 1970s, asking whether Post-Minimalism's reworkings of time and materiality might generate new methods of imagining the American past. Previously, he was curatorial assistant in the Barbican Centre, London, where he worked on exhibitions and publications, including *The World of Charles and Ray Eames* (2015) and *The Japanese House: Architecture and Life after 1945* (2017). He holds a BA from Trinity College, Dublin, and an MA from the Courtauld Institute, London, where his dissertation focused on the Brooklyn Bridge Event, an experimental festival of sculpture and performance staged in 1971. In 2016, Naessens won *The Burlington Magazine's* Contemporary Art Writing Prize, and he is a contributor to *The Burlington Magazine*, *The Irish Arts Review*, and *this is tomorrow*.

Born in Santiago, Chile, **Daniela Rivera** received her BFA from Pontificia Universidad Católica de Chile in 1996. Before leaving Chile, she worked at the Design School of Universidad Mayor of Santiago. During the late 1990s and early 2000s she exhibited her work in the Museum of Contemporary Art, Santiago Chile Palacio de Cristal, Buenos Aires, Argentina Palacio de Bellas Artes, Lima, Peru, and many other cities in Latin America. She went on to earn an MFA from SMFA/Tufts University in 2006 and spent the following summer as a Gund fellow at the Skowhegan School of Painting and Sculpture. She is currently an Associate Professor of Studio Art at Wellesley College. Recent exhibitions include: *In Search for the Andes*, Galeria Poliglota, Buenos Aires, Argentina (2019), *The Andes Inverted* solo show at MFA, Boston 2017–18, *Tilted Heritage*, The Davis museum, Wellesley College (2014), *Shooting Skies*, LaMontagne Gallery, South Boston (2014), *Muros*, MAC (Museum of Contemporary Art, Santiago, Chile 2013), *Pettite Growth, la Propuesta* (site-specific project for CHACO, 2012), *Fatiga Material* (site-specific project for *Close Distance*, Boston Center for the Arts, 2011), *Accidental Memling Gul* (site-specific painting, ICA, Boston, 2010), and *Growth* (LaMontagne Gallery, South Boston, 2010). Daniela's work has also been shown around the United States and other locations in Latin America.

Born in Cerreto Guidi, Florence, in 1947, **Remo Salvadori** has been living and working in his adopted city, Milan, since 1972, the year in which he completed his studies at the Fine Arts Academy of Florence.

He was among the first to practice those positive modes of art that characterize the period between the second half of the 1970s and the end of the 1980s.

His orientation is that of a completely secular sense of the sacred, focusing on the positive nature of existence and the internal harmony that reconciles the “living” with the world and its substance, which is, in his vision, simultaneously and inextricably material and spiritual. The aim of the art is thus to create or indicate nuclei of energy in which that substance is revealed and makes us aware of our life in the world.

Salvadori has exhibited in important Italian and European museums and has participated during the last decades in major international exhibitions such as *Biennale di Venezia* (1982, 1986, 1993); *Documenta*, Kassel (1982, 1992); *The European Iceberg*, Art Gallery of Ontario, Toronto (1985); *Correspondentie Europa*, Stedelijk Museum, Amsterdam (1986); *Chambres d'amis*, Ghent (1986); Centre National d'Art Contemporain, Grenoble (1991); *Happiness: A Survival Guide for Art and Life*, Mori Art Museum, Tokyo (2003); *Lives and Works in Istanbul*, *European Capital of Culture*, Istanbul (2010). Recent exhibitions include *Continuo Infinito Presente/Sostare/Nel Momento* Stiftung Insel Hombroich, Neuss 2018; *Margherita Stein. Rebel with a Cause*, Magazzino Italian Art, Cold Spring (2017); *On the Spiritual Matter of Art*, Maxxi, National Museum of XXI Century Arts, Rome (2019–20).

**Marin R. Sullivan** (PhD, University of Michigan) is a Chicago-based art historian and curator. She is the Director of the Harry Bertoia Catalogue Raisonné and is co-curating a major retrospective exhibition on the artist, *Harry Bertoia: Sculpting Mid-Century Modern Life*, organized by the Nasher Sculpture Center. Her area of specialization is the history of modern and contemporary sculpture, especially its interdisciplinary, intermedial dialogues with photography, design, and the built environment. Sullivan is the author of *Sculptural Materiality in the Age of Conceptualism* (2017), and is currently at work on a new book project, *Alloys: American Sculpture and Architecture at Midcentury* (Princeton University Press), which has been supported by fellowships from the Smithsonian American Art Museum and the Crystal Bridges Museum of American Art. She has published numerous essays for exhibition catalogues and edited volumes, articles in publications including *American Art*, *Art History*, *History of Photography*, the *Journal of Curatorial Studies*, and *Sculpture Journal*, and is co-editor of *Postwar Italian Art History Today: Untying “the Knot”* (2018). Sullivan was previously Assistant Professor of Art History at Keene State College in New Hampshire and Henry Moore Post-Doctoral Research Fellow at the University of Leeds.

**Sharon Tager** is Head of Conservation at the Israel Museum, Jerusalem. She obtained her MA in Art History and Theory from Goldsmiths College, University of London in 1997, and graduated as a painting conservator after completing the three-year postgraduate program at The Courtauld Institute, University of London in 2001. Sharon practiced as a conservator in the UK and in Israel, working on both national and private collections. Her particular interests lay in conservation emergency preparedness for cultural heritage, the formation of a database for artist interviews for Israeli artists, and the challenges of preservation and conservation of contemporary art in the museum sphere.

**Christian Warren** studies the history of medicine and the built environment. He is working on two related book projects: “Starved for Light: How Rickets and Vitamin D Deficiency Shaped Modern America,” and “From Haven to Hazard: A Cultural History of American’s Migration to the ‘Great Indoors.’” Warren is Associate Professor of History at Brooklyn College of the City University of New York. He is the author of *Brush with Death: A Social History of Lead Poisoning*.

**Jeffrey Weiss** is an independent curator and critic living in Brooklyn, New York. He received his PhD from the Institute of Fine Arts, where he is currently Adjunct Professor. From 2010 to 2017, Weiss was a Senior Curator at the Guggenheim Museum. There he co-organized a long-range study project on the history and conservation of Minimal and Post-Minimal art. He also curated the exhibition *On Kawara—Silence*, which appeared at the museum in 2015. Between 2000 and 2007, Weiss was head of Modern and Contemporary Art at the National Gallery of Art, Washington, where he organized exhibitions of the work of Pablo Picasso and Jasper Johns, among others, and greatly expanded the museum’s holding of postwar art. Weiss briefly served as Director of the Dia Art Foundation in 2007–08, leaving to return to academic and curatorial work. Widely published on modern and postwar art in various periodicals, he is also the editor and author of numerous exhibition catalogues and books, including *Robert Morris: Object Sculpture, 1960–1965* (with Clare Davies), published by Yale University Press in 2013.

**Karen Wilkin** is a New York–based curator and critic specializing in twentieth-century modernism. Educated at Barnard College and Columbia University, she has written extensively on Anthony Caro and David Smith, among other modern sculptors, and organized exhibitions of their work internationally. She was the contributing editor of a five-volume series on Caro, published by

Lund Humphries in 2010, and author of *Anthony Caro: Stainless Steel*, Lund Humphries 2019. In 2009, she was a juror for the American Pavilion of the Biennale di Venezia. The Contributing Editor for Art for the *Hudson Review* and a regular contributor to *The New Criterion* and the *Wall Street Journal*, she teaches in the Master of Fine Arts program of the New York Studio School.

**Jon Wood** is an art historian and a curator specializing in modern and contemporary sculpture. He worked for twenty years coordinating the Henry Moore Institute's research programs, curating exhibitions and developing the sculpture collection. Exhibitions include: *Michael Sandle: Sculpture* (2020), *Tony Cragg at Boboli Gardens* (2019), *Dialectical Materialism: Aspects of British Sculpture since the 1960s* (2019), *The Sculpture Collections* (2018), *City Sculpture Projects 1972* (2016), *1913: The Shape of Time* (2012), *United Enemies: The Problem of Sculpture in Britain in the 1960s and 1970s* (2011). In 2015, the Arts Council invited him to co-curate on their large touring exhibition *Making It: Sculpture in Britain 1977–1986* and he has written widely about the work of Sir Anthony Cragg, an artist whose work featured in this volume.

He worked for five years as co-editor of the *Sculpture Journal* and co-edited publications include: *Contemporary Sculpture: Artists' Writings and Interviews* (2019), *Modern Sculpture Reader* (2007/2012), *H.S. Ede's Savage Messiah* (2011), *Tools of Trades: Articulating Sculptural Practice* (2010), *Articulate Objects: Voice, Sculpture, and Performance* (2009) and *Carl Plackman: Sculpture, Drawing, Writing* (2006). His writings about the artist's studio have been anthologized in *The Studio* (2012), *The Studio Reader* (2010), and *The Fall of the Studio* (2009). His interviews with artists have been widely published and he has conducted many for the National Life Stories Artists' Lives project.

Jon has worked as an academic partner on several AHRC Network Projects and on the AHRC-funded *Mapping the Practice and Profession of Sculpture in Britain and Ireland, c. 1851–1951*. He has supervised several PhDs and acted regularly as an external examiner, and he has also served on several steering committees and advisory boards, including the Gabo Trust and Art UK's "Your Sculpture."

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We would like to note that we contributed to this project equally. We shared expertise and knowledge and invested time and labor in comparable ways.

Silvia Bottinelli and Sharon Hecker

EMBLEMA XII. *De secretis Naturæ.*

57

Lapis, quem Saturnus, pro Jove filio devoratum, evomuit,  
Pro monumento in Helicone mortalibus est positus.



EPIGRAMMA XII.

**N**ossecupis causam, tot cur HELICONA pœta  
Dicant, quòdque ejus cuique petendus apex?  
Est LAPIS in summo, MONUMENTUM, vertice positus,  
Pro Jove deglutiit quem vomuitque pater.  
Sic en verba sonant rem captas, mens tibi lava est,  
Namque est Saturni CHEMICUS ille LAPIS.

H

SATURNI

Frontispiece. Saturn's Stone, in Michael Maier, *Emblem 12, Atalanta fugiens, hoc est. Emblemata nova de secretis naturæ chymia ...*, 1618. Beinecke Rare Book and Manuscript Library, Yale University.



# Introduction

## To Be Continued ...

Silvia Bottinelli and Sharon Hecker

After great pain, a formal feeling comes—  
The Nerves sit ceremonious, like Tombs—  
The stiff Heart questions was it He, that bore,  
And Yesterday, or Centuries before?  
The Feet, mechanical, go round—  
Of Ground, or Air, or Ought—  
A wooden way  
Regardless grown,  
A Quartz contentment, like a stone—

This is the Hour of Lead—  
Remembered, if outlived,  
As Freezing persons, recollect the Snow—  
First—Chill—then Stupor—then the letting go—

Emily Dickinson, Poem 341 (1862)

This is the first publication to examine lead as material and cultural signifier in modern and contemporary art. The book aims to add a new layer to studies of material history by focusing specifically on lead, whose complexity has often gone unnoticed. Our idea for this project was sparked by recent exhibitions and the growing field of inquiry into the roles and meanings of materials in art.<sup>1</sup> Our volume builds on the concept that artworks convey information and acquire significance not only through the images that they represent but also through their physical presence. At a time of increasing dematerialization of the everyday experience due to technological innovation, the lens of materiality has become central to the art-historical debate since the early 2000s.

As a material, lead has a long history of usage. It was employed in ancient Rome for water pipes (its Latin name, *plumbum*, is retained in the English word *plumbing*), and it has continued to be adopted for engineering and craft projects, despite being considered a hazardous metal even before the first systematic scientific studies on the subject emerged in the 1970s. Today, it is ubiquitous in our homes and urban environments, hidden in old wall paint, backyard soils, water pipes, and more. The lead contamination of the water system in Flint, Michigan (2014–15), reminds us of the continued risk of lead poisoning.

Lead has been used in art since antiquity. It is a component of fine-art paints and ceramic glazes, sculpture, the applied arts, and new media. Its multifaceted use is due to its exceptional malleability, density, and versatility: it can be cast, poured, shaped, modeled, melted, and flattened into thin sheets. Its surface can darken and become dull due to chemical reactions with air or be polished to shine under light sources.

Beyond its material interest, lead carries multivalent psychological, affective, and symbolic associations: it has been, and continues to be, linked with Saturn, melancholy, emotional heaviness, and old age. In some cases, artists connect lead's symbolism to an interest in alchemy and matter's transformative possibilities.<sup>2</sup> Lead has long held a contradictory cultural valence of protection and destruction: used for both shields and bullets, it protects as much as it harms, and attracts as much as it repels.

In modern and contemporary art, lead's vocabulary has expanded to include a wide array of media, such as installation, performance, video, and social practice. The prominence of the material's use increased in the art of the twentieth century and especially during the 1960s. In the context of Post-Minimalism, it was sometimes employed as a critique of past art practices. For example, unalloyed lead referred back to bronze casts (which often include lead) and to traditional bronze sculpture; yet due to the material's malleability and inherent inability to support weight, lead subverted sculpture's associations with rigidity and monumentality. Starting in the 1990s, relational artists have engaged with the idea of lead's invisible presence in the environment, taking it beyond the metal's physical and sculptural possibilities.

In some cases, artists use lead as a transitional material with which they experiment before moving on to other metals like bronze or steel. In these instances, lead functions as a "thinking material" in the sense that it facilitates the germination of new ideas through a hands-on process. In other cases, artists have engaged in a sustained dialogue with lead throughout their careers, mining its physical possibilities and multitude of meanings in lead-based artworks that are considered finished.

Why and how did lead gain such a prominent role in art and why does it continue to be of such great interest to artists today? *Lead in Modern and Contemporary Art* raises such questions through a range of case studies. The volume analyzes the works of a diverse group of artists working in North America and Europe. We hope that this initial study will serve as a launching pad for a more comprehensive, global art history of lead that will help rediscover forgotten or undervalued artists.

We have chosen a multidisciplinary approach by inviting a group of international contributors to write on lead's relevance from a number of perspectives, including history, art history, technical art history and conservation, art criticism, and curatorial studies. Additionally, we have included living artists who use lead in their practices, asking them to reflect on its meaning in their work. The book examines European and North American case studies and is organized loosely chronologically, focusing mostly on the twentieth and twenty-first centuries, a time during which the use of lead in art has seemed most prominent. In some cases, the subject matter is grouped into chapters according to nationality, in others, by theme.

The larger trajectory of lead in art is traced by succeeding chapters in the book, beginning with sculptors' experiments with lead as an alternative to bronze as a traditional casting material and to iron or steel as a rigid structuring; then on to subsequent artists committed to working across media who incorporated or deployed lead in a more openly experimental way, exploiting its symbolic resonances as well as its "literal" or "pragmatic" properties; and concluding with recent more overtly socially engaged work in which lead is no longer deployed as a medium, but is present in the abstract as a material whose use and regulation have become a focus of social and political concern.

Given lead's employment for various uses throughout the past centuries, we open the volume with two historical essays that detail these uses. The first is a history of lead and lead poisoning from the Enlightenment to the early twenty-first century by Christian Warren. Probing the link between lead poisoning and capitalism, Warren shows how scientists, activists, and regulators forged the tools to turn back the toxic tide. Our dual perception of lead finds its roots in its identity as a threat that menaces humankind, and at the same time as "the useful metal" that continues to be employed in products from batteries to paints.

This duality is recaptured in a different way in Spike Bucklow's technical overview of lead's employment in Western history. As Bucklow shows, lead has been transformed for millennia by craftsmen, artists, and alchemists: first extracted from a natural mineral ore, then changed in shape by smelting, then mixed with other metals and glass. Lead provided roofs and gutters and pipes,

as well as silver, a more precious metal that was often hidden together with lead in mineral ores. Bucklow's essay extends to lead's use in art. While the toxicity of this material made it a significant occupational health hazard in the nineteenth century, it was used by some Renaissance painters, such as Titian, with no ill effects, perhaps due to awareness of material properties in pre-industrial, craft-based cultures.

While lead was used as a forgiving, inexpensive substitute for bronze in pre-twentieth-century sculpture, it first appears as a material for experimentation in twentieth-century modernist art. In 1935, British sculptor Henry Moore and his wife Irina moved to a bungalow called Burcroft in Kent, England, where the artist produced works in lead in a makeshift workshop. Rowan Bailey discusses Moore's experimental lead sculpture in the context of his exhibition strategies. She argues that Moore's sculptural thinking and appreciation of materials were informed by his direct experience of the complex character of lead, with its malleability and fragility.

Other artists, however, saw lead's malleability and fragility as problematic. Marin Sullivan examines the work of mid-twentieth-century US artists Herbert Ferber and Seymour Lipton. Though influenced by Moore and other avant-garde artists working in Europe, Ferber and Lipton sought in lead a way to achieve a particularly "American" formal language made of new, open forms. While lead's tensile strength and expressive tactility offered possibilities for postwar sculpture, it proved untenable as a sculptural material for these artists. It did, however, open the door for an interest in lead shown by the following generation of US sculptors, including Richard Serra and Carl Andre.

If lead's softness ultimately led Ferber and Lipton to turn away from it as a material, Serra took it to its ultimate liquid state in the late 1960s. As Jeffrey Weiss contends in his chapter, Serra's engagement with lead defines a pivotal moment in the artistic use of this material. Lead was well suited to the phase of Serra's practice devoted to "process," in which works are formed by actions taken against a resistant medium. Mining lead's dual identity as liquid and solid, Serra exploited lead through the activities of "splash" and "cast." He applied it in liquid form, repeatedly ladling it along the corner of a room, where it cooled to form a cast of that space.

In the 1960s and 1970s, US Minimalism and Post-Minimalism expanded the perception of lead as a material related to process. In his essay, Luke Naessens examines Lynda Benglis's *Quartered Meteor* (1975), a lead cast of a polyurethane piece titled *King of Flot* (1969). Naessens proposes that Benglis's work challenges two of the period's central concerns—presence and literalness—through her use

of unalloyed lead, a material that was at once hard and soft, dull and lustrous, monumental and debased, ordinary and uncanny. Benglis's processes are made visible, as in Serra's work, but in works like *Quartered Meteor* she complicates presence and literalness through the unstable qualities of lead and the use of casting techniques. Through lead, she suggests that materiality and the body, rather than givens, are concepts to be interrogated, manipulated, and reformed.

At the same time, Italian artists associated with Arte Povera who participated in the international Post-Minimalist and process-art discourse were using lead as a way to engage with their audiences or to explore their own creative processes. As Elizabeth Mangini shows in the works of Gilberto Zorio, and Sharon Hecker in those by Luciano Fabro, Giuseppe Penone, and Marisa Merz, these artists engaged with lead in a multiplicity of ways that help us to disentangle the readings of artists associated with Arte Povera as univocal.<sup>3</sup> These studies open the door for an examination of lead's use by other Italian artists of the same period, such as Pier Paolo Calzolari, Emilio Prini, and Jannis Kounellis, all of whom have been connected with Arte Povera and were interested in this material.

Mangini compares Zorio's use of lead in 1968–69 to the lead works made by Serra in the same period and discussed earlier by Weiss in his essay. She maintains that despite these artists' shared affinity for lead's easy malleability, each saw the meaning of lead differently. While for Serra it seemed to be a personal exploration and performance of process, Zorio used lead's history and resonance with contemporary Italian politics to connect with viewers. This concern for the reception of the work grew out of discourses that were particular to Turin, where Zorio is based, and were simultaneously nurtured by the international inclination toward process-oriented art.

Taking a different approach, Hecker examines works by Fabro, Penone, and Merz that juxtapose lead with vegetal motifs. Probing the historical and traditional symbolism of these materials, Hecker argues that works using plants and lead suggest the artists' exploration of two contrasting temporal forces—growth and stopping of motion—which, taken together, suggest a dynamic of artistic creation, as well as ways in which these artists reflect on their respective creative processes.

In the postwar period, some artists expanded lead's symbolic, emotional, psychological, and spiritual associations beyond its use as a material per se. Claudia Mesch discusses how German artist Joseph Beuys drew upon the "archaic science" of hermeticism and alchemy's systematic understanding of the mutability and inherent spirituality of the material as a path of self-discovery. Beuys' comment that "mankind needs some lead so as to be somewhat heavier"

articulates alchemical thinking about the inherently transformative power of lead through its weightiness. She sees Beuys' explorations of lead as indicator of Marcel Duchamp's lasting influence on the artist, though Beuys would arrive at different alchemical conclusions regarding a Saturnian or masculinist pursuit of art.

Early works by Anselm Kiefer are inspired by Beuys, and Kiefer's art is similarly imbued with references to lead's alchemical symbolism. For Kiefer, lead also conveys a sense of memory and history, especially connected to biblical stories and Jewish mysticism. The use of lead in his work is often analyzed from a conceptual viewpoint, yet his process with lead is dense with bodily engagement, as shown by the artist's recent conversation with novelist Karl Ove Knausgård, excerpts of which are published in this book. The problems that art made in lead poses for museums are also critical and rarely made evident. Curator Adina Kamien and conservator Sharon Tager discuss the technical challenges of displaying Kiefer's works in lead in the collection of the Israel Museum. The contributors draw on their interview with Kiefer to understand his interest in and extensive and varied uses of lead. They evaluate the need to balance the artist's intentions with their responsibilities as museum professionals regarding storage, conservation, display, and public access.

Lead's symbolism is pivotal for the Italian artist Remo Salvadori, whose voice emerges in an interview with the book's co-editors prefaced with a critical introduction by Rosalind McKeever. Deeply interested in anthroposophist Rudolf Steiner's theories of the seven metals, Salvadori sees lead as the material of Saturn—heavy and dark yet grounding. His interaction with lead is controlled and precise. In his series *Nel momento* (In the Moment, 1974–present), he cuts out and folds lead sheets like origami, creating squares that open up to the space behind them. His interest in lead is mirrored by what anthroposophist Wilhelm Pelikan called “the secrets of metals.”<sup>4</sup>

British artist Anthony Caro makes lead interact with another material—wood—within the same work. Conceptually, Caro's interest is reminiscent of the juxtaposition of lead and plants described by Hecker in the works of Fabro, Penone, and Marisa Merz. As with the works of Salvadori, in Caro it is lead's powerful tactile quality that emerges. Art critic Karen Wilkin conveys a poetic description, based on her personal relationships and ongoing conversations with the artist, of Caro's combination of supple, blunt-edged sheets of the soft metal with wooden elements, draping and folding the lead over and between the sturdy wooden components. Wilkin sees these intimate works as being about the responsiveness of their components to the hand. This sheds new light on Caro's larger works in other materials made at the same time, such as his sculptures of

the 1980s, which depend on swelling, sinuous sheets of steel reminiscent of the human body despite their abstractness.

Lead's association with danger and weight looms large in the final section. Jon Wood looks at the ways in which artists associated with "New British Sculpture" used lead in the 1980s, 1990s, and after, in works by Tony Carter, Richard Deacon, John Gibbons, Antony Gormley, Cornelia Parker, Carl Plackman, Michael Sandle, Richard Wentworth, Alison Wilding, and Bill Woodrow. Building on the legacy of Moore and Caro's leaden sculpture in Britain, their work was made in the face of American Minimalism and inspired by Arte Povera. Wood looks at the significance of lead toys, familiar items in pre- and postwar children's toy boxes, for several of these artists (soldiers, ships, planes, and other kinds of handheld items), as well as micro-architectural lead objects, such as souvenirs, considering and studying the relationship between sculpture, toys, play, and lead, as well as the scale shifts from one to the other. Wood also reevaluates the material poetics of lead—its dramatic production process, its alchemical resonances, its reproducibility, its famous soft hardness—in relation to more established alternatives for fine art such as bronze.

Ongoing public health concerns about lead are central to contemporary work of the collective Futurefarmers and Chinese-American artist Mel Chin. These artists rethink lead yet again, this time in a social key. Their practice, discussed by Silvia Bottinelli, spreads awareness of the behavioral impact of lead poisoning, especially in underprivileged communities. Through projects like Chin's *Operation Paydirt* (2006–ongoing) and Futurefarmers' *Soil Kitchen* (2011), the artists examine issues of race, class, and inequality in contemporary America. Lead becomes an invisible and threatening presence that operates within the environment and the public's own bodies rather than as a tangible material that can be shaped into objects.

In the current climate of global terror and mass shootings, lead is linked to gun violence. This book closes with our interview with Chilean-American artist Daniela Rivera, who incorporates lead bullets into *Shooting Skies/Curtains* (2014). Staging an interplay between violence and the sublime, the artist weaves a pattern of curtains made out of used bullets. Behind the curtains one can contemplate Rivera's beautiful paintings of skies perforated by bullet holes. She combines threading with violent references, countering expectations that women's craft is innocuous and nurturing.

While offering a broad range of examples, this book is hardly an exhaustive list of artists who work with lead. This is a testament to lead's versatility and ability to fascinate artists across time and cultures. Our volume is a work in progress that opens a conversation to be continued.

## Notes

- 1 See, among other exhibitions, *Bronze*, ed. David Ekserdjian (London: Royal Academy of Arts, 2012) and the exhibition about copper titled *TRame*, ed. Antonella Soldaini and Elena Tettamanti (Milan: Skira, 2014). The bibliography on material studies is vast, including James Elkins, *What Painting Is: How to Think about Oil Painting, Using the Language of Alchemy* (New York: Routledge, 1999); Alex Potts, "Tactility: The Interrogation of Medium in Art of the 1960s," *Art History* 27, no. 2 (2004): 282–304; Philippe Bordes, "The Materiality of Art," in *Cultural Histories of the Material World*, ed. Peter N. Miller (Ann Arbor: University of Michigan Press, 2013), 39–44; Petra Lange-Berndt, *Materiality* (London: Whitechapel Gallery; Cambridge, MA: The MIT Press, 2015).
- 2 On this topic, see Dedo Von Kerssenbrock-Krosigk, Beat Wismzer and Sven Dupré, *Art and Alchemy: The Mystery of Transformation* (Munich: Hirmer and Düsseldorf: Museum Kunstpalast, 2014); and Urszula Szulakowska, *Alchemy in Contemporary Art* (Farnham, G.B. and Burlington, Vermont: Ashgate, 2011).
- 3 For a methodological challenge to readings of Arte Povera as univocal, see Sharon Hecker and Marin Sullivan, eds., *Postwar Italian Art History Today. Untying "The Knot"* (New York: Bloomsbury Academic, 2018).
- 4 Wilhelm Pelikan, *The Secrets of Metals* (Spring Valley, NY: Anthroposophic Press, 1973).

# A Most Insidious Poison Taking Advantage of Our Necessities: A Brief Historical Introduction to Lead and Lead Poisoning

Christian Warren

## The useful metal

In the twentieth century, lead manufacturers occasionally promoted their product as “the useful metal.” Orlando Harn, head of advertising for the National Lead Company, took that one step further. In 1924 Harn, who had created the Dutch Boy trademark for NLC’s famous white lead paint, published a book entitled *Lead: The Precious Metal*, a breezy compendium of the thousands of uses the modern world found for the element.<sup>1</sup> No one should be surprised that Harn’s book barely acknowledged the toxicity of the lead in the Dutch Boy’s paint bucket. This book certainly does acknowledge that as long as we have exploited lead for its many applications in engineering, industry, and the arts, we have done so with some knowledge of its potential to poison us. This chapter provides a brief overview of both the promise and peril of Harn’s precious metal, and describes the gradual progress since the late eighteenth century toward fully recognizing its hazards, by means of several brisk but detailed vignettes—“miniatures,” if you will (from “minium”—lead tetroxide, a favorite red pigment for centuries).

Lead’s physical characteristics go a long way toward explaining its indispensability. In its metallic form it is easily worked: its low melting temperature makes it easy to cast or use as a durable solder. Lead sheets are easy to bend, hammer, and join—the perfect material for conveying clean water into homes, and waste water away. The very word “plumbing” derives from the Latin word for lead, *plumbum*. Lead’s weight—the second densest element—is an integral part of its identity and its utility. Its heft made it ideal for weapons,

ballast, and standard measures. And for millennia, its many “useful” features made it an ideal lining for coffins.<sup>2</sup>

The Romans associated lead with Saturn, the slowest (heaviest) of the visible planets. Saturn was the father of the gods, and the Romans, like the Greeks and the ancient Chinese, believed from their experience with metallurgy that lead was the father of other metals. The identification continued in alchemy and astrology, and into modern era: well into the twentieth-century scientists and physicians referred to lead and its compounds as Saturn, or extracts of Saturn; “saturnism” or variants remain a term for lead poisoning in many languages.

As versatile as metallic lead is, the element’s chemical properties make it even more so when compounded with other elements. Lead’s oxides come in a range of bright colors, with their own attractive set of attributes as pigments, coatings, and chemicals. Some of the most ancient ceramic glazes contain lead compounds, and most ceramics and porcelain contained a high percentage of lead carbonate or other oxides. Lead carbonate, or ceruse, has historically been the most commonly used. It is bright white, easy to manufacture, readily mixed in oil and applied on surfaces from canvas, metal, wood, and human skin. Ceruse was a popular face makeup from ancient Greece to Victorian England, for those who wanted to simulate the palest white complexion, though users risked serious toxic exposure. Ceruse was not the first leaden cosmetic, though. Decorating the eyes with kohl, essentially finely ground galena ore, predates the technology to smelt metallic lead. Kohl has been a popular eye makeup since Ancient Egypt and is still widely used in the Middle East and South Asia. Lead compounds colored all manner of cosmetics, from hair dyes to lipstick.<sup>3</sup>

The most ironic uses for lead and lead compounds have been its many applications in health and medicine. Bernardino Ramazzini, a seventeenth-century pioneer in occupational medicine, called lead “the surgeon’s mainstay.” Saturnine compounds filled medicine chests from ancient times to the twentieth century. Spanish explorers to the Americas brought lead plasters and ointments to treat any number of conditions. Those sailors and soldiers who went home from the New World afflicted with syphilis might have had their “new” disease treated with leaded ointments. Lead compounds have been used since antiquity to control fertility. Aristotle recommended applying white lead ointment to the cervix to prevent pregnancy. Plentiful examples of nineteenth-century newspaper advertisements for lead-containing abortifacients attest to widespread belief in lead’s effectiveness when contraception failed. Basic awareness of lead’s toxic effects is also ancient: in the second century BCE, the Greek poet and physician Nicander described most of the classic symptoms of

saturnism—including hallucinations and paralysis. Physicians have long noted the contradiction of lead's toxicity and their reliance upon leaden compounds. Ramazzini thought it strange that lead, the "surgeon's mainstay," was "so deadly that potters who need its aid are thus stricken."<sup>4</sup>

If we always knew of lead's toxicity, our understanding of just how it affects the body has evolved over the centuries. Lead begins attacking the body when it is absorbed into the bloodstream, most often from the intestines or lungs. Most of this blood-borne lead is distributed to the bones, which absorb the lead ions as if they were useful minerals. Bound up in the matrix of the bones, for a time it poses little direct threat. However, months or years after exposure, this sequestered lead can leach back into the blood stream to resume its attack on soft tissues: kidneys, reproductive organs, and—most critically—the nervous system.

Clinicians describe a given case of lead poisoning along two axes: one ranging from "chronic" to "acute," depending on the abruptness with which symptoms appear and their duration; the other along the axis between "clinical" and "subclinical," referring to the severity of the poisoning, with "subclinical," or "asymptomatic" describing cases where measurable damage from lead evokes no outward symptoms, while "clinical" refers to symptoms that a trained clinician could observe directly. These symptoms range from mild fatigue and sleeplessness to weakness, abdominal pain, constipation, persistent vomiting, and to clumsiness, extreme dizziness, and other signs of nerve damage, including paralysis of limbs to convulsions and swelling of the brain (lead encephalopathy) that was almost always fatal in the years before the development of effective de-leading treatments.

The era of effective treatments for lead poisoning came with improved diagnostic tools. In turn, this new set of tools shifted the focus of both medical and regulatory action on lead. Prior to the 1950s, clinicians and regulators concentrated on acute, severe lead poisoning: workers hospitalized with acute abdominal complaints (often called by trade-related names: "painter's colic" or "potter's colic") or peripheral paralysis ("wrist drop" commonly in painters, "ankle drop" in potters); children brought to emergency rooms with crippling colic, or in the throes of lead encephalopathy. With the advent of powerful chelating drugs and more accurate screening and diagnostic tools, and with the easing of lead poisoning's relentless mortality, the focus has shifted to prevention of what was once called "low-level" lead exposure.

This pattern of discovery, response, and rediscovery (or re-definition) charts a halting trajectory. It is a narrative of discovery and progress and fallback—not

exactly Sisyphian, but often perceived as such by contemporary observers. Benjamin Franklin famously lamented, “how long a useful truth may be known and exist, before it is generally received and practiced on.”<sup>5</sup> Our knowledge is always imperfect, and our willingness to “practice on” that knowledge more so.

## Lead in the Enlightenment

Franklin made that oft-quoted observation in a letter to his friend Benjamin Vaughan, a young British physician and politician. Vaughan had asked Franklin, eighty, to jot down all he “could recollect on the subject.” After a long life as an inventor and correspondent with scientists and medical men on both sides of the Atlantic, Franklin had a lot to recollect—about lead’s indispensability in technology and the arts, and about its deadliness. Franklin recalled a story from his teenage years when he worked as a typesetter. Bent over their printing forms, often in poorly ventilated shops, typesetters could hardly help breathing and swallowing particles of lead from the type, and many became seriously lead poisoned after years of exposure, suffering painful stomach aches, or, worse, “the dangles”—paralysis of their hands. The young Franklin developed symptoms suggestive of a dangerous chronic exposure, symptoms he described as “a kind of obscure Pain that I had sometimes felt as it were in the Bones of my Hand.”<sup>6</sup>

As bad as lead exposure was in typical print shops, other lead-using trades were far worse. Medical studies from the late seventeenth century on found that industrial work in lead smelters, paint factories, and potteries was deadly.<sup>7</sup> Similar dangers lurked in the studios of glass blowers, stained glass artists, potters, and painters, who relied heavily on lead carbonate (with innocuous names like “flake white,” “Berlin white,” and “silver white”) and colorful lead pigments, from chrome yellow to bright red minium. Franklin had the opportunity in 1767, when visiting Paris with John Pringle (soon to be appointed as personal physician to King George III), to read a report from *Hôpital de la Charité*, which Franklin noted was “particularly famous” for its cure for lead poisoning. Almost all of the hospital’s lead patients had worked as plumbers, glaziers, painters, or paint grinders in factories. Decades later, Parisian physician Tanquerel des Planches studied *La Charité’s* enormous population of lead-poisoned workers for his groundbreaking 1839 study, *Traité des Maladies de Plomb ou Saturnines*.<sup>8</sup>

Lead-tainted alcohol was the second most-studied vector for lead poisoning before the twentieth century—and with good reason: it is likely that up to that time, lead-adulterated beverages poisoned more people than any other non-

occupational source. The first wine adulteration was probably inadvertent, through contamination during storage, or as a result of boiling sweeteners and flavorants in leaden vessels, but experience and experimentation led distillers and vintners to use lead to control fermentation or alter the taste of their products. These toxic shortcuts did not go unnoticed, though efforts to regulate them seem to have had little effect. Charlemagne is reputed to have banned leaded wines in 802 CE. By the eighteenth century wine-related lead poisoning prompted harsh countermeasures: harsh fines, imprisonment, or even death awaited convicted wine adulterers.<sup>9</sup> Regardless, sporadic epidemics of lead poisoning from adulterated alcohol continued, often taking the name of the town or region where they originated: the Colic of Poitou, named for a 1639 epidemic of severe colic in the French town of Poitiers, in the district of Poitou, became a generic term (often Latinized as *colica pictonum*) for lead poisoning. A doctor described the victims in Poitou as appearing “just like ghosts or statues ... walking artificially, pallid, squalid, lean, with their hands crooked and hanging under their own weight.”<sup>10</sup> Other notable examples include the Madrid Colic, the Colic of Normandy, and—most famously—the Devonshire Colic.

Apple cider production was a big business in the shire of Devon in the 1700s, with nearly every farm producing hard cider for the market. Devonians themselves drank tremendous quantities, and for most of the century, their drink of choice made many of them sick. Devonshire physician George Baker compared stricken Devonians to those zombie-like sufferers from Poitou.<sup>11</sup> In 1767, Baker tested Devonshire cider, using some of the techniques developed by alchemists centuries before, and found it was heavily leaded. Baker’s investigations showed that lead entered Devonshire cider accidentally at many stages of production. On top of that, many farmers and merchants added white lead directly to the cider to correct acidity or to check fermentation. The region’s cider producers dismissed all this, insisting that the only lead to be found in Devonshire cider came from the lead-shot farmers used to shoot birds dining from apple piles!

Baker initially relied on the published study on the Colic of Poitou, but he also consulted with Benjamin Franklin, like Baker a Fellow of the Royal Society, and visiting London when Baker was undertaking his study. Franklin noted that the symptoms in Devonshire were identical to those in an epidemic in the American colonies forty years earlier, caused by the use of lead pipes in some Massachusetts rum distilleries. In 1723, the colony outlawed lead in rum stills, and the disease all but disappeared. In the decades after Baker’s research, the annual visitations of Devonshire colic gradually abated, although it is an open question how much credit is due Baker, who was elevated in medical history

myth as singlehandedly ending the scourge, but whose reputation in Devonshire would seem to undercut his influence on cider producers.<sup>12</sup>

Given Franklin's lifelong interest in lead poisoning, it is highly ironic that he likely suffered in old age from one of its most insidious forms, as a lifetime's burden of lead absorbed through his work, research, and leisurely drinking poisoned his soft tissues. From his late middle age, Franklin suffered from gout, a painful swelling of the joints, especially in the lower legs and feet. Franklin's gout caused him considerable pain, but he bore it with his usual good humor, even publishing a "conversation" between himself and his gout, personified as a female judge and tormentor.<sup>13</sup> Franklin's anthropomorphized gout chided him for his sedentary lifestyle. Indeed, gout can be caused by a diet of rich foods and lack of exercise—it was sometimes called "the disease of kings." But it can also originate in chronic lead exposure; so-called saturnine gout was frequently diagnosed throughout the nineteenth century, though largely forgotten in the twentieth, erroneously considered "nonexistent outside of the moonshine belt."<sup>14</sup> Franklin's fondness for wines in the golden age of lead-adulterated alcohol doubled his risk for the painful malady.

More broadly, Franklin lived at the start of the golden age of lead. In the two hundred years after his birth, lead consumption, in both the economic and metabolic sense, rose dramatically, and lead earned its nickname "the useful metal." As industrialization, urbanization, and the demand for leaden consumer products drove an increase in production by orders of magnitude, the toxic consequences rose in parallel. Franklin's "useful truth"—knowledge of and preventive interventions—was slower to grow. It took until the late nineteenth century to reach an inflection point in the study of lead's deadly effects, and another generation to reverse the rising trend of morality and sickness.

## Studying "The Poisonous Trades"

Few people were more significant in that progressive project than Alice Hamilton, who, early in the twentieth century, undertook several major government surveys exposing fatal conditions in lead-using industries and was an effective advocate for safer processes and regulations. Although her remarkable career studying "the dangerous trades" has been the subject of many uncritical accounts, it is indisputable that Hamilton helped change American medicine's attitude toward occupational hazards from blind acceptance of the way things were to open-eyed determination to see what could be done. One of her first major studies,

published in 1912, examined lead poisoning in the pottery and porcelain industries of nine states.<sup>15</sup> Ceramics and porcelain manufacturing were hardly the largest segments of the lead industry, nor were they the deadliest—that “honor” goes to smelters and lead paint factories. But potteries were undergoing the same explosive growth as the industry as a whole, driven largely by the sanitary revolution, which made porcelain fixtures a household necessity, and the general rise in consumerism that made lead-glazed tableware a growing “renewable resource” for ceramics manufacturers.

The conditions Hamilton found in the sixty-eight potteries and factories she surveyed matched those she had found in other industries. Preventive measures “were conspicuously absent,” with “no effort ... made to keep down the amount of dust and no provision made for carrying it off.” Factories provided workers no clean area for eating their lunches, let alone hot water for washing lead from their hands before eating; and the medical care was provided only if a worker became “violently ill while at work.”<sup>16</sup> Hamilton’s ability to quantify the hazards or report just how many workers contracted lead poisoning was hampered by inconsistent or non-existent records. With no equipment for measuring environmental exposures, and no standards in place to assess the effects of lead exposure in workers’ bodies, Hamilton followed a standard nineteenth-century model for labor bureau surveys: describe processes and conditions; collect impressions and narratives from workers; compare these impressionistic findings from one factory with those found in others in America and Europe; and compile what little data could be gleaned from local hospitals and physicians.

Simply unearthing the fatal conditions in lead factories did not produce regulatory authority. “I knew,” Hamilton recalled, “that I had no power to cause the managers the slightest discomfort,”<sup>17</sup> though she was thankful that they thought she did. The improvements in lead factory conditions in the two decades after the Progressive Era surveys were not mandated by powerful regulations; what “regulatory” power Hamilton and other industrial hygiene reformers wielded came in the form of moral suasion and arguments for efficiency. Hamilton, in her forties when she did her most important surveys, saw a generational component in this power, contrasting examples of intransigent factory owners of her father’s generation with the progressive spirit of those owners’ children. But arguments for efficiency probably carried even more weight, as one Progressive Era occupational health specialist put it, “sanitation is a means of saving dollars and cents.”<sup>18</sup>

Instead of building a powerful regulatory apparatus for protecting workers of the sort as was found in major European lead manufacturing nations, the United

States created a network of workers' compensation systems in each state—a partnership between manufacturers, the government, and private insurance companies. Bringing company doctors into the factory, with a mandate from the insurance company to make workplaces safer (and save dollars and cents), had a dramatic effect. From 1910 to 1940, reported lead poisoning deaths in the United States (almost all being occupationally related) dropped by two-thirds, this despite skyrocketing lead production and consumption.<sup>19</sup> This combination of weak state with an empowered, corporate-sponsored medical apparatus left the lead industry itself in charge of fundamental research into lead toxicology. The lead industry sponsored extensive research at major universities, supported publications, and convened regular conventions where “company doctors” exchanged ideas and kept up with the latest developments.

The introduction of leaded gasoline in the early 1920s nearly brought disaster for the lead industry's reputation. A spate of fatal accidents in factories producing tetraethyl lead, the new miracle gasoline additive, produced a public scandal that prompted a federal investigation and, almost unheard of, a forced shutdown of all production and distribution of the new chemical.<sup>20</sup> But the Ethyl Corporation (forged by General Motors, DuPont, and Standard Oil) managed to prevail in the investigation, and tetraethyl production resumed a little over a year later. Ethyl had used the downtime well, re-engineering refinery and distribution processes, and hiring a young researcher, Robert Kehoe, to establish and run the Kettering Laboratory of Applied Physiology, a lead-funded lab at the University of Cincinnati. For the next forty years, Kehoe's research dominated the field of lead toxicology, establishing a paradigm that, while acknowledging lead's dangers in industrial settings, assured that lead was essential harmlessness to the public. The keystone to this paradigm was the so-called threshold for harm—a level of lead absorption, expressed as a blood-lead level, below which no ill effects would occur. Kehoe assured the public and all potential regulators that the general population's exposure to lead put it far below any risk of reaching the threshold, and that only lead industry workers needed protection. In the 1960s, two largely unrelated channels of research would undermine what came to be known as the Kehoe Rule.

### “In a Lead World”

In the first third of the twentieth century, childhood lead poisoning received none of the public attention or official response that was transforming

conditions in lead factories, earning this scourge the name that would be given in later decades: “invisible epidemic” and “silent epidemic.” Prior to the 1930s, childhood lead poisoning accounted for less than 5 percent of reported lead poisoning deaths in the United States. By 1940, ten times as many childhood lead poisoning deaths were being reported, and the numbers kept rising.<sup>21</sup> This increase did not reflect greater risks to children—an observant pediatrician noted as early as 1924 that “a child lives in a lead world”—as much as far greater attention to the problem, as medical and public health professionals began investigating the incidence of lead-poisoned children with greater resources and increased vigor.<sup>22</sup> Initially, as it became clear that children were being poisoned by the paint in their homes, childhood lead poisoning was cast as a social problem caused by bad housing—just another of the legion “ghetto problems,” and as resistant to solutions. “Like the poor,” one researcher concluded in 1940, “lead poisoning is always with us.”<sup>23</sup> Twenty years later, childhood lead poisoning was still seen as a disease of poverty, but the nation’s attitude toward poverty had altered radically, transforming the image of the lead-poisoned child—usually portrayed as poor and non-white—into a cause in the fight for social justice, and proof that slums kill. Lead poisoning screening and prevention programs multiplied, millions of children were screened, and local and federal laws forced the abatement of lead from hundreds of thousands of homes.

One consequence of all this case-finding and abatement was the second re-definition in a generation of the “typical” lead-poisoned child. Contrary to the lead industry’s mantra that the threshold for harm adopted by industry applied equally to children, researchers found unassailable evidence linking blood-lead levels far below the industrial threshold (of 80 micrograms of lead per deciliter of blood, 80 $\mu$ g/dL) with serious academic and emotional outcomes. No longer “merely” a ghetto problem, lead’s menacing shadow fell over the thresholds of middle-class homes, threatening the children of professionals. In the last two decades of the twentieth century, assertive programs to limit *everyone’s* lead exposure lowered average American blood-lead burdens to levels that were unheard of in the 1940s.<sup>24</sup> This environmental cleansing lifted the general miasma of universal lead exposures, but old lead remained on walls, in the dust inside homes, and in the soils around old buildings and throughout our cities. The poor child of the inner city remains most at risk, but we receive nearly constant reminders, whether from the water crisis in Flint, Michigan, or lead-tainted toys from China, of the potential universality of the threat.<sup>28</sup>

## Sounding the Abyss; Sounding the Alarm

The clarion call of universal risk that seemed so compelling in the 1990s was first sounded in 1965, from a most unusual source. Clair Cameron Patterson was a geochemist who, in 1965, published his controversial theories about lead pollution, overturning ideas that had dominated industrial hygiene and lead toxicology for nearly half a century.<sup>25</sup> Patterson was immortalized as Sam Beech, a character in Saul Bellow's 1982 novel *The Dean's December*. Beech argues that low-level lead exposure was slowly dulling mankind's consciousness, but "we couldn't ourselves observe it since we were all its victims, and we would be dulled down into the abyss unaware that we were sinking."<sup>26</sup>

Patterson's battles with lead contamination began in the laboratory in the 1950s when he was analyzing lead isotopes in meteorites to calculate the age of the Earth—his estimate of 4.5 billion years holds today. He was frustrated by laboratory lead contamination, leading him to develop new clean-room protocols, and sparking his determination to find the source of all of that lead that had contaminated his lab equipment. Through studies of ocean sediments and glacial ice he proved that lead pollution had been rising since antiquity—and that it had spiked since the introduction of leaded gasoline in the middle of the twentieth century. But was this a problem? The Kehoe paradigm held that it was not. Patterson, employing the kind of atomic beam counting that he used in establishing the Earth's age, demonstrated that the average American's body contained a hundred times more lead than was natural. He later used a powerful graphic: the outlines of three human torsos, with dots representing the amount of lead in their bodies. The figure for primitive man had one dot; the second and third figures, which represented the average modern American, and a patient at Kehoe's "threshold" for clinical lead poisoning respectively, were both gray with dots, barely a shade apart, visual testimony to his assertion that we were all living just below Kehoe's threshold, that, as Patterson put it in his 1965 paper, "the average resident of the United States is being subjected to severe chronic lead insult." The stakes, Patterson insisted, went beyond the health of individuals. "[T]he course of history," he asserted, "may have been and is now being altered by the effect of lead contamination upon the human mind."<sup>27</sup>

Some saw Patterson's argument as darkly prophetic. Others saw it as patently absurd. But, as a colleague of Patterson's at Cal Tech put it, comparing Patterson's paper to Rachel Carson's *Silent Spring*, just as Carson had "put something" into the discussion of pesticides, "by golly, Clair Patterson had put something

in there” about lead.<sup>28</sup> Patterson’s insights did not suddenly topple the Kehoe paradigm, but introduced deep cracks in its foundation.

## I Want My White Pb

Lead poisoning of the obvious and frequently fatal type common in Hamilton’s day rarely occurs today. Most public policy on lead focuses on the more subtle and insidious dangers that Patterson warned of, and that two generations of epidemiology established. But regulating these “low-level” risks often entails prevailing in steep cost- and risk-benefit analyses, and calls for action can be drowned out by rights talk: property owners resisting expensive abatement, insurance companies and physician groups resisting mandatory universal screening of children, labor activists resisting discriminatory “fetal protection” legislation, and—most pertinent to this volume—artists and conservators demanding access to lead and lead compounds for their work.

As many nations enact greater restrictions on the sale of lead paints, artists have found ways to retain access to traditional lead pigments: hoarding, for example (Lucien Freud is rumored to have bought up a stockpile of his precious Cremnitz White when the UK proposed restrictions); or declaring tubes of paint imported from less restrictive nations as “works of art” to exploit exemptions; or going as far as corroding their own lead carbonate, using instructions found on the Internet.<sup>29</sup> Their determination, in the face of the scientific consensus about the dangers of low-level exposure, brings to mind George Baker’s observation from the mid-eighteenth century: “Here then is a remarkable instance of a most insidious poison, taking as it were advantage of our necessities, and recommending itself to us by means of a quality, which at once favours economy, gratifies the palate and may lay the foundation to a painful, lingering disease, more formidable than death.”<sup>30</sup>

## Notes

- 1 Orlando C. Harn, *Lead: The Precious Metal* (New York: The Century Company, 1924).
- 2 Much of the background information in this essay draws informally from my research writing Christian Warren, *Brush with Death: A Social History of Lead Poisoning* (Baltimore: Johns Hopkins University Press, 2000).

- 3 Warren, *Brush with Death*, 20–1; Joseph A. Witkowski and Lawrence Charles Parish, “You’ve Come a Long Way Baby: A History of Cosmetic Lead Toxicity,” *Clinics in Dermatology* 19 (2001): 367–70.
- 4 Nicander of Colophon, “Alexipharmaca,” *Poems and Poetical Fragments* ed. and trans. by A.S. Gow and A.F. Scholfield (London: Cambridge University Press, 1953, Reissue, Bilingual Edition 2010), 99. In *Nicander: The Poems and Poetical Fragments*, ed. and trans. by A.S. Gow and A.F. Scholfield (London: Cambridge University Press, 1953); Bernardino Ramazzini, *Diseases of Workers [De Morbis Artificum]*, 1713], *History of Medicine Series*, 23, trans. Wilmer Cave Wright, with introduction by George Rosen (New York: Hafner Publishing Company, 1964), 55.
- 5 Benjamin Franklin to Benjamin Vaughan, July 31, 1786; in *The Writings of Benjamin Franklin, 1783–1788*, ed. Albert Henry Smyth (London: Macmillan, 1906), 530.
- 6 Ibid.
- 7 Two notable examples are Ramazzini, *Diseases of Workers*, and Tanquerel Des Planches, *Traité des Maladies de Plomb ou Saturnines*, 2 vols. (Paris: Ferra, 1839), abridged translation, *Lead Diseases: A Treatise from the French of L. Tanquerel Des Planches; with Notes and Additions on the Use of Lead Pipes and Its Substitutes*, ed. by Samuel L. Dana (Lowell, MA: Daniel Bixby and Company, 1848). Speculation about various artists poisoned by their paints dates from at least Ramazzini in the seventeenth century, who speculated that Correggio and Raphael were likely victims of lead poisoning.
- 8 Tanquerel Des Planches, *Traité des Maladies de Plomb ou Saturnines*.
- 9 Joseph Eisinger, “Lead and Wine: Eberhard Gockel and the Colica Pictonum,” *Medical History* 26 (1982): 298.
- 10 Ibid., 302
- 11 George Baker recalled, “Not long ago I had an opportunity of seeing several wretched victims to this cruel disease; who answered to the representation drawn by Citois [and then he quotes Citois’ description of the Colic of Poitou]: ‘Per vicos, veluti larvae, out arte progredientes statuæ pallide, squallidi, nacilenti conspiciuntur.’” George Baker, “An Inquiry Concerning the Cause of the Endemial Colic of Devonshire,” *Medical Transactions of the College of Physicians in London* 1, 175–256.
- 12 H.A. Waldron, “James Hardy and the Devonshire Colic,” *Medical History* 13, no. 1 (1969): 74–81.
- 13 Benjamin Franklin, “Dialogue Between Franklin and the Gout,” in *The Select Works of Benjamin Franklin*, ed. Epes Sargent (Boston: Phillips, Sampson and Company, 1855), 369–74.
- 14 Richard P. Wedeen, *Poison in the Pot: the Legacy of Lead* (Carbondale: Southern Illinois University Press, 1984), 2.

- 15 Alice Hamilton, "Lead Poisoning in Potteries, Tile Works, and Porcelain Enameled Sanitary Ware Factories," *Bulletin of the United States Bureau of Labor* 104, August 7, 1912.
- 16 *Ibid.*, 8.
- 17 Alice Hamilton, "Nineteen Years in the Poisonous Trades," *Harpers* 159 (October 1929): 584.
- 18 Winthrop Talbot, "Some Economic Aspects of Factory Hygiene," *American Journal of Public Health* 2 (October 1912): 773–5.
- 19 Warren, *Brush with Death*, 86.
- 20 *Ibid.*, 116–33.
- 21 Department of Commerce (US), Bureau of the Census, *Mortality Statistics 1923*. Washington: GPO; 1926; Department of Commerce (US), Bureau of the Census, *Mortality Statistics 1943*. Washington: GPO; 1945.
- 22 John Ruddock, "Lead Poisoning in Children," *JAMA* 82 (1924): 1682–4.
- 23 Nell Conway, "Lead Poisoning—From Unusual Causes," *Industrial Medicine*, no. 9 (1940): 471.
- 24 Warren, *Brush with Death*, 244–50.
- 25 Clair Patterson, "Contaminated and Natural Lead Environments," *Archives of Environmental Health* 11 (1965): 344–60.
- 26 Saul Bellow, *The Dean's December* (New York: Harper & Row, 1982), 138.
- 27 Clair Patterson, "Contaminated and Natural Lead Environments," 358.
- 28 Arie J. Haagen-Smit, unlabeled newspaper clipping in Harriet Louise Hardy Papers, Schlesinger Library, Radcliffe College, Cambridge, MA; MC 387 Box 10, folder 196: "Lead, 1952–78."
- 29 For example, see "The Great Lead White Shortage," *Painting Perceptions*. Available online: <http://paintingperceptions.com/the-great-lead-white-shortage/> (accessed August 12, 2018).
- 30 George Baker, "An Examination of Several Means, by Which the Poison of Lead May Be Supposed Frequently to Gain Admittance into the Human Body, Unobserved and Unsuspected ..." *Med Transactions of the College of Physicians*, no. 1 (1767): 257–318.



## Lead's Historic Transformations

Spike Bucklow

Lead has long been associated with transformation. It has one of the lowest melting points of the metals and has been processed for over 6,000 years. Much was used for plumbing—the name of which derives from the Latin for lead, *plumbum*—and also for military projectiles. However, the vast scale of ancient lead working was not determined by the need for pipes or projectiles. Lead was little more than a useful by-product of processes undertaken to obtain a more precious resource.

The transformation of galena—a hard, brittle and shiny rock—into its polar opposite, lead—a soft, malleable, and dull metal—must have captured the imagination and the profound material change evidently encouraged experimentation. At some point, the material extracted from galena was repeatedly heated and cooled and solid crusts of metal were repeatedly skimmed off vats of molten metal. This process separated what had initially appeared to be a homogeneous material into different mixtures. This procedure underlay the discovery that some galena was the source of not only lead, but also silver. Most galena was processed in the search for its hidden silver.<sup>1</sup> Lead was also used to extract the silver and gold that could be hidden in copper.<sup>2</sup>

Classical theories, such as those reported by the encyclopedist Pliny, asserted that metals grew organically underground.<sup>3</sup> All were believed to be essentially the same—composed of sulfur and mercury, theoretical principles that had some relationship with the materials sulfur and mercury. The visceral experience of roasting galena reinforced the idea that metals were composed of these two theoretical principles as smelting was accompanied by billowing clouds of yellow sulfurous gases, with their characteristic choking stench, while the remaining material flowed like liquid mercury.<sup>4</sup> The differences between the seven traditionally recognized metals were thought to be due to the particular subterranean circumstances in which they grew. Lead was the least “mature” of

the metals, and, given time, was destined to “ripen” and, if conditions allowed, eventually become gold, the most perfectly balanced combination of sulfur and mercury. (Exact details about the “maturity” or “ripeness” of metals were widely debated in contemporary alchemical literature.) Local circumstances and the influence of the planets were thought to determine the particular character of metals found in different places and at different times. Thanks to dissemination by the likes of the poet Chaucer, it was widely accepted that lead grew under the influence of the planet Saturn, and that the silver that often accompanied it grew under the influence of the Moon.<sup>5</sup>

Given these theories, the process of extracting silver from a mixture of lead and silver was open to different interpretations. For example, it could be viewed as the active conversion of lead into silver, with the conversion either taking place over eons underground or, maybe faster in the smelting operations. Silver was geologically “within” the galena ore and, after smelting, it was physically within the molten lead, as one substance dissolved in another. However, from the alchemical point of view, the more mature metal, silver, could have been “within” the less mature metal, lead, as an oak tree can be seen as being within the acorn. A combination of natural processes and human intervention provided the conditions under which the latent could become manifest, allowing lead to become silver, as seed became sapling. The routine processing of galena for its silver content could therefore have been seen as supporting alchemical ideas that “base” metals like lead could be converted into other metals, and ultimately into the most “noble” metal, gold. Of course, not all deposits of galena contained silver, so processing did not always yield enriched lead-silver alloys. This fact alone should have warned alchemists that the conversion of lead into gold would not have been easy.

An alchemical adage stated, “The inner nature of lead is gold and the inner nature of gold is lead.”<sup>6</sup> Like all alchemical statements, this was open to interpretation. Those alchemists whose primary focus was religious would read it in the light of biblical injunctions like “the meek shall inherit the earth” and “it’s easier to get a camel through the eye of a needle than a rich man into heaven.”<sup>7</sup> The humble contain the possibility of exaltation, while the rich contain the possibility of corruption, in a spiritual counterpart to the social trajectories represented by the Wheel of Fortune. Those alchemists whose focus was primarily material could interpret observations of physical transformation in their laboratories guided by the same adage. One way or another, they worked at bringing out what was hidden, balancing sulfur and mercury, in order to transmute baseness into nobility or lead into gold. Yet laboratory-based alchemists also worked on

many other material transformations, and did not work in isolation. Alchemy's practical application took many forms, but it always had a public-facing side, processing and refining materials and creating drugs for the apothecary, for example. Many alchemical transformations were of everyday interest to artists and craftspeople. These ranged from simple physical transformations to highly complex chemical transformations.

The very simplest transformations changed its shape, cooling liquid lead to make medieval pilgrims' badges, for example.<sup>8</sup> More complex was the creation of mixtures of metals to take advantage of the fact that an alloy's properties could differ from its constituent metals' properties. So, for example, up to 15 percent lead was added to tin to make pewter, an alloy that is harder than both tin and lead and has a lower melting point than either tin or lead.<sup>9</sup> Lead was also added to mixtures of non-metals to make, or modify the properties of, enamels and ceramic glazes. In both cases the lead served to improve the melt's flow properties and reduce the risk of the solid enamel or glaze layer becoming detached from the decorated substrate.<sup>10</sup> Very similar chemistry produced glasses that had similar decorative qualities but were essentially self-supporting. The seventeenth-century revival of this ancient technology was fraught with difficulties.<sup>11</sup> Galena was a hard, brittle, and shiny rock, and was converted into lead, which is a soft, malleable, and dull metal. Mixing and firing that metal (and its ores and derivatives) with sand and ash converted it into glass. This was a hard, brittle, and shiny material that shared at least three of galena's qualities but was, in addition, also crystal clear.

The above transformations of lead have all been practiced for millennia. The creation of a totally transparent glass from totally opaque lead was spectacular, but linguistic evidence indicates a deep-rooted connection. Up to the twentieth century, the glowing molten material that was blown or cast into transparent glass objects was called "metal," possibly in recognition of parallels between the manufacture of metallic items and glassware.<sup>12</sup>

However, lead's most spectacular transformation involved leaving its metallic nature behind altogether. According to a twelfth-century artists' manual, lead metal was beaten into a thin sheet, cut and coiled up, sprinkled with urine and vinegar, and left under horse manure for a month.<sup>13</sup> It was then retrieved and the white powder that covered its surface (basic lead carbonate) was scraped off.<sup>14</sup> The soft, malleable, and dull metal, which was traditionally considered black, was transformed into a white friable powder that was under no circumstances malleable like the original metal or the alloys, enamels, glazes, or glass to which it contributed. The alchemical theories of sulfur- and mercury-based metals

asserted that their malleability was due to mercury's "watery" nature. The heat from rotting manure, together with the "burning" qualities of urine and vinegar, was thought to "dry out" the metal to make the friable powder. Details of the process have been described elsewhere.<sup>15</sup>

The only way to make this particular lead compound flow was to distribute it through something that was already liquid, like oil. Such formulations were well known since their most widespread use was as cosmetics. Yet, in common with many other cosmetics, lead white also had other uses. The Latin for cosmetic, *medicamentum*, also meant paint and hints at one other use—medicine. The white powder was used as an artists' pigment, but its medical application was reported by Pliny.<sup>16</sup> Alchemists called it *lac virginis*, or "Virgin's milk" and it was used to treat "sickness" in base metals and assist them in the process of "maturing" or "ripening" into noble metals.<sup>17</sup> This "white elixir" was a steppingstone toward the "red elixir" or Philosopher's Stone that could, in theory, convert lead into gold. However, *medicamentum* also meant poison.<sup>18</sup>

Lead had long been associated with transformation and was also associated with toxicity. The symptoms of lead poisoning, in order of increasing severity, include constipation, anemia, paralysis (typically manifest as "wrist drop"), and encephalopathy (disturbed mental function, seizure, and coma).<sup>19</sup> Historic smelting was hazardous and remained so into the twentieth century as the rate of lead poisoning in the American smelting industry was estimated at 22 percent in 1912.<sup>20</sup> Vitruvius claimed that lead-lined aqueducts, siphons, and pipes poisoned the water they carried.<sup>21</sup> But this is an oversimplification as the amount of lead that dissolves in piped water depends upon the water. Most piped water is "hard," coming from catchment areas of sedimentary landscape, and is unaffected by lead pipes. On the other hand, "soft" water, from igneous landscapes, corrodes lead pipes, and poses a significant risk to health.<sup>22</sup> The production and application of lead-based enamels, glazes, and lead glass also exposed workers to unhealthy levels of lead. It has been claimed by the head of Italy's National Committee for Historical, Cultural and Environmental Heritage that Caravaggio's erratic and violent behavior was due to lead poisoning and that lead was also implicated in his early death (along with infected wounds, syphilis, and sunstroke).<sup>23</sup>

By far the most hazardous occupation was the production of lead white pigment. Of all lead poisoning cases treated at Hôpital de la Charité, Paris, in the mid-nineteenth century, 33 percent were manufacturers of lead white. House painters, who were exposed to lead white when they removed old paint, constituted another 25 percent, while a further 5 percent were those who ground

colors for painters.<sup>24</sup> There are no records of the number of women poisoned by lead white makeup. This omission may be because, from antiquity, the written record has been biased by predominantly male authorship and anti-cosmetic rhetoric.<sup>25</sup> Lead white cosmetics were said to “deceive the simple sight of men” and make “hideous [women], if not beautiful, at least less ugly.”<sup>26</sup> However, while inhaling the dry powder or swallowing the makeup posed a risk to health, properly applied makeup may not have been as hazardous as we might expect for two reasons. First, everyone knew of lead’s toxicity. The dry powder was easily ingested but, once mixed with oils, it posed less of a health risk (unless actually swallowed). Second, it has been demonstrated that lead compounds can boost the response of the immune system. Ancient Egyptian lead-based cosmetics may therefore have helped combat the bacterial eye infections prevalent in the Nile Delta.<sup>27</sup>

Such was the wider cultural understanding of lead that informed historic painters’ particular understanding of their almost ubiquitous white pigment, which, from the classical to the early modern period, remained relatively consistent. And, as the term *medicamentum* suggests, the boundaries between material uses in bodily adornment, medicine, and painting were fluid. Lomazzo’s painting manual, for example, noted that Venice was famous for its lead white and also for the white-painted women who “quickly become withered and grey headed, because it doth so mightily dry up the natural moisture of their flesh.”<sup>28</sup> And anti-cosmetic warnings that whitening the skin could “blacken the soul” might have alluded to the alchemical adage of opposition between the inner and outer that was cited above, or to a recognition of the cosmetic’s origin as a white surface-coating that hid a black metal.<sup>29</sup> This latter suggestion is supported by the fact that a person’s “character, disposition or temperament,” “spirit, courage,” and “sexual vigour” is known as their “mettle” and there was no distinction between mettle and metal up to the seventeenth century.<sup>30</sup>

For some artists, the cultural aspects of lead were viewed through alchemy. Alchemical interests could be manifest in artists’ painted subject matter (for example, Teniers), in their iconography (Bosch), their business interests (Cranach), and the materials found in their studios (Grünwald).<sup>31</sup> A tiny minority of artists also wrote manuals that display interest in, or at least awareness of, alchemy. One simply said lead white was “made alchemically.”<sup>32</sup> Other artist’s manuals were very detailed, such as that written by Theophilus, from which the above summary of lead white’s manufacture was taken. Whether or not the manual’s author was in fact one man, the manual was presented, and has long been accepted, as the work of an individual whose expertise spanned more than

one craft discipline. It consists of three connected books—painting, glassmaking, and metalwork. Theophilus described refining metals and making metal alloys.<sup>33</sup> He also mentioned glass made from lead oxide.<sup>34</sup> In addition to outlining the manufacture of lead white he also described its conversion to minium.<sup>35</sup> Those who read and transmitted Theophilus's treatise saw the author as one who recognized the connections between lead's use in painting, glassmaking, and metalwork.

Yet, after the seventeenth century, artists can no longer be assumed to have such detailed knowledge of their materials, mainly due to changes outside the painter's studio. These included the decline of guilds and apprenticeships, the rise of academies and autodidact artists, as well as commercial changes in patterns of patronage and the division of tasks, with the growth of specialized manufacturers of pigments and paints. Eighteenth- and nineteenth-century painters may therefore have been unaware of some or many aspects of their chosen painting materials. On the other hand, the evidence that medieval, Renaissance, and early modern painters did have some understanding of lead white as a culturally significant material is not restricted to artists' manuals. The physical structure of paintings can also indicate the culturally informed use of lead white. This chapter will consider the technical evidence provided by two paintings by the Venetian painter Titian.

Sixteenth-century Venice was an important city for the trade in artists' materials, and its pigment sellers, the *vendecolori*, dispatched colors across Europe.<sup>36</sup> Titian obtained his colors from Alvise dalla Scala, and the two men had a relationship that went beyond the buying and selling of pigments. In 1561, Alvise became a deacon of the Scuola Grande di San Rocco, a confraternity dedicated to St. Rocco, who was considered to offer protection against the plague. Titian was an intermittent member of the confraternity and Alvise commissioned him to paint his portrait.<sup>37</sup> This painting shows a very prosperous man—indicating the value of the pigment trade—next to a box of dry pigments on the windowsill.

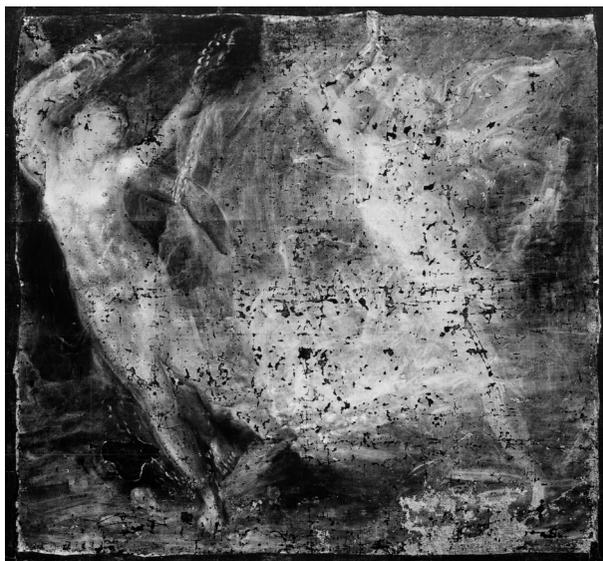
Titian used practically every available color, including the poisonous ones like orpiment, realgar, vermilion, and lead white.<sup>38</sup> He was the son of the superintendent of Pieve di Cadore and mine manager, so he would have grown up in an environment that included exposure to exotic materials.<sup>39</sup> Those materials almost certainly included the mineral galena since, at the time of writing, a historic mine at Salafossa, just north of San Pietro di Cadore, has an exploratory license to produce lead commercially.<sup>40</sup> At the age of about ten, the young Titian was apprenticed to the painter Gentile Bellini and was evidently

taught how to handle poisonous pigments without posing an undue risk to his health. While the poisonous orpiment, realgar, and vermilion were relatively minor components of his paintings, toxic lead white was a major component, and potential for exposure was significant. As Bellini's apprentice, he would have ground lead white and, unlike some nineteenth-century Parisian painters' assistants, there is no evidence to suggest that he suffered from lead poisoning.

Titian developed a successful studio and employed many assistants, all of whom contributed to his oeuvre. Connoisseurs have labored long and hard with this oeuvre trying to determine which paintings, or paint passages, are autograph and which are by studio assistants. The surface of those paintings has been forensically examined, yet no brushwork has been identified as showing particular signs of paralysis or "wrist-drop" that could be symptomatic of lead poisoning.

Lead is a heavy metal and it absorbs X-rays. The distribution of lead white across a canvas can therefore often be seen in the X-ray of a painting. One of the ways in which Titian's autograph paintings are distinguished from studio copies is by the *pentimenti* or "changes of mind" that can be revealed in X-rays. Briefly, their presence might suggest the work of Titian, while their absence may indicate the work of studio assistants. The X-ray of one particular autograph painting, *Perseus and Andromeda*, c. 1554–56, shows many *pentimenti*. [Figure 2.1] Originally, Andromeda was on the right, then she was moved to the left, where her left arm was first raised, then lowered. These changes are evident in the X-ray because the flesh paint contained a lot of lead white. Yet Andromeda's original position on the right-hand side is hard to determine because it was intentionally obscured by another layer of lead white. This large area of white in the X-ray indicates that the obscuring layer of lead white was applied with some haste and frustration. Titian smeared the paint over the original Andromeda by hand and traces of his fingerprints can be discerned in the X-ray. [Figure 2.2] Titian presumably knew that lead white mixed in oil would not penetrate his skin and that, as long as he did not lick his fingers, no harm would come to him. He used lead white in linseed oil as a cream, applied to the canvas as paint, just as women used lead white in other oils as creams, applied to their own flesh as cosmetics. It would not come as any surprise to Titian that he was painting a woman's flesh on his canvas using the same material that women sometimes used to paint their own flesh.

Titian worked at the highest professional level all his life and he died aged about eighty-eight from a fever contracted during an outbreak of plague in August 1576. He had hand-daubed his initial version of *Perseus and Andromeda*



**Figure 2.1** Titian, *Perseus and Andromeda*, 1554–56. X-ray. Oil on Canvas, 183 cm by 200 cm. Copyright © Chris Hurst, Hamilton Kerr Institute, University of Cambridge. Courtesy Wallace Collection, London.



**Figure 2.2** Titian, *Perseus and Andromeda*, 1554–56. X-ray detail. Copyright © Chris Hurst, Hamilton Kerr Institute, University of Cambridge. Courtesy Wallace Collection, London.

with lead white some twenty years earlier and did not die of lead poisoning. This painting, among others, provides evidence that is suggestive of cultural practices that enabled the handling a toxic pigment with relative safety. The X-ray of another of Titian's paintings provides evidence that suggests he may have been aware of lead white's wider cultural significance, specifically its origins in galena, via lead, and galena's association with silver. This was general knowledge but it was also particular to his father's profession as a mine manager in northern Veneto.

Titian's *Diana and Actaeon*, c. 1556–59, shows the goddess Diana and her handmaiden on the extreme right-hand side. [Figure 2.3] The X-ray indicates that the handmaiden was originally painted as a white girl but was later changed into an African. [Figure 2.4] This *pentimento* has been documented in the literature where it was suggested that a new model had become available.<sup>41</sup> However, the literature does not consider why Titian should have chosen to repaint the already



**Figure 2.3** Titian, *Diana and Actaeon*, 1556–59. Oil on canvas, 184.5 × 202.2 cm. Copyright © National Gallery, London.



**Figure 2.4** Titian, *Diana and Actaeon*, 1556–59. X-ray detail. Copyright © National Gallery, London.

completed handmaiden and rather than replace any one of the other five white-skinned nymphs. Diana was often accompanied by a minor-goddess nymph called Egeria, whose name may derive from “of the black poplar,” and Titian’s second version of Diana’s handmaiden is related by color to the tree immediately behind her. But the reason for turning Diana’s handmaiden black may be more cosmological, in keeping with Titian’s grand ambition of converting episodes of Ovid’s *Metamorphoses* into “poesies,” or large-scale visual poems (that also included his *Perseus and Andromeda*).

Diana was the Roman goddess of the hunt, of nature, and of the moon, and Titian appropriately identified her with a crescent-moon diadem. Through the astrological influence of the planets on the subterranean development of metals, Diana’s relationship with the moon also connected her with silver, and her crescent-moon diadem is painted as if it were silver, using a pigment made from lead. Now, through his father, Titian would have known that lead and silver were found bound together in nature in the mineral galena. As an apprentice to

an artist, he would have learned that lead metal was black but could be turned into a white pigment. As a successful artist who enjoyed extraordinarily wealthy patrons, he would have known that silver was a white metal that turned black, repeatedly tarnishing and being polished in a cycle that reflected the moon's fluctuation between darkness and brilliance.

Titian's afterthought, to change the handmaiden from white to black, may have been inspired by Diana's double-nature. Diana gave life—worshipped by women who wanted to become pregnant—yet she also took life—as indicated by her role as a huntress and her fatal transformation of Actaeon. Her double-nature resonated with the moon's double-nature—waxing and waning—as well as with silver's reflective and tarnished, and that of silver's handmaiden in galena's black lead metal and white pigment. Titian's awareness of Diana's double-nature would have been reinforced by the black-and-white statuette of Diana of the Ephesians that circulated around the Veneto. It was featured in a 1527 portrait of Andrea Odoni by Lorenzo Lotto that has been interpreted as a deliberate challenge to Titian's supremacy as a painter in Venice.<sup>42</sup>

Titian's childhood experience of the metamorphosis of black lead metal into lead white pigment, together with the material's wider cultural associations, may have influenced his revision of *Diana and Actaeon*. Certainly, painters up to the seventeenth century understood that their materials could add other layers of meaning to their paintings.<sup>43</sup> Those additional layers of meaning—most of which are now inaccessible to us—would probably have been expected by the kind of patron enjoyed by Titian. The cultural significance of artists' materials—as alluded to above, including astrological, alchemical, or medical significance—would have been common knowledge among painters versed in the writings of Pliny and exposed to general folklore.

Industrially, lead white was replaced in the 1920s by titanium white, mainly for health and safety reasons.<sup>44</sup> However, due to either its extraordinary pedigree or just its soft, warm opacity, a sufficient number of artists continued to use lead white to warrant its manufacture into the 1970s.

## Notes

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## In the Backyard at Burcroft: Henry Moore's Experiments in Lead

Rowan Bailey

In the year 1935, Henry Moore and his wife Irina moved to a bungalow called Burcroft in the village of Kingston, near Canterbury in Kent, England. The house came with five acres of land, thus allowing Moore to further pursue his experiments in stone carving and lead casting. As Moore explains in 1968, in John Hedgecoe's *Henry Moore*, the large acreage of wild meadow, alongside the thrill of working outdoors, helped to shape a dialogue between sculpture making and the surrounding landscape: "Here for the first time I worked with a three or four mile view of the countryside to which I could relate my sculptures. The space, the distance and the landscape became very important to me as a background and as an environment for my sculpture."<sup>1</sup> [Figure 3.1]

At Burcroft Moore acquired great skill and aptitude for working with a variety of materials. Not only did he cultivate a special relationship to the textures and gradients of quarried stone and wood, he also perfected the technical processes of casting with the use of cheap materials such as concrete and lead.<sup>2</sup> From 1936 to 1939, with the assistance of Bernard Meadows, many lead pieces were produced.<sup>3</sup> Moore was able to construct his own outdoor kiln. According to Judith Collins, in an interview with Meadows, they built "a tunnel-like structure incorporating a domestic terracotta fireback. A fire was built in this structure, with Meadows working the bellows, and the success of the procedure depended largely on the wind direction at the time."<sup>4</sup>

These early lead works embody the archetypes of Moore's practice: from the standing and reclining figures, first developed in the early 1930s, to the stringed figures of 1937 onward, through to the interior figures and helmets of 1939–40 that eventually led to a later series of editions produced in the early 1950s and 1960s. Many of the early lead works embody the gestures and rhythms of the human figure alongside the more anatomically fragmented composites of

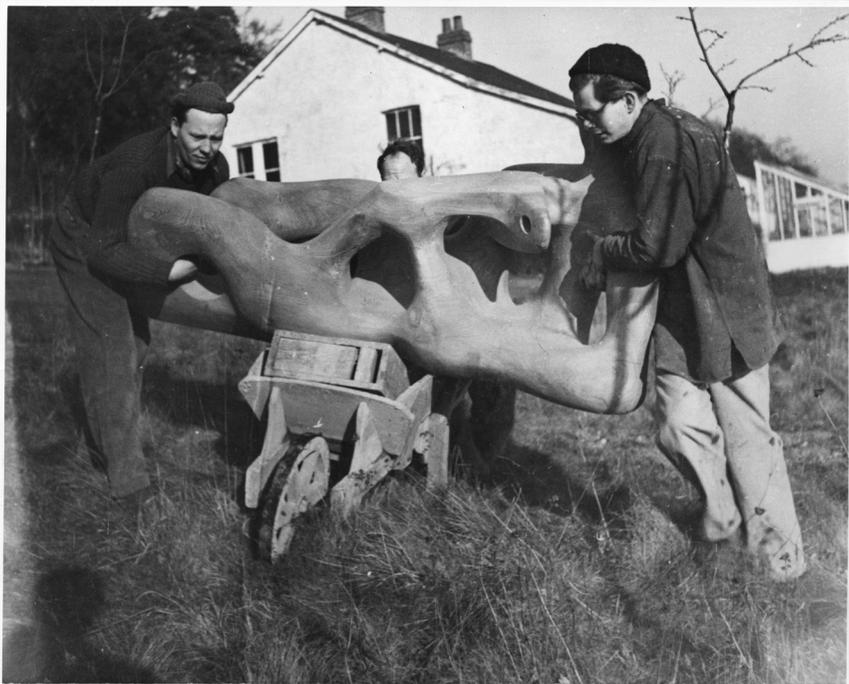


**Figure 3.1** Henry Moore's cottage at Burcroft, Kent, c. 1936. Photo: Henry Moore Archive. Reproduced by permission of the Henry Moore Foundation.

body physiology. Moore's own writings in the 1930s consider the interrelations between form and material as key to this sculptural thinking. For example, in his "Statement for Unit One" (1934) and "The Sculptor Speaks" (first published in 1937), he outlines the qualities that drive the processes forged between hand and material. In the "realization of an idea" neither the dexterity of the hand nor the character of the material takes precedence.<sup>5</sup> It is in and through the magical dialogue between thought and matter that the force and vitality of a form-experience are upheld. Shape and form are vehicles for meaning, with sources of influence drawn from the organic world such as "pebbles, bits of bone, found objects and so on."<sup>6</sup> While organic forms are the imprints and impressions of natural forces (the pebbles Moore was so fond of are shaped by the changing tides of the ocean), the malleable quality of lead allows for a sculptural process where the intricacies of space making are opened up in the

materialization of a figure. The early stirrings of the human form in Moore's corpus are investigations into the body, as much as experiments with the underlying principles of sculpture ("truth to material," "full three-dimensional realisation," "vision," "vitality," and "the power of expression").<sup>7</sup> The large expanse of land at Burcroft thus served as the backdrop for cultivating certain "habits of perception" (as the enrichment of these principles) in Moore's sculptural practice.<sup>8</sup> Lead's elastic character incorporates elements of fragility and toxicity, and, with it, active problem solving to try to negotiate its unpredictable nature. In this respect, there is much to consider in a reading of the early lead works, not least because of the material's ability to dialogue with new acts of form-figuration made possible within this particular making environment [Figure 3.2].

The decade of the 1930s marks a moment of great political upheaval in Europe. The climate was rapidly changing, the concerns of which were addressed in the curatorial strategies and mechanisms deployed by museum directors such as



**Figure 3.2** Henry Moore (center) moving the *Elmwood Reclining Figure* (LH 210) with assistants Bernard Meadows (right) and Michael Wickham (left), through the garden at Burcroft, Kent, 1939. Photo: Henry Moore Archive. Reproduced by permission of the Henry Moore Foundation.

Alfred H. Barr, who became the head of the Museum of Modern Art (MoMA) in 1929. In 1936, several of Moore's works featured in MoMA's *Cubism and Abstract Art* (curated by Barr), *The International Surrealist Exhibition* at the New Burlington Galleries (re-hung at the last minute by artist, collector, and member of the organizing committee Edouard Léon Théodore Mesens), and at the end of that year, MoMA's *Fantastic Art, Dada, Surrealism* (curated by Barr). These exhibitions were important counter-formations to the growth of Fascism and its aesthetic ideologies. Therefore, this chapter considers Moore's early experiments in lead in the artistic and cultural contexts of the interwar period in Europe, between 1930 and 1939. It proposes, firstly, to present the technical processes involved in casting lead, including some of the material relations at work in the archetypal forms that make up Moore's oeuvre and within the making space at Burcroft, before, secondly, contextualizing one of these lead pieces, *Reclining Figure* (1931, LH101), within the aforementioned key exhibitions of 1936.

### Lead works produced between 1930 and 1939

In the 1930s Moore was developing a rich and broad portfolio of works in lead, concrete, stone, marble, and wood, alongside his drawings. There are twenty-five lead works listed from this period, with approximately twenty produced between 1938 and 1939. Moore also created approximately twenty-three bronze works, but spread over a decade. Only one or two bronze pieces were produced each year, an indication of the possible expense and/or preoccupation with other materials such as stone or wood. In 1938–39, the busiest years of lead casting for Moore and Meadows, a total number of sixteen pieces were cast. Of the types of work produced, the reclining figures and the stringed figures are possibly the most distinct form-ideas generated, save for the later interior figures produced for *The Helmet* (1939–40), and a most unusual work called *Three Points*, cast in lead in 1939–40. Moreover, as his catalogue shows, Moore's encounters with lead certainly came into play long before his move to Burcroft in 1935. One of the earliest pieces, appearing in the early group shows of the mid-1930s, was *Reclining Figure* of 1931 (LH101), a small lead figure with a well-defined ribcage. Berthoult describes it in the following way:

from 1931, is a small reclining figure in lead, with a hollowed-out chest traversed by three bars, and a tiny, simplified head presiding over an acrobatically twisted

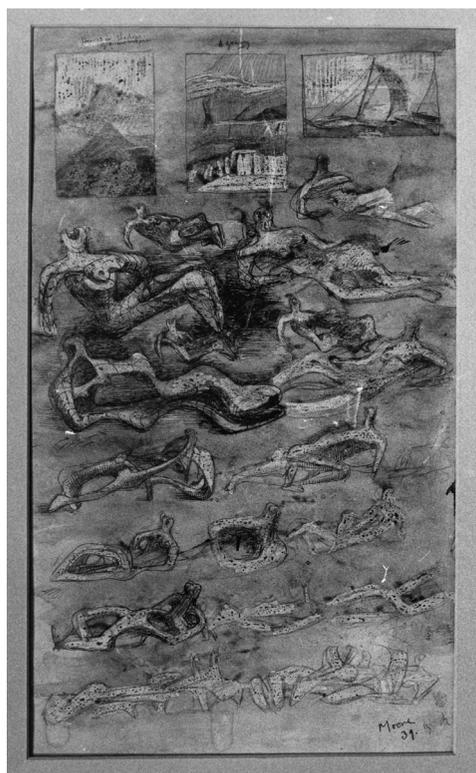
body. Its sinuous rhythms are far removed from the ponderous grace of earlier treatments of the same theme. As John Russell has commented: "Consistent it is not, but it crackles with confident invention".<sup>9</sup>

[Figure 3.3]

In 1961 Moore produced six editions of this figure in bronze. It is probable that he made the lead version in London, along with two other pieces, *Mask* of 1929 and *Seated Figure* of 1930 (since destroyed). His marriage to Irina in 1930 led to their move to Hampstead and a new studio environment.<sup>10</sup> According to the sculptor conservators Lyndsey Morgan and Rozemarin van der Molen, Moore made lead casts in the kitchen of their flat at Parkhill Road, between 1929 and 1931.<sup>11</sup> But for the art historian Alice Correia, it may be that these early pieces were cast in professional London-based foundries such as Gaskin's (Art Bronze Foundry) or Fiorini.<sup>12</sup> Whether used in the early 1930s or later on in the 1940s and 1950s remains to be seen, but one thing is certain: lead was a key composite in a broad and varied material phase in Moore's practice at the early stages of his career. His experiments in DIY/domestic casting processes were made possible as a result of lead's low melting point [Figure 3.4].



**Figure 3.3** Henry Moore, *Reclining Figure*, 1931. Lead (LH101). Height 43.2 cm. Photo: Henry Moore Archive. Reproduced by permission of the Henry Moore Foundation.



**Figure 3.4** Henry Moore, *Ideas for Lead Sculptures: Reclining Figures*, 1939. Drawing (HMF 1438). Paper. 43.2 x 25.4 cm. Photo: Henry Moore Archive. Reproduced by permission of the Henry Moore Foundation.

### Experiments in Lead at Burcroft

Bernard Meadows provides many in-depth accounts of the lead casting process and his time at Burcroft with Moore. Several interviews undertaken by the Tate, the British Library's National Life Stories: Artists' Lives project and, of course, the Henry Moore Foundation shed light on the makeshift domestic setup, including what one can imagine was great patience on Irina's part as they used the bungalow's primus stove, cooking pots, and pans to melt the lead.<sup>13</sup> One of the more detailed written accounts of lead made by Meadows can be found in the Henry Moore Foundation's 1998 publication *Celebrating Henry Moore: Works from the Collection of the Henry Moore Foundation*. He discusses one of the many lead string pieces (*Stringed Figure*, 1938)<sup>14</sup> made during his time at Burcroft with Moore, and explains:

all castings were made by the lost wax process, which meant that for every cast Moore had to make an individual wax model, or alternatively a plaster mould from which another copy of the original could be taken in wax. Because this was a long and labour-intensive process no editions were made at this time—it was only by the early 1940s that Moore began to have bronze editions made by commercial foundries.<sup>15</sup>

As Meadows suggests, Moore's later and more prolific engagements with bronze were the result of being able to recast and/or scale up the lead pieces into different editions with the use of commercial resources. This involved making a mold directly from the lead versions. Whereas the later productions were part of an expansion into a larger portfolio, perhaps driven by popular demand, one can imagine how materially focused and engaged this early experimentation actually was. Lead seemed to demand a labor-intensive and hands-on process, not least because of its ductile character. Both Moore and Meadows developed a relationship with lead and its changeable states; from its low melting point, to its flexibility for realizing thinner and more open form-states, and, of course, in surface treatments that produced shiny and reflective effects. As Moore explains in 1981:

The lead figures came at a stage in my sculpture career when I wanted to experiment with thinner forms than stone could give and, of course, in metal you can have very thin forms. So this thinness that one could make and this desire for making space became something I wanted to do. [With] lead I could melt on the kitchen stove and pour it into a mould myself [...] I could mould it myself and do the casting myself and it was soft enough when cast to work on it and give a refinement; I could cut it down thinner, and finish the surface, so for me lead was both economically possible and physically more malleable.<sup>16</sup>

This was a process that began with drawing, moved into modeling, on into the lost wax casting process, and through to the sometimes difficult and time-consuming surface finishes depending on the composition of the lead used. Such treatments, as Moore and Meadows were to discover, did not last long. There seemed to be a finitude to lead that required constant re-attention. For example, on the treatment of the lead cast, Meadows describes how the desired effect of a surface, “much like polished silver,” required the use of carpenter's tools (all too ready-to-hand at Burcroft) and “soon found out that carborundum dust became embedded in the surface of the cast, preventing it from taking a good polish.”<sup>17</sup> After much testing, they discovered sharkskin to treat the surface. Sharkskin (or shagreen) has a granulated texture softer than standard sandpaper. As a worsted fabric it can be used as a buffer for polishing.<sup>18</sup>

The motivations for working with lead were, according to Kenneth Clark, merely an economic necessity. In an article entitled “Henry Moore’s Metal Sculptures,” published in the *Magazine of Art* in 1951, he suggests that the works produced in 1938 “were lead not because he [Moore] had any particular preference for this material, but simply because it was cheap and could be cast in the home. At that date, Moore could not afford to have a figure cast in bronze in the very faint hope that someone would buy it.”<sup>19</sup> But, as Meadows explains, lead is “a seductive medium,” and, regardless of any financial reasons, working with this material so intently and intimately generated new complex shapes and forms in Moore’s corpus. Lead and reinforced concrete are often perceived as the poor cousins to the diverse characteristics of stone or the fixed and somewhat elevated status of bronze.<sup>20</sup> In these early and informative years as a sculptor, particularly with respect to experiments with different materials, and especially at Burcroft in collaboration with Meadows, Moore was able to really put his ideas about “truth-to-materials” to the test. For example, in his 1934 “Statement for Unit One,” included in Herbert Read’s publication *Unit One: The Modern Movement in English Painting, Sculpture and Architecture*, to accompany the group’s one and only exhibition at the Mayor Gallery in Cork Street, Moore writes: “Every material has its own individual qualities. It is only when the sculptor works direct, when there is an active relationship with his material, that the material can take its part in the shaping of an idea.”<sup>21</sup> This principle is usually associated with stone (the Unit One statement is preoccupied with carving processes), but when considered in relation to the material character of lead, we perhaps encounter something slightly more complicated, uneasy even. Lead does not allow the sculptor to follow flows and grooves, as with wood, or to track fault lines, as in a block of stone. Whereas carving is a deductive process, working with the biomorphic qualities of solid aggregate, thus ingratiating the tactile and haptic exchanges between hand and material, casting in lead is a transformative process, where the journey from liquid to solid requires form-making processes that are phase-driven. Each step in the process can radically disrupt the final outcomes: from the creation of the wax or plaster model, to the casing of the mold, to the liquefying of lead and its propensity to explode, through to the treatment of the surface of the solid form (the dust particles released in rubbing down the lead surface are renowned for being toxic). Furthermore, after all these stages and treatments, the outcomes are still temporary. The stirrings of change begin with lead’s exposure to air. Gray surfaces become tarnished. Forms become brittle. The fragility of lead generates transitory sculptural shapes.

In the recollections provided by both Moore and Meadows, lead's plasticity demanded a collaborative work ethic, which produced constant dialogue about its material properties. The land at Burcroft was a testing ground and lead provided the conditions of possibility for intense experimentation. This material testing within a domestic setting is part of an art historical genealogy that has its roots in casting processes.<sup>22</sup> That Moore used lead as a material for developing his knowledge and understanding of casting is significant. Despite the creative conditions afforded by the material, lead was a difficult material to work with. It is through this particular experience of sculpture making that he eventually turns to bronze for realizing his ideas. For example, in 1973, in an interview with Donald Carroll, Moore reflects on his own naivety toward the malleability and softness of lead as he encountered it in the 1930s, including his lack of knowledge about the techniques used to harden the material with other alloys. He explains:

We constructed our own kiln, and they [the models] were all cast in lead. I didn't know about lead—I didn't know that you could put a little antimony with and make it hard—so since then all the leads have been damaged. And they come back to me to be repaired, or to be salvaged—because in some cases if you drop a lead on the floor, on a hard floor, it will just collapse, whereas bronze is indestructible. So to save the idea, I re-cast them into bronze.<sup>23</sup>

Meadows elaborates on the use of lead materials in art schools during this period. More often than not, the supply of compo-piping (composition piping) meant that lead had already been galvanized and was thus softer than standard lead piping. Compo-pipes were used for making armatures for modeling classes. They would serve as the skeletal structures for clay modeling. It is likely that Moore and Meadows would instead melt down this type of piping for casting. As Meadows explains in an interview with Julie Summers in 1994: "It's bendable and that's the difference between compo-piping and lead piping. Lead piping would never be as flexible as that. The problem is really what makes the compo-piping bendable is impurities, it is something that they add to it to make to more bendable."<sup>24</sup> According to James Copper, sculptor conservator at the Henry Moore Foundation, the supply of lead piping was usually second hand, which meant that as a material composite it already contained several impurities. During the casting process, these impurities would seek to extract themselves, thus causing blooming in the surface of the sculptures. In this respect, lead was a metal in an ocean of other metal composites and its addition to the mix was to allow for greater ductility and plasticity.<sup>25</sup> The long-term deterioration brought on by the impurities of the lead composites used, particularly with

regard to the “blooming and bubbling in the surface” of the casts, means that the works of the late 1930s are, suggests Meadows, “in a pretty deplorable state and there’s nothing you can do about it.”<sup>26</sup> Moore’s own recollections in 1973 also recognize the error, which in turn reinforced his need to devise ways to keep the ideas alive. He had no choice but to re-situate bronze as *the* material for sculptural longevity, and to perhaps reluctantly break ties with lead’s complex and unpredictable character.

## Exhibition Contexts

Moore’s *Reclining Figure* of 1931 not only served as the springboard into his later string pieces, produced in great quantity from 1937 onward, and which featured in a solo show at the Leicester Galleries in 1940, it also traveled from London to the United States to be situated in two very different takes on Surrealism in 1936, the year Moore and Meadows started to work with each other. The contexts of these two shows encapsulate the reception of *Reclining Figure*, including its ability to act as a conductor between two different avant-gardist perspectives. It is with this piece that something is revealed about the contexts within which Moore’s ideas about sculpture were situated in the 1930s, including the materiality of lead and its voice in these curatorial spaces.

Moore’s principal British dealer was the Leicester Galleries. His second solo show took place in 1931.<sup>27</sup> Further exhibitions were held in 1933, 1936, and 1940.<sup>28</sup> In 1934 he had already featured in *Unit One*, at the Mayor Gallery, London, and the first monograph on Moore had been written by Herbert Read and published by the Zwemmer Gallery.<sup>29</sup> Moore’s network was expanding, not only with visits to studios in Paris to meet artists such as Pablo Picasso, Hans Arp, Alberto Giacometti, and Joan Miró, but also in the social circles of Hampstead, with Ben Nicholson, Barbara Hepworth, and Naum Gabo, with whom he was actively involved in later projects such as the 1937 *Circle: International Survey of Constructive Art*.<sup>30</sup> The short period of time between 1936 and 1938 saw Moore move between different avant-gardist developments and forming his own take on some of the current preoccupations of the time, most notably his engagements with both abstract and surrealist practices. In 1936 Moore had work in the following international exhibitions (in chronological order): in March, the wood carving *Two Forms* (LH153, 1934) featured in Barr’s *Cubism and Abstract Art* (March 2–April 19), to be later purchased that year by MoMA;<sup>31</sup> in June, the lead cast *Reclining Figure* (LH101, 1931) appeared in *The International Surrealist Exhibition* at the New Burlington Galleries, and in

December, *Reclining Figure* (LH101, 1931) was displayed in Barr's *Fantastic Art, Dada, Surrealism* at MoMA. In addition to these, Moore had a solo show at the Leicester Galleries in November of that year.<sup>32</sup>

As Director of MoMA, Barr regularly visited Europe, to meet art dealers, visit studios, galleries, and museums. This network played a key role in his securing of works for his curatorial projects, as well as facilitating long-term acquisitions. Barr met Moore at his studio in 1927, through a contact at the Victoria and Albert Museum, and selected *Two Forms* for the *Cubism and Abstract Art* show. This work, along with eighteen other pieces, was stopped at US customs for not being deemed "art" under a problematic ruling, according to Barr, "which requires that sculpture must represent an animal or human form." The pieces were perceived as too abstract and not "imitations of natural objects, chiefly of the human form in their true proportion of length, breadth, and thickness."<sup>33</sup> In the catalogue to the show Barr makes explicit reference to the censorship of US customs, by referring to the unit as "philistines with political power."<sup>34</sup> He lists all the works that had been retained at the moment of the catalogue's publication into print. The complex and difficult irony of this customs embargo lies in the underlying motivations of Barr, who was actively developing a curatorial program, which would help to educate the public about art and its aesthetic histories. His ambitions, against those ideologies familiar to the cultural censorship policies under Fascism and Soviet Socialism in Europe, with its emphasis on content-driven political propaganda, were channeled through a pluralist vision for modern art. In his directorial role at MoMA, he sought to generate key exhibitions that would historically and aesthetically re-situate the avant-garde. For example, Barr located precedents for the modernist innovations of the early twentieth century (which the Nazis were all too ready to veto) in the formalist styles of Impressionism and Post-Impressionism, and in nineteenth-century art history and its readings of the stylistic traces of the Renaissance and Baroque art. In the catalogue essay for *Cubism and Abstract Art* Barr refers to Moore's *Two Forms* in relation to the influences of Arp and Picasso; to organic forms, varied materials, textures, and colors. As representatives of two extremes on an abstract spectrum, Barr also situates Moore and Nicholson at either ends, from the "non-geometrical" (or "biomorphic") to the "geometrical."<sup>35</sup> The ancestral roots tracked through his chart for *Cubism and Abstract Art* was a provocative and challenging counter-formation to the curatorial strategies and mechanisms deployed by the Nazis, with, for example, their infamous 1937 *Degenerate Art* installation; an intended shock trigger to exemplify the horrors of modern art in contrast to the classical ideals perpetuated in *The Great German Exhibition of 1937–39*.<sup>36</sup>

Months later, *Reclining Figure* would also make a journey to New York, to be exhibited in Barr's *Fantastic Art, Dada, Surrealism* show, but not before its remarkable appearance in June at the New Burlington Galleries for *The International Surrealist Exhibition*. This was a mammoth project, featuring over 390 works, sixty-eight artists, and representing fourteen countries. Moore was involved in the organizing committee in England, alongside Herbert Read, Paul Nash, and Roland Penrose as Honorary Treasurer. In addition to *Reclining Figure*, Moore exhibited works that had featured in *Cubism and Abstract Art*, alongside new sculptures and preparatory drawings. The pieces exhibited included: *Reclining Figure* (carved reinforced concrete, LH134, 1933), *Figure* (Travertine marble, LH137, 1934) and *Carving* (Blue Ancaster stone, LH139, 1933–34).<sup>37</sup> *Reclining Figure* was situated in the vicinity of Richard Oelze's *Daily Torments* (1934), Miró's *The Tilled Field* (1923–24), Bellmer's *La Poupée (The Doll)* (1936), and Dalí's *Dream* (1931). André Breton's politically charged preface to the exhibition catalogue called for "the abolition of the *ego* in the *id*" and to break down the barriers of civilization which have constrained our ability to re-imagine the "reality of the external world."<sup>38</sup>

According to Christa Lichtenstern, these selections are examples that engage with "biomorphic" forms. Exposed rods from the lead armature in *Reclining Figure* are, she explains, "space-conductors and simultaneously brace the swelling anatomical sections, linearly, one with the other."<sup>39</sup> These "space-conductors" negotiate what Moore would later articulate in "The Sculptor Speaks" as his unique relation to abstraction and Surrealism. As Lichtenstern suggests, Moore's contribution to the exhibition:

on the one hand demonstrates his understanding of biomorphous form—developed further via Picasso, Arp, Giacometti and Lipchitz, and on the other hand his conception of an "emotional space" (*emotionaler Raum*) which, deduced from the material, subsequently adopts the imaginary compactness of a "form."<sup>40</sup>

Additionally, in Kenneth Clark's reflections on *Reclining Figure* in his article on Moore's metal sculptures, he is particularly drawn to its "descriptive references to parts of the human body," which appears to render it "less human [...] like some terrifying insect."<sup>41</sup> This is an analogy perhaps for the anxious state of the human condition.

*Reclining Figure* had already found an identity in the London show when it featured in *Fantastic Art*. Barr had visited the exhibition, as well as taking in the *Surrealist Exhibition of the Object* at the Galerie Charles Ratton in Paris in May

1936. According to Tessel M. Baudin, when Barr met Breton and Paul Eluard he began to discuss possible collaborations for his proposed show at MoMA. But their disagreements about the curation (its organization and presentation in particular) led to Breton and Eluard withdrawing their participation in the summer of 1936.<sup>42</sup> Barr's encounter with *Reclining Figure* on display at *The International Surrealist Exhibition*, and, within the curated scene of the imaginary dream-like states Breton had associated it with, may certainly have served as an influential reading. In the catalogue, there is no mention of Moore by Barr, as he does in the *Cubism and Abstract Art* show, nor is there a mention in the historical and informative essays provided by Georges Hugnet. Instead, there is a photographic plate of *Reclining Figure* (no. 445) nestled between plates no. 435, no. 444, and no. 450. Plates no. 435 and no. 444 feature Miró's *Relief* (1930) (lent by Breton) and one of Miró's gouaches (1935–36), and plate no. 450 includes, for the second time, Oelze's *Daily Torments* (1934). Aside from the chronological ordering of this sequence, there is much mirroring of the context within which *Reclining Figure* first appeared at the New Burlington Galleries in London. But this is also telling. The "biomorphic form" and "emotional space" of the lead work still carry into the curatorial arena of *Fantastic Art*. The modes of display which allowed Moore, Miró, and Oelze to be physically spatialized and thus realized together, is also the contribution *Reclining Figure* makes as a form that has embedded within it the materiality of the idea. *Reclining Figure* served as a visible and spatial counter-formation to the disturbing forces of new aesthetic and fascist ideologies.

In the 1965 publication of *Henry Moore: A Study of His Life and Work*, Herbert Read considers how the materiality of lead forms a distinct language of and for the body, arguing that this ductile character was certainly pursued by Moore in the making of new works. Lead is all about "movement," "flow," and "modulated rhythm": the molten flow of the lead is analogous to the flowing form of the body, or "breasts and knees and other protrusions coagulate like drops of lead poured from a crucible."<sup>43</sup> But the composition of *Reclining Figure* (1931) is alien to this kind of sculptural thinking. It is counter to the bodily rhythms articulated by Read. There are no undulating flows to this form. Instead, we see a tense structure, contorted by the strain and pressure of immanent parturition and simultaneously weighted down by a torso whose ribcage, represented by three rods, mirrors the bars of a prison cell. *Reclining Figure* is not posing but is rather poised in a precarious tension between protection and entrapment, birth and imprisonment. The stretched lines, curves, and angular edges are smoothed by the surface, but, rather than convey the rhythm of a harmonious symphony

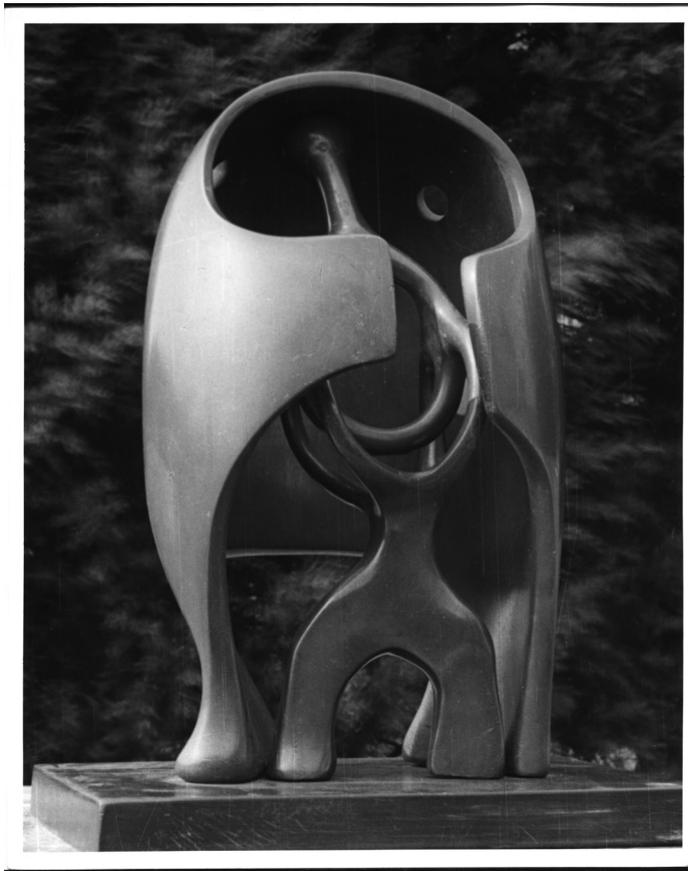
of body parts, seem instead to emphasize the disjunctions even more. Even Read acknowledges this in his reading of the piece, pointing out the “extreme extortions of the human body” as an “organic reference for each apparently arbitrary element” (the ribs, the breast, the hollow of the chest).<sup>44</sup> These are body parts caught in a play between the surface exterior of a skin and the interior physiology of a skeletal armature.

It is lead that makes the meaning-making capacity of these sculptures possible. In the context of *Reclining Figure* the materiality of the rod-like ribcage is both the bone structure of a human torso and condition for the sculptural production of form-space. The torso is thus a protective container for “emotional space” as much as external barrier to the psychic interiorities and intensities that reside within. It is a ribcage with a heart. These anatomical rods are also the vein conductors for the flow of the sculpture’s energy. The sheer signifying force of the torso as generator of “emotional space” is equally represented by the life force created by the triangulated form-space between the two legs. As the marker of inevitable transformation lead is the carrier of this change. It is, as Read suggests, more than likely that Moore understood these material characteristics. And, as an homage to lead, Moore’s *Three Points* (1939–40) seems to honor the material’s ability to conduct forces (of the spatial and the psychic kinds). The suspended space generated by the structural formation of three lead points is a psychic and imaginative tension. We almost see the sparks fly. As a conductor/carrier of waves of energy, lead is constantly transformed by the elemental and atmospheric forces that run through it. Its malleability is its fragility.

## Conclusion

In all of its vulnerability and impermanence, lead tells a story about material failure, the temporalities of matter, and coming to terms with loss. Moore’s sculptural thinking with lead in the interwar period as an active, vibrant, and exciting phase of experimentation is also an encounter with the finitude of materials. The early stirrings of the *Helmet Head* series of the 1950s take place in 1939–40, with two interior figures and two helmets, one in lead and one in bronze.<sup>45</sup> [Figure 3.5] According to curator Patrick Elliott, the helmet evolved out of several themes.<sup>46</sup> On the one hand, the helmet can be seen as sheltering armor, protecting the softer more delicate form inside, an archetypal womb scenario. On the other hand, the helmet also serves as a cage to imprison and entrap, a possible reference point to Moore’s lithographic print of a Spanish

republican prisoner, first produced in 1939, and to earlier studies of Greek helmets he made during his visits to the Wallace Collection as a student in the 1920s.<sup>47</sup> Moore's studies of the metalwork of armory extend to the formation of *The Helmet* in 1939–40. The later *Helmet Head* series of the 1950s is much more considered and representative of the negative and sinister connotations of imprisonment and capture.<sup>48</sup> This is a period informed by Moore's own experience as a war artist, which had certainly transformed his relationship to sculptural practice. The earlier lead prototype seems more disturbing. As a protective shield for the interior figure, there is speculation on the magnitude of what is to come, both for lead as a material and for European modernism. It is also the last piece made by Moore before the bombing of his Hampstead flat.



**Figure 3.5** Henry Moore, *The Helmet*, 1939–40. Lead (LH212). Height 29.2 cm. Photo: Henry Moore Archive. Reproduced by permission of the Henry Moore Foundation.

One might suggest that Moore's appearance on the stage of European modernism, and as a defender of it, is, at the same time, a marker of loss in terms of lead's extinction from his portfolio. For example, as a metal resource for the manufacturing of ammunition bullets for artillery warfare, lead was ceasing to be in ready supply. This is a startlingly extreme and somewhat saddening turn in Moore's relationship to the material. In this sense, the very materiality of *The Helmet* betrays its function as a protective shield for the interior figure inside. The ideas and practices of the European avant-garde were subject to geographical displacement and dispersal across the globe. With this came the promise of the development of new formations in a cultural climate exposed to the catastrophes of war. This promise was simultaneously a time of mourning the loss of what once was. Lead's fragility as a material meant that Moore's journey toward the monumentality of bronze was a necessary and logical step in a post-production process after the Second World War. Perhaps lead had been teaching Moore about the forces of inevitable change all along, and, as a result of the casting processes he went through in the 1930s, developed a closer and more intimate relationship to the changing states of matter.

To conclude, and by way of a remarkably poignant turn of events for *Reclining Figure* (1931): in June and July of 1940, as part of the *Surrealism Today* exhibition at the Zwemmer Gallery, London, Moore exhibited the lead version of *The Helmet* (1939–40) for the first time, alongside two reclining figures, one of which was the lead piece of 1931, whose life as a traveling object had crossed continents to appear in groundbreaking international shows on modernist and avant-gardist thinking. The beginning and potential end of the cycle of lead was in articulation in *Surrealism Today*. It was through this platform that *Reclining Figure* was purchased by a Mr. and Mrs. Zimmerman in New York, and the lead version of *The Helmet* was purchased by Roland Penrose, to later be bought by the National Galleries of Scotland in 1992.<sup>49</sup> So, while *The Helmet* stayed behind in Europe, under the watchful eye of the Surrealist Penrose, *Reclining Figure* traveled to the United States again, this time into a private collection. Frederick Zimmermann was an American double bassist who played in the New York Philharmonic Orchestra, between 1930 and 1966, and, in addition to being a renowned teacher of the instrument, he also studied painting with Georg Grosz at the Arts Students League of New York, in Manhattan. The double bass carries four heavy strings tuned in fourths. This means that it is the lowest sounding pitch to, and rhythmic foundation for, a classical orchestra. Much like the "strings" of *Reclining Figure* the materiality of lead is instrumental to the sculptural thinking embodied in Moore's early experiments with casting.

Not only did Burcroft provide the rhythmic foundations for his early experiments, Moore's engagements with lead also served as the touchstone for a deeper knowledge and appreciation of the character and quality of matter, in all of its differences. The fact that the plasticity of lead was part of the backdrop to a wide and expansive landscape tells us something about the continuous processing of Moore's "habits of perception," including the sculpture production that was to follow. The choice to turn to bronze editions, in the aftermath of the Second World War and within the confines of the commercial foundry, was a way to supplement the loss of lead through the creation of new material forms. This is how we keep the ideas alive. For ideas, as we know, are the very stuff of sculptural thinking.

## Notes

- 1 John Hedgecoe, *Henry Spencer Moore* (Nelson: London, 1968), 95.
- 2 For a brief account of Moore's early experiments with concrete, see Rowan Bailey "Concrete Thinking for Sculpture," *parallax* 21, no. 3 (2015): 241–50.
- 3 At that time Meadows was studying painting at the Royal College of Art in London and would spend the breaks living at Burcroft. For an account of Moore's time at Burcroft and Meadows' role as assistant see Roger Berthoud, *The Life of Henry Moore* (London: E. P. Dutton, 1987), 134–8.
- 4 Judith Collins, "Henry Moore: Reclining Figure 1939" *The Tate Gallery 1984–86: Illustrated Catalogue of Acquisitions Including Supplement to Catalogue of Acquisitions 1982–84* (London: Tate Gallery 1988), 539–40.
- 5 See Henry Moore, "Statement for Unit One," in Herbert Read (ed.), *Unit One: The Modern Movement in English Architecture, Painting and Sculpture* (London and Toronto: Cassell and Company, 1934), 29–30 and Henry Moore, "The Sculptor Speaks," *The Listener* 18, no. 449 (August 18, 1937): 338–40, republished in Henry Moore, *Henry Moore: On Being as Sculptor* (London: Tate Publishing, 2010).
- 6 On Moore's reflections on the development of ideas in and through his sculptural practice, see *Henry Moore on Sculpture*, ed. Philip James (London: Macdonald, 1966), in particular, 141–4.
- 7 Moore, "The Sculptor Speaks," 338–40.
- 8 *Ibid.*, 340.
- 9 Berthoud, *The Life of Henry Moore*, 120.
- 10 Prior to this, from 1924 onward, Moore had been at Grove Studios in Hammersmith.
- 11 See Lyndsey Morgan and Rozemarin van der Molen, "Henry Moore's Approach to Bronze," in *Henry Moore; Sculptural Process and Public Identity*. Tate Research

- Publication, 2015. Available online: <https://www.tate.org.uk/art/research-publications/henry-moore/lyndsey-morgan-and-rozemarijn-van-der-molen-henry-moores-approach-to-bronze-r1151468> (accessed August 4, 2018).
- 12 See Alice Correia, “*Recumbent Figure* 1938 by Henry Moore OM, CH,” catalogue entry. January 2013, in *Henry Moore: Sculptural Process and Public Identity*. Tate Research Publication, 2015. Available online: <https://www.tate.org.uk/art/research-publications/henry-moore/henry-moore-om-ch-recumbent-figure-r1147451> (accessed August 21, 2018).
- 13 Meadows had interviews with Judith Collins (December 9, 1984), Artists’ Lives Project interviewer Tamsyn Woollcombe (November 2–December 15, 1992) and Julie Summers with the Henry Moore Foundation (May 12, 1994). See Judith Collins, “Henry Moore: Reclining Figure 1939,” *The Tate Gallery 1984–86: Illustrated Catalogue of Acquisitions Including Supplement to Catalogue of Acquisitions 1982–84* (London: Tate Gallery, 1988) and British Library, “National Life Stories, Artists’ Lives – Bernard Meadows.” (Interviewed by Woollcombe), C466/08/13/01-12 (1992). Available online: <https://sounds.bl.uk/related-content/TRANSCRIPTS/021T-C0466X0013XX-ZZZZA0.pdf> (accessed August 5, 2018). My thanks to the Henry Moore Foundation for providing access to the Summers interview.
- 14 Moore became preoccupied with making string figures as a result of his fascination and interest in geometric mathematical models at the Science Museum. See Alice Correia, “Stringed Figure 1938. Cast 1960 by Henry Moore OM, CH,” catalogue entry, January 2013, in *Henry Moore: Sculptural Process and Public Identity*. Tate Research Publication, 2015. Available online: <https://www.tate.org.uk/art/research-publications/henry-moore/henry-moore-om-ch-stringed-figure-r1146217> (accessed May 1, 2019). Also see the exhibition details for The Royal Society, *Intersections: Henry Moore and Stringed Surfaces* (London: The Royal Society, 2012).
- 15 Bernard Meadows’ commentary on *Stringed Figure*, 1938 [LH186e], lead and string. Height 17.1 cm. *Celebrating Henry Moore: Works from the Collection of the Henry Moore Foundation*, Henry Moore, Julian Andrews, Henry Moore Foundation. Selected by David Mitchinson, eds.. (London: University of Chicago Press and Henry Moore Foundation, 1998), 170.
- 16 *Henry Moore: Sculptures, Drawings, Graphics 1921–1981*, ed. David Mitchinson, with comments by the artist and an introduction by Franco Russoli (Madrid: British Council/Henry Moore Foundation/Ministerio de Cultura, 1981), 75.
- 17 Meadows, *Celebrating Henry Moore*, 170.
- 18 Historically, shagreen was produced from the hides of horses or the skins of sharks or stingrays.
- 19 Kenneth Clark, “Henry Moore’s Metal Sculpture,” *Magazine of Art*, May (1951): 171–4.

- 20 See Anne Wagner's account of the effects a shift in material use has on the general symbolic, aesthetic and cultural receptions of Moore's identity as a sculptor. Anne Middleton Wagner, *Mother Stone: The Vitality of Modern British Sculpture* (New Haven, CT: Yale University Press, 2005).
- 21 Henry Moore, "Statement for Unity One," in *Unit One*, 29–30.
- 22 For example, Sharon Hecker discusses how the Italian sculptor Medardo Rosso, renowned for developing new sculptural forms against nineteenth-century academic approaches to sculpture, sometimes exposed the sprues used for casting bronze in his work. This experimentation resonates with Moore's early attempts to re-engage the casting process through his preoccupation with "truth-to-materials." See Sharon Hecker, *A Moment's Monument: Medardo Rosso and the International Origins of Modern Sculpture* (Berkeley and Los Angeles: University of California Press, 2017), 96. See also Michael Cole's account of casting in the work of Benvenuto Cellini as a performative sculptural act. Michael Cole, "Cellini's Blood," *Art Bulletin* 81, no. 2 (1992): 215–35.
- 23 Henry Moore in Alan Wilkinson, ed., *Henry Moore: Writings and Conversations* (Berkeley and Los Angeles: University of California Press, 2002), 235.
- 24 Meadows interview with Julie Summers, May 12, 1994.
- 25 Copper explains that Moore also used lead ingots in the casting of the lead works, and used lead as one metal element in the production of some of his relief sculptures, but that lead compo-piping was probably used in the early experimental works in lead. Personal communication with James Copper, September 15, 2018. As Meadows explains in the interviews, lead piping seemed to be the main supply source at the time.
- 26 Meadows interview with Julie Summers, May 12, 1994.
- 27 Moore's first solo show was at the Warren Gallery, London in January in 1928.
- 28 See Evelyn Sibling, "The Leicester Galleries and the Promotion of Modernist Sculpture in London, 1902–1975," *Sculpture Journal* 21, no. 2 (2012): 131–44.
- 29 Herbert Read, *Henry Moore, Sculptor. An Appreciation* (London: A. Zwemmer, 1934).
- 30 In 1935, Gabo, Marcel Breuer and László Moholy-Nagy came to London.
- 31 *Two Forms* had also appeared in the exhibition *Artists Against Fascism & War*, 28 Soho Square, London, November 13–27, 1935.
- 32 Moore exhibited work in other shows during this period, but those cited are the most relevant to this chapter's account of lead. Access to the catalogues produced by Barr can be found in digital forms on the MoMA website. See *Cubism and Abstract Art* (New York: The Museum of Modern Art, 1936). Available online: <https://www.moma.org/calendar/exhibitions/2748> (accessed May 1, 2019); *Fantastic Art, Dada, Surrealism* (New York: The Museum of Modern Art, 1936). Available online: <https://www.moma.org/calendar/exhibitions/2823> (accessed May 1, 2019). For an account of the directorship of Alfred H. Barr, see *Defining Modern Art: Selected*

- Writings of Alfred H. Barr*, Irving Sander and Amy Newman, eds. (New York: Harry N. Abrahams Inc, 1986).
- 33 See Barr, *Cubism and Abstract Art*, 18, fn.1 and “Cubism and Abstract Art: press clippings, 1936.” Available online: <https://www.moma.org/research-and-learning/archives/archives-highlights-03-1936> (accessed May 1, 2019). Of the works retained, and which were only released after MoMA paid an importation tariff under the classification of “building materials,” included Umberto Boccioni’s *Development of a Bottle in Space* (1912) and *Unique Forms of Continuity in Space* (1913), Miró’s *Relief Construction* (1930) and Giacometti’s *Head-Shape* (1932).
- 34 Barr, *Cubism and Abstract Art*, 18.
- 35 *Ibid.*, 200. To note, this is prior to Moore’s stringed figure series, which he produced in the late 1930s. The constructivist turn to geometrical figures was certainly informed by *Circle* and Moore’s collaborations with Nicholson, Hepworth, and Gabo.
- 36 For an overview of this exhibition, see Susan Noyes Platt, “Modernism, Formalism, and Politics: the ‘Cubism and Abstract Art,’ Exhibition of 1936 at the Museum of Modern Art,” *Art Journal* 47 (Winter, 1988): 284–95. Available online: <https://www.jstor.org/stable/776979> (accessed May 1, 2019). My thanks to Francesco Ventrella for introducing me to the underlying aesthetic, historical, and morphological ambitions of Barr’s projects.
- 37 This list is identified by Meadows in his interview with Julie Summers in 1994 (Henry Moore Foundation).
- 38 See André Breton, “Preface,” 7. In addition to Read’s edited book on surrealism, published in 1936, he also wrote an introduction to the exhibition catalogue for *The International Surrealist Exhibition* (London: New Burlington Galleries, 1936).
- 39 Christa Lichtenstern, “Henry Moore and Surrealism,” *The Burlington Magazine* 123, no. 944. (November 1981): 647. Also see Steven A. Nash, “Moore and Surrealism Reconsidered,” in *Henry Moore Sculpting the 20th Century*, Dorothy Kosinski, ed., Dallas Museum of Art (New Haven and London: Yale University of Press, 2001), 43–51.
- 40 *Ibid.*, 647.
- 41 Clark, “Henry Moore’s Metal Sculpture,” 171.
- 42 Baudin makes a convincing argument, which suggests that Breton’s preoccupation with the marvelous was radically disturbed by Barr’s ideas on the “fantastical,” so much so, that Breton incorporates these ideas into his early speeches for *The International Surrealist Exhibition*. See Tessel M. Baudin, “Fantastic Art, Barr, Surrealism,” *Journal of Art Historiography*, no. 17 (December 2017): 1–23. Available online: <https://arthistoriography.files.wordpress.com/2017/11/bauduin.pdf> (accessed May 1, 2019).

- 43 Read, *Henry Moore: A Study of His Life and Work*, 122. See also pages 122–8.
- 44 Herbert Read, *Henry Moore: A Study of His Life and Work* (London: Thames and Hudson, 1965), 93.
- 45 See the Henry Moore Foundation catalogue for these works: *The Helmet* (LH212, cast 1, 1939–40). Available online: <http://catalogue.henry-moore.org/objects/24534/the-helmet>, and *Interior Figure* (LH212a, cast 1). Available online: <http://catalogue.henry-moore.org/objects/17611/interior-figure?ctx=749f602b-ce54-4fc4-a13a-652ec5ff5d01&idx=0> (accessed May 1, 2019) and *The Helmet* (LH212, cast 2, 1939–40). Available online: <http://catalogue.henry-moore.org/objects/16846/the-helmet/related/1022> (accessed May 1, 2019).
- 46 Patrick Elliott, *Another World: Dali, Magritte, Miró and the Surrealists* (Edinburgh: National Galleries of Scotland, 2010).
- 47 See Henry Moore, *Spanish Prisoner* (Lithograph, CGM: Henry Moore Foundation, 1939). Available online: <http://catalogue.henry-moore.org/objects/8332> (accessed May 1, 2019).
- 48 See Alice Correia, “Helmet Head No. 1 1950, cast 1960 by Henry Moore OM, CH” catalogue entry, November 2013, in *Henry Moore: Sculptural Process and Public Identity*. Tate Research Publication, 2015. Available online: <https://www.tate.org.uk/art/research-publications/henry-moore/henry-moore-om-ch-helmet-head-no1-r1149255> (accessed August 23, 2018).
- 49 With assistance from the National Heritage Memorial Fund, the Art Fund (Scottish Fund) and the Henry Moore Foundation.



## The Weakness of Lead: Materiality and Modern American Sculpture

Marin R. Sullivan

At the core of the histories of modern American sculpture is a radical embrace of and experimentation with materials of industry.<sup>1</sup> By the mid-twentieth century, a substantial shift toward direct metal construction occurred within vanguard sculptural practice. While steel would perhaps become the most emblematic and frequently used material during this period, it was hardly the only metal artists turned to as a means to advance the possibilities of sculpture. In the mid-1940s, Herbert Ferber and Seymour Lipton began using lead as a means to create new, open forms in sculpture. They both experimented with the material consistently until the late 1950s, a roughly decade-long period that coincided with the establishment of their careers as leading American sculptors.

Though largely forgotten figures within standard art historical narratives of postwar art of the United States, Ferber and Lipton were heralded as two of the most significant sculptors of the period. Both were trained and practiced as dentists in New York, but by the end of the Second World War were committed to their artistic practice full time. The art and popular press frequently featured their work. Both exhibited widely in group and solo exhibitions at institutions like the Museum of Modern Art, the Walker Art Center, and the Whitney Museum of American Art. Each had notable gallery support, including representation from Betty Parsons, who, for example, gave Lipton six solo exhibitions at her eponymous gallery between 1948 and 1961.

Ferber and Lipton's use of lead was influenced, in part, by the pliant, biomorphic forms of avant-garde artists working with the material in Europe during the interwar years like Alexander Calder and Henry Moore. They sought in the metal, however, a particularly "American" formal language—a language expressed twenty years later when sculptors like Richard Serra and Carl Andre would again take up lead as a primary sculptural material. Like their later

American contemporaries, Ferber and Lipton would abandon the sustained use of lead in their work, moving on to steel and other metal alloys that offered greater physical strength and permanence. These two moments, two decades apart, however, suggest that lead played a significant, if short-lived, role in the development of vanguard sculpture in the United States at mid-century, less of a sustained trend and more bursts of experimentation that led to greater breakthroughs.

The appearance of lead in modern sculpture occurred, more broadly, among a massive surge in production and consumption of lead across industry in the decades following the end of the Second World War. Lead became affordable and widely accessible, factors that, when combined with its inherent malleability, made the material particularly attractive to sculptors wanting to experiment with new forms and processes. There are other examples of American sculptors using lead at some point during the twentieth century, but they appear as irregular anomalies within their careers or as only a minor inclusion within a larger work made of another material. Ferber and Lipton, as well as Andre and Serra, are examples of artists who exhibited a sustained, conscious engagement with lead, and used it specifically for its formal and processual qualities. In selecting these sculptors, my focus is thus not on the broader cultural associations with lead during the period but rather its artistic application. Additionally, while the eventual awareness of the material's toxicity and tremendous environmental impact would change artists', as well as the general population's, relationship with lead during the later twentieth century, this was not a consciously addressed or expressed concern for the sculptors discussed in this chapter. Lead at mid-century was not a deadly substance to be avoided, but a new artistic material to be explored. Lead's inherent physical properties, its tensile strength, and expressive tactility offered new possibilities for postwar sculpture.

The history of lead in the United States during the twentieth century, like that of most industrial materials, is intertwined with the histories of industry and the two world wars. By the end of the First World War, the metal was increasingly used in paints, the batteries for motorized vehicles, and as an additive in gasoline. Consumption of lead more than doubled between 1939 and 1943, and, despite large reductions in military requirements following the end of the Second World War, the supply of lead remained in short demand and under government control throughout 1945.<sup>2</sup> While there were dips in consumption during 1945 and 1946, overall numbers hovered around one million short tons during the postwar period, and between 1950 and the end of the twentieth century there

was a steady increase due in large part to the use of leaded gasoline worldwide—meaning that the material was easily available to artists wanting to use it and that it was relatively cheap.<sup>3</sup>

Lead along with other “white metals” like aluminum, nickel, and related alloys like Monel and stainless steel saw significant growth and diversity in their applications during the first few decades of the twentieth century. In the sphere of the arts, however, it was largely confined to use in architecture and architectural ornament.<sup>4</sup> Lead and lead alloys regularly appeared in Art Deco and Gothic Revival projects in the decades prior to the Second World War.<sup>5</sup> Architects deployed the metal in roofing and architectural sculpture because of its durability, especially in maritime environments.

Lead and other industrial materials would impact the development of modern sculpture on both sides of the Atlantic during the twentieth century. Henry Moore used the material to experiment during the late 1930s, casting a small number of lead sculptures at a cottage he owned at the time near Canterbury, England, including *Reclining Figure* (Tate, London).<sup>6</sup> Alexander Calder also integrated lead into a number of his sculptures prior to the Second World War, though often in very limited quantities and among other materials. As the direct metal revolution begun by Julio Gonzalez and Pablo Picasso in Europe during the early 1930s reached artists in the United States, sculpture began to take on a complex formal language of welded constructions. A diverse range of American sculptors active at mid-century, including Ruth Asawa, Isamu Noguchi, and David Smith, would at some point use lead in their metal sculptures, although usually appearing as a supporting context, employed as a structural support or in welds, and never as a sole or predominant material within their overall practice. Spanish-born sculptor José de Creeft, for example, experimented with lead sheets for the decade following his immigration to New York in 1929, but continued to work predominantly as a direct carver, mostly in wood.<sup>7</sup>

Ferber and Lipton both established their careers during this moment of transition in American sculpture, when the more reductive processes of direct carving, in stone or wood, gave way to more additive modes of construction through the direct metal techniques of welding. This shift led sculptors to experiment with a broad range of so-called “non-traditional” often highly industrial materials—not just lead, iron, and steel, but also aluminum, copper, brass, and alloys never before used in fine art practice. Most of these, like Monel, CorTen steel, naval brass, or stainless steel, had their origins in industrial applications, but many of the artists themselves became apt alchemists, mixing and creating their own combinations of molten metals. Some, like Calvin Albert,

even developed and marketed their own alloys, in his case Modalloy, which Ferber briefly incorporated in his work along with lead, copper, and brass.<sup>8</sup> As critic A.L. Chanin remarked in his review of *Recent Sculpture U.S.A.* (1959) at the Museum of Modern Art:

The biggest single trend apparent is the use of direct metal. Once, most sculptors carved their work in clay and then sent it to a foundry to be cast in bronze. But, in the newer approach, the artist works directly with the metal, either forging, welding, hammering, cutting, or riveting it into the desired shape. Many sculptors now don a welder's mask and wield an oxyacetylene torch, instead of a mallet and chisel. Direct metal lends itself to compositions that incorporate open space, in contrast to the solid bulk and mass of conventional sculpture.<sup>9</sup>

Though never members of any organized movement, Ferber and Lipton became associated with a group of artists advancing direct metal sculpture in the United States during the postwar period, including David Hare, Ibram Lassaw, Richard Lippold, Theodore Roszak, and Smith. With the widespread adoption of oxygen-acetylene welding torches among these sculptors in the late 1940s, the surfaces of their work became rough-hewn, built-up, sometimes violently chaotic tangles of metal—energetically and expressively hammered, twisted, and layered.<sup>10</sup> Due to the jagged, expressionistic surfaces of their constructions, they were, and continue to be, associated with the painting-dominant movement of Abstract Expressionism.<sup>11</sup> Ferber and Lipton were friendly with many Abstract Expressionist artists, exhibited at many of the same institutions and galleries often at the same time, and shared many ideas about the direction of postwar American art, as is evidenced, for example, by the introductory essay written by Barnett Newman for an exhibition of Ferber's work at the Betty Parsons Gallery in 1947.<sup>12</sup> As Lassaw remarked, however, the connection between postwar American sculpture and painting was far more complicated.

There is an idea that sculptors have been influenced by Abstract Expressionist painters, or that painting happened first and then a form of Abstract Expressionism came into being with sculpture. In all those years we had been talking together and having the same ideas as these movements were produced, and they were produced by painters and sculptors ... Few persons stop to think that painting and sculpture really come from the same environment, the same people, and the same world, because critics and museum people are oriented in the direction of the history of painting and because most college courses reflect the same point of view. And there are, what is it, seven times as many painters as sculptors and the weight of influence falls in the direction of painting.<sup>13</sup>

Save for the work of Smith, due in large part to the championing of Clement Greenberg, sculpture was never at the fore of the criticism and construction of Abstract Expressionism. While some expressionistic similarities can be found across the two mediums, the more crucial similarity here between the work of Ferber, Lipton, and their painter contemporaries is the modernist reevaluation of techniques and materials. Jackson Pollock may have pioneered a radical new style of painting and utilized unconventional materials like house paint, but with their welding torches and industrial metals, sculptors like Ferber and Lipton embarked on a similar program of innovation in sculpture.

Ferber and Lipton were the only two of their generation to interrogate such issues through the materiality of lead. Their work in the material is probably the least discussed in an already thin body of literature, but between 1945 and 1953, both consistently used the material because of its expressive capabilities, of its ability to be easily manipulated and molded. Lead enabled Ferber and Lipton to “open” the sculptural form. Ferber began his sculptural career carving in wood, but by 1945 had turned to new materials and techniques. This shift brought him to lead, which he worked “as one would in clay.”<sup>14</sup> He experimented with a number of techniques using the material during the mid-1940s and early 1950s: lead repoussé, soldering cut up lead sheets onto brass rod armatures, and combining lead with other materials to create textured surfaces.

Like Ferber, Lipton began working with lead during the mid-1940s. Initially he used lead sheets to cover sculptures he modeled first in plaster. By 1947–48, he increasingly moved away from a subtractive sculpting process and embraced constructive techniques. His work from the late 1940s and early 1950s, however, is rarely made of lead alone, but rather used to great effect in conjunction with an armature made in a different material. For example, in *Tower* (1952, Portland Art Museum) welded pieces of lead curve around and jut outward from an open, rectangular wood framework or “tower.” Protruding lead elements are common in Lipton’s work from this period, but he also used the metal as a means of encasement, of transforming surfaces, obscuring weld points and seams, and manipulating its ability to convey a multiplicity of textures. *Square Mask* (1948) exemplifies the varied possibilities of lead that were so appealing to Lipton during this period. [Figure 4.1] Angular pieces of welded bronze provide a solid core for the sculpture, but the additional application of lead, similar to Ferber’s repoussé, transforms the work into a multidimensional, dynamic work.

The shift in Lipton’s practice was both practical and conceptual. Lead was significantly cheaper than the cast bronze he had been using, but also was prone to breakage during shipping. The combination of lead with an armature



**Figure 4.1** Seymour Lipton, *Square Mask*, 1948. Bronze and lead. 18 ½ × 14 × 13 ½ in. © Estate of Seymour Lipton. Courtesy of Michael Rosenfeld Gallery LLC, New York, NY.

or elements made from another, stronger, metal solved this issue while still offering a far more immediate, expressionist means of contact with material.<sup>15</sup> As art historian Albert Elsen stated, “What was necessary was greater strength, lightness, and durability.”<sup>16</sup> While Lipton experimented with a range of metals between 1947 and 1952, this period marks his most sustained engagement with lead—and almost exactly coincides with Ferber’s, even though the two artists had limited contact with one another.

Lipton and Ferber’s lead work from 1940s and 1950s shares formal as well as material characteristics. They both became associated with an organicism that emerged in sculptural practice during the immediate postwar years, creating abstract constructions resembling horns, pelvises, and skeletons to “convey a fierce struggle on a broad biological level.” As Lipton described his work during this period, “Gradually toward the 1950s, a sense of inwardness of struggle,

growth, and of cyclical renewal led in part to an inside-outside sculptural form of an evolving entity: of a thing-suggesting process. This development was intensified by a search for new sculptural materials and idea.<sup>17</sup> Both sculptors moved away from the carving of solid forms prevalent in their sculptural practice prior to the Second World War, finding in lead the ability to explore this inside/outside dynamic. “By using lead,” Ferber declared, “I was able to make thin shapes and open forms so that ... the space and the forms become equally important.”<sup>18</sup>

Ferber’s *Grey Sculpture* (1954), made from a combination of lead and copper, epitomizes the sculptor’s approach to “open form sculpture.” [Figure 4.2] Two thin soldered linear forms emerge from the base, swirling upward around a more geometric vertical element, coalescing into a spherical welded shape, and connecting to a fourth curvilinear ribbon, itself bifurcated, with one half curving at the apex into a claw-like form. Wholly abstract, if still suggestively organic,



**Figure 4.2** Herbert Ferber, *Grey Sculpture*, 1954. Copper and lead on copper base.  $20 \times 18 \frac{3}{4} \times 11 \frac{7}{8}$  in. ( $50.9 \times 47.6 \times 30.2$  cm). Smithsonian American Art Museum, Gift of Mrs. Susan Morse Hilles. Reproduced by permission of the Smithsonian American Art Museum.

the overall composition is fluid and dynamic, highlighting the space around and in between its linear parts. Lipton, in his *Moloch #3* (1946), also manipulated the physical properties of lead to open up the solidity of the sculptural object. [Figure 4.3] In comparison to Ferber's lithe, fragile pieces of metal, Lipton bombards the viewer with a thick mass of unrefined metal. The last of a series he began in 1945, meant to express his response to the horrors of the Second World War, *Moloch #3* is a jarring, angular skull-like form, complete with pointed teeth and horns, albeit one that the viewer can see through. Though Ferber and Lipton's work is stylistically distinct, both exploit the supple, expressive possibilities of lead to emphasize texture and touch. This is not the polished, reflective brass of Constantin Brancusi or the smooth lustrous wood of Moore.



**Figure 4.3** Seymour Lipton, *Moloch #3*, 1946. Lead. 23 ½ × 23 × 19 in. (59.7 × 58.4 × 48.3 cm). Collection of the McNay Art Museum, Gift of Barbara Palmer. Reproduced by permission of the McNay Art Museum. Reproduced by permission of the Seattle Art Museum.

By the mid-1950s both Ferber and Lipton would cease using lead altogether in their sculpture. Ferber devoted more time to large architectural commissions that required stronger materials, and created the landmark “Sculpture as Environment” for a third-floor gallery of the original Whitney Museum of American Art in 1962. He stated that lead, even reinforced with other metals, was “too soft” and “too difficult to maintain its shape once it was made.”<sup>19</sup> By the late 1950s he had shifted almost exclusively to copper, brass, and bronze. From 1956 onward, Lipton would become associated with a technique that involved brazing nickel-silver rods onto sheets of Monel metal. Lead enabled Ferber and Lipton to advance their vision of modern sculpture, but neither fetishized the material nor explicitly evoked any of its industrial connotations. As critic Robert Goodnough remarked in his 1951 *Artnews* feature, “Ferber Makes a Sculpture”:

Until recent years the use of pipes, copper, lead and so many varied materials in making sculpture would have been considered quite unorthodox. Yet Ferber stresses that new techniques are only a means for a “transmutation into plastic ideas” and that the materials in themselves are unimportant. A good piece of sculpture should transcend the material.<sup>20</sup>

Ferber was emphatic that lead did not influence his ideas, but rather that “ideas have to influence the material.”<sup>21</sup> Lead was not the final solution for their sculpture but a means to achieve it.

In this regard, Ferber and Lipton’s experimentation with lead is quite different from that of artists of the late 1960s, who took up the material a decade later precisely because of its physical properties. Between 1964 and 1965, for example, Robert Morris created a substantial body of work comprising wood panels covered with lead sheets and a variety of found objects. He chose lead, much like Ferber and Lipton did, because it was easy to shape and manipulate, but also because it emphasized tactility in both the making and viewing of the resultant work.<sup>22</sup> Though rarely discussed as distinct within his broader, extensive oeuvre, Jasper Johns employed a similar technique for his *Lead Reliefs* series, beginning in 1969, in which he “recreated” earlier pieces like his *Flag* paintings in the material—though arguably these works, like Morris’s, function more as paintings or images than sculptures, lacking the play between inside and outside, openness and closed forms that were so central to Ferber or Lipton’s constructions.

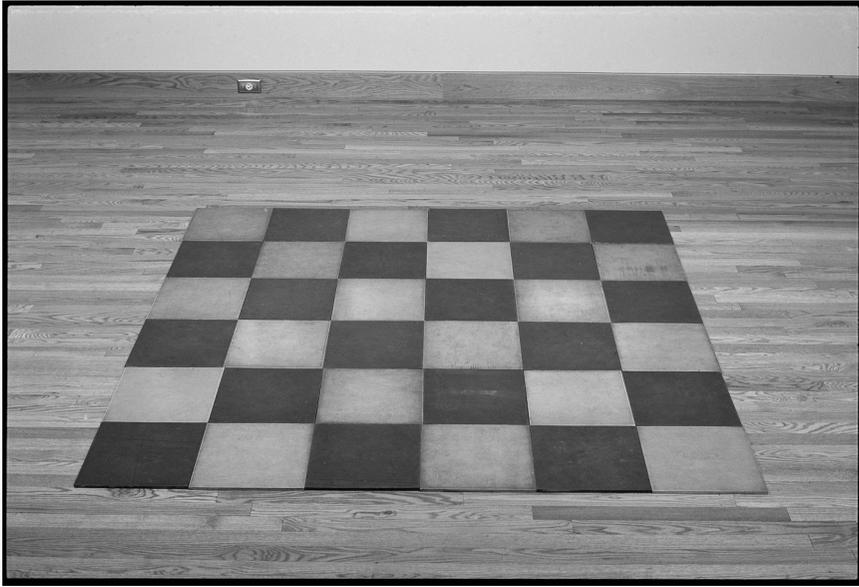
With the work of Andre and Serra, however, lead was not an image or “idea” but became the primary subject and object. Both Andre and Serra consciously deployed lead for its physical specificity and emphasized its chemical properties,

though in the case of the former, the selection was part of a much larger project dedicated to a sculptural visualization of elements from the periodic table. Beginning in 1967, Andre embarked on a series of works, all of equivalent dimensions—a square foot—comprising 144 metal plates that are sometimes known as his “carpets” since they were neatly arranged on the ground, awaiting the feet of viewers who are encouraged to walk on the surface. He first realized a lead iteration, *144 Lead Square* (Museum of Modern Art, New York), along with ones in copper and magnesium, in 1968. Andre exhibited these three sculptures in Europe throughout 1969 alongside the first three of the series he had realized in 1967 and showed at the Dwan Gallery in New York made of aluminum, steel, and zinc. As Andre recalled of these works:

I have decided I would prefer to not use alloys—not that the metals I use are pure, but to stay away from bronze and brass (although I have used those metals) to do a series of pieces in the pure metals of commerce, as pure as they are. Those metals—aluminum, steel, iron, magnesium, copper, zinc, and lead—are called the construction metals. They are common metals of everyday economic life and the ones we see around us and we employ all the time. We do have them around all the time but we almost always paint them and cover them up.<sup>23</sup>

Andre continued throughout 1969 and the early 1970s to explore the specific materiality of “pure” construction metals like lead, often magnifying their distinct characteristics by combining two or more types of square metal plates in subsequent configurations and arrangements, as he did in *Lead-Aluminum Plain* (1969).<sup>24</sup> [Figure 4.4] Like Ferber and Lipton, Andre was also trying to move away the idea of sculpture as mass, though his solution was not to open up the form but rather to compress it down to its most basic form.

Serra, perhaps more than any other artist discussed in this chapter, most fully explored the possibilities of lead in and as sculpture. Between 1968 and 1969, he created almost one hundred works in lead, from those featuring the material like his film *Hand Catching Lead* to those comprised solely of it, including various combinations of rolled and flat sheets propped up against walls or pressing into each other as in *One-Top Prop (House of Cards)* (Museum of Modern Art, New York) to the *Splashing/Casting* pieces he enacted during the period in which he threw molten hot lead onto the intersecting seams of floors and walls. In 1967, Serra created a list of transitive verbs, which included directives like “to splash,” “to roll,” “to heap” that were particularly well suited to lead’s “low order of entropy” and ability to be manipulated by the hand.<sup>25</sup> As Serra states of the lead works and their relationship to the *Verb List*,



**Figure 4.4** Carl Andre, *Lead-Aluminum Plain*, 1969. Lead and aluminum.  $3/16 \times 72 \times 72$  in. ( $0.5 \times 183 \times 183$  cm). Seattle Art Museum, Gift of Sidney and Anne Gerber, by exchange, and funds from the Margaret E. Fuller Purchase Fund.

Both tasks and materials were ordinary. I was tearing lead in place ... rolling and propping lead sheets, and melting lead and splashing it against the juncture between wall and floor. The activities were experimental and playful. It wasn't the question of how to accomplish this or that, nor was it a question of making it up as I went along; it was rather a free-floating combination of both.<sup>26</sup>

Serra's lead sculptures became a crucial late-Modern body of work, heralded as landmarks of the process-oriented work that exploded at the end of the 1960s and early 1970s. Critic Robert Pincus-Witten, who coined the phrase "Post-Minimalism" to describe the emergent tendency, wrote that Serra had been "attracted to the possibilities of lead, a material which he employed for its weight, malleability, entropy, inelegant lack of sheen and other properties which one recognizes as directly opposed to the chromium steel and polished glass which has dominated 'good taste' for at least three decades."<sup>27</sup> Notably, unlike the critics and art historians who would position Serra's lead experiments as a significant turning point in the history of modernism, Pincus-Witten emphasized the connection between his torn, scattered, and cut lead sculptures and those of the immediate postwar American avant-garde.

In my view, Serra's loose lead works can be associated with a shift in modernist sensibility, omnipresent throughout the winter of 1968 and spring of 1969. This was attested by the number of exhibitions devoted to so-called process artists, conceptual artists, earthwork artists, and artists, particularly sculptors, who stress horizontality and "flooriness" in their work. This new sensibility tends to be anti-precisionist and anti-geometric. It once again fosters values connected with Abstract Expressionism ... But while being related to the widespread revival of painterliness, Serra's pronounced constructivism is also in evidence.<sup>28</sup>

Serra may have rejected the welding, or "stitching" as he referred to it, of Ferber and Lipton, but as Pincus-Witten suggested, he did share something of their raw expressiveness and constructivist approach. Pincus-Witten's modernist interpretation of Serra would come under attack almost as soon as it appeared from the likes of Douglas Crimp and fellow critics associated with the journal *October* for what they perceived to be too great an emphasis on artist's biography and a retrograde lineage with the modernist formalism prevalent in the art of the immediate postwar period.<sup>29</sup> Benjamin Buchloh, for example, sees in Serra's lead work, in its exploitation of the "duality of lead's aggregate states (being both rigid and pliable)," "one of the most radical departures from sculptural conventions" and the signaling of "the possible liquefaction of the sculptural body itself." Buchloh continues, "*Splashing* literally *disfigured* modeling, wrenching it away from manual control and handing it over to an unpredictable process; it displaced casting by situating the sculpture not within a mold on behalf of a form or gestalt (least of all an anthropomorphic one) but within a spatio-architectural matrix."<sup>30</sup>

My interest here is not to adjudicate this critical debate or to question the radicality of Serra's work, but to suggest that his experimental, playful engagement was not isolated or unique within the history of postwar American sculpture and can be understood to reaffirm the possibilities of sculpture as such as much as it might "liquefy" it. Serra's particular application of lead within his sculptural work, his exploitation of its specific materiality, did explore the processual and contingent aspects of sculpture at the end of modernism. His investment in lead's "aggregate states," and his positioning of its materiality in relation to the bodies of both the artist and viewer, also differentiate his work from that of Ferber and Lipton. These two "moments of lead" in American sculpture, however, are perhaps more linked than they might first appear.

Lipton and Ferber, like Andre and Serra, selected lead as a means to explore and push sculpture beyond the closed, encumbered presence of a solid object. Lead was attractive because it provided immediacy and plasticity, helping to extend and thrust sculpture into lived, open space. These same characteristics

that made lead so appealing, however, could not obscure or overcome the material's inevitable natural softness, rendering it untenable within sculptural practice. Lead eventually proved unsustainable for all of these artists. All of them stopped using lead or prioritized other materials within a few years. Andre's interest in the material was never about lead itself, but rather its properties in relation to other metals. Serra, Ferber, and Lipton all moved on to stronger, more permanent metals. Ferber and Lipton found alloys that enabled them to continue creating open, flexible forms while providing greater stability. Serra moved onto Core-Ten steel, which he has worked in, almost exclusively, ever since.

For all four sculptors lead inevitably proved too weak. As Jeffrey Weiss suggests in the chapter that follows this, titled "Due Process," all of Serra's early lead works "are subject to the instability of the medium itself, which being relatively soft, gradually fails to hold a form over time."<sup>31</sup> The same could be said of Ferber and Lipton's work in the material and accounts for its short-lived presence within their practice. Seen in this light, the history of lead in American sculpture, especially during the postwar period, appears sporadic and perhaps insignificant—a mere footnote or intriguing oddity. To speak of the weakness of lead invariably conjures negative associations, but it ultimately proved to be the substance's greatest asset, a crucial catalyst and means to push the possibilities of sculpture in new directions.

## Notes

- 1 Descriptors "American" and "America," as well as "American sculpture" or "American sculptor" will be used for consistency throughout this chapter to mean the sculpture or a sculptor of the United States.
- 2 Lead consumption in 1938 was 495,323 short tons. By 1947, it had increased to 1,063,221 and in 1969 further increased to 1,260,405. "Lead Statistical Compendium," United States Geological Survey, January 11, 2013. Available online: <https://minerals.usgs.gov/minerals/pubs/commodity/lead/stat/tbl1.txt> (accessed May 1, 2018).
- 3 "Lead Fact Sheet," United States Geological Survey, May 2011. Available online: <https://pubs.usgs.gov/fs/2011/3045/pdf/fs2011-3045.pdf>. Available online: (accessed May 1, 2018).
- 4 Monel, a nickel and copper alloy with high tensile strength and resistance to corrosion, would cross over to fine art sculptural practice during the 1940s, for example, in work by Isamu Noguchi.

- 5 Richard Pieper, "The 'White Metals' of Early-Twentieth-Century American Architecture," *APT Bulletin: The Journal of Preservation Technology* 46, no. 1 (2015): 23–8.
- 6 For more on the history of Moore's use of lead see Rowan Bailey, "In the Backyard at Burcroft (1938–1939): Henry Moore and the European Avant-Garde," in this volume; Lyndsey Morgan and Rozemarijn van der Molen, "Henry Moore's Approach to Bronze," and Alice Correia, "Reclining Figure 1939 by Henry Moore OM, CH," catalogue entry, January 2013, in *Henry Moore: Sculptural Process and Public Identity*, eds. Christopher Griffin and Jennifer Mundy, Tate Research Publication, 2015. Available online: <https://www.tate.org.uk/art/research-publications/henry-moore/henry-moore-om-ch-reclining-figure-r1147454> (accessed June 25, 2018).
- 7 Joan M. Marter, "José de Creeft (1984–1982)," *American Sculpture in the Metropolitan Museum of Art: A Catalogue of Works by Artists Born between 1865 and 1885*, ed. Thayer Tolles (New York: Metropolitan Museum of Art, 2001), 723.
- 8 For the history of Modallo, see Dorothy Seckler, "Revolution for Sculptors," *ARTnews* 49 (April 1950): 40–1, 64–5.
- 9 A.L. Chanin, "Machine Age in Sculpture," *New York Times*, May 3, 1959.
- 10 Wade Saunders, "Touch and Eye: '50s Sculpture," *Art in America* 70 (December 1982): 95.
- 11 For more on the relationship between sculpture and painting in the context of Abstract Expressionism see Meghan Bissonnette, "From 'The New Sculpture' to Garden Statuary: the suppression of Abstract Expressionist sculpture," *Journal of Art Historiography*, no. 13 (December 2015): 1–19; and Marin R. Sullivan, "The Irascible Sculptors," in *The Irascibles: Painters Against the Museum (New York, 1950)*, eds. Bradford R. Collins, Manuel Fontán del Junco, Inés Vallejo, and Beatriz Cordero (Madrid: Fundación Juan March, 2020).
- 12 Barnett Newman, Untitled Essay, *Ferber: Sculpture* (New York: Betty Parsons Gallery, 1947), 1–2.
- 13 Ibram Lassaw as quoted in *The Waldorf Panels on Sculpture (1965)* (New York: SoberSCOPE Press, 2011), 67–8.
- 14 Wayne Andersen, *American Sculpture in Process: 1930/1970* (Boston: New York Graphic Society, 1975), 69.
- 15 *Ibid.*, 28.
- 16 Albert Elsen, *Seymour Lipton* (New York: Harry N. Abrams, 1970), 31.
- 17 Seymour Lipton as quoted in Wayne Andersen, *American Sculpture in Process: 1930/1970* (Boston: New York Graphic Society, 1975), 38.
- 18 Irving Sandler, "Oral history interview with Herbert Ferber, January 6–April 22, 1968." Archives of American Art, Smithsonian Institution.
- 19 *Ibid.*

- 20 Robert Goodnough, "Ferber Makes a Sculpture," *Artnews* 51, no. 7 (November 1952): 66.
- 21 "Oral history interview with Herbert Ferber, April 22, 1968."
- 22 David Hodge, "Temporarily Unautomated Tasks: Robert Morris's Lead Reliefs and Related Works, 1964–65," *Art History* 39, no. 1 (February 2016): 104.
- 23 Carl Andre, "A Museum of Elements (1972)," *Cuts*, ed. James S. Meyer (Cambridge, MA: MIT Press, 2005), 140.
- 24 For more on the exhibition history of these works by Andre see Alistair Rider, *Carl Andre: Things in Their Elements* (London: Phaidon, 2011).
- 25 Richard Serra, "Questions, Contradictions, Solutions: Early Work," in *Richard Serra: The Matter of Time* (Bilbao: Guggenheim Bilbao, 2005), 49–50.
- 26 Ibid.
- 27 Robert Pincus-Witten, "Slow Information," in *Postminimalism* (New York: Out of London Press, 1978), 26. This essay was first published as "Slow Information: Richard Serra," *Artforum* 3, no. 1 (September 1969): 35–8.
- 28 Pincus-Witten, 29.
- 29 See Douglas Crimp, "Richard Serra: Sculpture Exceeded," *October* 18 (Autumn 1981): 67–78.
- 30 Benjamin H.D. Buchloh, "Richard Serra's Early Work: Sculpture Between Labor and Spectacle," in *Richard Serra Sculpture: Forty Years*, eds. Kynaston McShine and Lynne Cooke (New York: Museum of Modern Art, 2007), 52.
- 31 Jeffrey Weiss, "Due Process," *Artforum International* 54, no. 3 (November 2015): 271 (reprinted in this volume).



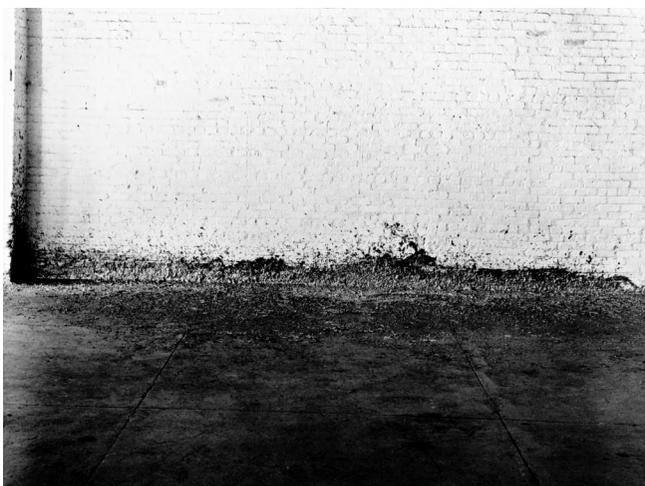
## Due Process: Richard Serra's Early Splash/Cast Works

Jeffrey Weiss

Speaking of his early practice, Richard Serra makes a succinct claim: “This is *this*. This is not *that*.”<sup>1</sup> His works from the mid- to late 1960s were intended to express the actions of “process.” In so doing, they demonstrate the deployment of basic procedures that activate the primary qualities of media derived from construction and industrial fabrication, such as fiberglass and vulcanized rubber. Produced from molten lead, the works known as “splashes” or “castings” (or sometimes both) are chief examples of this category of work. Indeed, in their case, the role of process is deepened by the passage of the lead medium—during the on-site production of a given work—from liquid to solid, a material transformation. A splash/cast piece is self-evident, an exposed manifestation of matter plus process—Serra’s nonsymbolic *this*. Process, in turn, implicates change, a temporal register. Given these conditions of medium and change, can we further say that a work’s material and conceptual terms bear meaningful relevance to its eventual fate? One fact is salient, if generally ignored: Serra’s early works from molten lead no longer exist.

To address the splash/cast pieces as a discrete group is to engage the specificity of their circumstances and means. Serra produced the first six such works in fairly rapid succession in 1968 and 1969. Four were made for group shows in which he was invited to participate. (The molten-lead splashes were one of several types of work he ultimately exhibited.) The initial one was made in 1968 for “9 at Leo Castelli,” organized by Robert Morris at Castelli Warehouse in New York. The others were produced in 1969: for the exhibition “*Op Losse Schroeven*” at the Stedelijk Museum in Amsterdam (using an exterior wall of the museum); for “When Attitudes Become Form—Works, Concepts, Processes, Situations, Information” at the Kunsthalle Bern in Switzerland; and for “Anti-Illusion: Procedures/Materials” at the Whitney Museum of American Art in New York.

Each of these shows was devoted to the state of contemporary post-Minimal and Conceptual art practices. A fifth work was made for Serra's solo exhibition at Castelli Warehouse in 1969. Later that year, the artist executed his final early work from molten lead—in Jasper Johns's studio, a former bank building on the Lower East Side of Manhattan.



**Figure 5.1** Richard Serra, *Splashing*, 1968, lead. Installation view, Castelli Warehouse, New York. From “9 at Leo Castelli.” Photo: Peter Moore/VAGA.



**Figure 5.2** Philip Glass (left) and Richard Serra (right) installing *Splash Piece*, 1969, Stedelijk Museum, Amsterdam, 1969. From “Op Losse Schroeven: Situaties en Cryptostructuren.” Photo: Ad Petersen.

The production of a splash/cast work occurs in a series of basic steps. Tearing pieces of lead from industrial rolls, Serra heats them in a vessel that sits above an acetylene flame. He then transfers the molten lead from the pot and deposits it along the juncture of wall and floor. The artist has described the procedure as a largely methodical one that advances “ladleful by ladleful,” beginning at one end of the wall and finishing at the other.<sup>2</sup> When the lead cools, it bonds to the site, converting the juncture into a kind of container, a mold for the lead. This interaction locks the work into a dependent relation to the space of the room. In some cases, the cooled lead is pulled away from the wall and displayed on the floor as an autonomous object—a cast. Photographs show that the action of the splash also leaves particles of molten lead spattered across the surfaces of the wall and floor, beyond the thick deposit. In the works he made for the solo Castelli show and for Johns, Serra also used a lead plate, which he angled out from the corner of the room in order to change the configuration of the mold. Due to risks posed by toxicity and heat during the production of a work, the artist wore heavy clothing, protective goggles, and often a respirator. He also had help. One of Serra's studio assistants at the time was the composer Philip Glass, who participated in the production of all the early splash/cast works (as well as of works demanding the rolling and folding of lead sheets). Serra credits Glass with having introduced him to the medium: Glass—who describes his time with Serra in a recent memoir—had worked as a plumber, which gave him experience cutting, bending, and joining lead pipes (in the joining process, melted lead is used to make a seal).<sup>3</sup> Serra insists that Glass's identification of lead as a potential medium for the artist was a “gift.”

Serra's largely descriptive titles use both words: *splash* and *cast*. In this way, the two states of the medium are made to possess equal significance. The very process of producing the work establishes the parameters of that work's fundamental identity as a form of sculpture. In other words, the work consists of two operations that are ascribed to the material qualities of the medium itself: what it does as a liquid when it is applied—it splashes; and what it does as it solidifies when its temperature decreases—it casts. The words *splash* and *cast* are, then, applicable as nouns, but the verbal form would seem to correspond most closely to the factor of process. In fact, Serra's *Verb List* (handwritten in 1967 or 1968 and first published in 1971) has become a default source for any critical account of this early work's orientation to process.<sup>4</sup> The list of 108 terms contains eighty-four *transitive* verbs representing actions that can be brought to bear on a resistant medium. The verbs—many of which describe recognizable processes in Serra's practice—are listed as infinitives: to roll, to crease, to fold,

to split, to cut, to knot, to spill, to lift, to suspend, to heap, to gather, to scatter, to enclose, to join, and so on. (“To splash” appears on the list.) *Verb List* also includes prepositional phrases that identify terms pertaining to natural forces and conditions that influence matter: of tension, of gravity, of waves, of inertia, of symmetry, of friction, of location, of time. The infinitives tell us that Serra’s work of the mid- to late 1960s implicates the agency of the body—of the author as a physical agent in the production of a work that foremost serves to demonstrate the principles and actions of its own making. (Currently, Serra identifies the self-reflexivity of the work as a prevailing quality, for which he likes the term *autotelic*.) The prepositional phrases tell us that the actions and materials, in their otherwise nonfunctional, relatively pure states, inevitably articulate laws or principles of the natural world to which the agent or maker must, of course, be said to belong.



**Figure 5.3** Richard Serra. *Casting*, 1969. lead. Installation view. Whitney Museum of American Art, New York. From “Anti-Illusion: Procedures/Materials.” Photo: Peter Moore/VAGA.

In assigning titles to the works from molten lead, Serra sometimes observes a strict distinction between the separate functions of “splash” and “cast.” The first work in the sequence (the one made at Castelli Warehouse) is called *Splashing*; images of it show that it consisted of a single continuous deposit of lead. The fourth example, made for the Whitney’s “Anti-Illusion” show, is called *Casting*, which probably designates the fact that it comprised a sequence of splashes (one dozen, judging from installation photos), each separated from the wall and displayed on the open floor with the others in an array of long, narrow forms. (The individual castings measured roughly four inches by four inches by twenty-five feet.) A final splashing was then executed but left in place—in situ, as it were, along the base of the wall. In one case, the title uses both terms: the work for Johns is called *Splash Piece: Casting*. Like the Whitney piece, it comprises a sequence of splashes that, pulled from the wall, are then identified as casts. Despite the use of double designations, it can be said that all lead splashes are already castings regardless of whether they are pried loose or left to adhere to the wall and floor. The activity of pouring the lead engages a visually negligible, yet structurally defining, space in the room. In the context of sculptural production that has nullified the value of the pedestal and openly addresses the force of gravity as a fundamental element, this province is literally base. Thus it pertains to the low-lying zone of anti-form, or the *informe*, as theorized by Yve-Alain Bois—the abject space of the ground or floor.<sup>5</sup> In Serra’s case, this precinct corresponds to the heavy downward pull of mass (the lead medium), as well as to the beholder’s downcast gaze. This association of Serra’s early splash/cast pieces with the *informe* is corroborated by Benjamin H.D. Buchloh when he describes their historically startling intervention in sculpture-making as the dissolution or “liquefaction” of the sculptural object (which is replaced by the “random shapes” derived from the process of depositing molten lead). This aspect of the work robs sculpture of a coherent body—and, by extension, of its relation to the embodiment of the beholder.<sup>6</sup> Still, in passing through two states, the lead begins by supporting anti-form (splash) and ends by supporting an indexical object (cast) that, while lowly or residual, is precisely defined.

A second duality obtains with respect to the artist as producer of the work. We speak of the agency of Serra as author (together with the efforts of Glass and others) in motivating process in the early works: lead works in which the medium is torn, cut, folded, and rolled, for example, as well as melted and splashed; large, heavy scraps of pliable rubber that are cut and strewn or hung from the wall and re-formed by gravitational pull; and the many works—in lead and then steel—that are categorically referred to as *props*. Serra denies the significance of chance, and it is important to recognize that, while process may produce unintended consequences, the relation of the splash/cast works to

anti-form is distanced by Serra's repetitive, largely methodical approach to the work's production. Yet with reference to his list of transitive verbs, the premise of Serra's early work depends on the agency not just of the artist but of the medium: the way the medium "behaves" in response to an application of force. Matter, Serra says, speaking of his work of the 1960s, will tell you how it wants to form itself. A statement the artist composed for the fall/winter 1970–71 issue of *Aspen* pushes the precept to an extreme: in the text, Serra proposes a work that would be produced from a "quantity of [molten] lead" dropped from a height of fifteen thousand to thirty thousand feet into a body of water or other "soft earth site." "The liquid lead volume in descent forms a precise spherical mass: a continuous solid, a ball, a bomb." Two supporting references are added: to Richard Feynman's *Lectures on Physics* (published in 1963) and to the Shot Tower in Baltimore, an early nineteenth-century structure once used in the making of spherical lead shot (blobs of molten lead were dropped down the length of the shaft—some two hundred feet—where they landed in a vat of water). The proposal reads like a physics experiment, an exploration of how solids form under different conditions of heat, distance, gravity, and speed.

With respect to the author as actor, then, a work is made by initiating a forming procedure and then surveying the results, which may or may not instigate another work. Serra cites Johns's dictum about making and repetition: "Take an object/Do something to it/Do something else to it." Johns, in turn, recalls Serra's *Casting* at the Whitney show, the work that prompted him to commission a splash/cast piece for his studio, in this way: "The lead pieces appeared simply to have been brought forward from the wall, one after the other, as they were cast. The piece and the making of the piece were perceived as a single event/object."<sup>7</sup>

"What I'm interested in is a compositional process and a sounding music that are one and the same thing." Steve Reich's formulation (from his 1968 text "Music as a Gradual Process") assigns the strategy of process beyond sculpture to the field of intersecting concerns in performance, music, dance, and film within which Serra worked.<sup>8</sup> For Reich, a chief technique was that of phasing, in which he set an audiotape loop against itself, copying it and then playing it on two separate machines. The discovery of phasing in 1965 was accidental. Reich was preparing a work based on the voice of Brother Walter, a Pentecostal preacher in San Francisco, where Reich was living at the time. For this purpose he recorded a sermon—concerning Noah and the Flood—from which he extracted a single phrase, "It's gonna rain" (this, of course, became the name of the piece). Reich broke the phrase into two loops: "it's gonna" and "rain." The two fragments

were to be repeatedly played in succession on separate tape recorders, which, via headphones, were made to correspond respectively to his left and right ear. During playback, due to slight discrepancies between the machines, the tapes gradually fell out of sync. Reich described what he heard in corporeal terms:

The sensation I had in my head was that the sound moved over to my left ear, down to my left shoulder, down my left arm, down my leg, out across the floor to the left, and finally began to reverberate and shake and become the sound I was looking for—"It's gonna/It's gonna rain/rain"—and then it started going the other way and came back together in the center of my head. When I heard that, I realized it was more interesting than any one particular relationship, because it was the process (of gradually passing through all the canonic relationships) making an entire piece, and not just a moment in time.

Reich compares the progression of a shifting phase relationship to the canon or round as a musical form, yet he also describes phasing as anti-compositional: born of a mechanical limitation or flaw in the rudimentary commercial technology of recorded sound. The flaw—a mechanical failure that can be credited to the "agency" of the machine—instigated a discovery that originated with a sensation, the bilateral passage of sound as medium through the body and out into the room. In fact, two failures of a kind are in play: as the preacher's words fall increasingly out of phase, language, Reich explains, is reduced to "noise." When used to "set" the human voice, the phasing technique actually produces a kind of affect: "The emotional feeling is that you're going through the cataclysm, you're experiencing what it's like to have everything dissolve."<sup>9</sup>

Concerning the discourse on process, then, at one extreme is Johns's observation, in which process is said to represent an equivalence between object and event. At the other extreme is Reich's, in which process activates what might be described as an existential form of entropic momentum—an annulment, a coming apart (something almost figured by the physical impact of process on Reich's experience of the work). Both associations recur throughout the period. Robert Smithson drew from the entropic implications of process when, speaking of his own work, he opposed "scatter" to "containment," a binary that recalls the function of site in Serra's work with reference to container and contained. For Smithson, the relevance of the two terms serves the concept of the nonsite, boxlike containers of raw material (soil, stones) from a specific location in nature—a site that belongs, as he put it, to the "outer fringe." The relation of the landscape to the installation is governed by a condition of displacement according to which the sensation of nonsite is a "dislocation" in space and time. The dislocation is leveraged via the inclusion of maps and photographs, competing systems of

information that also represent or describe the site. According to Smithson, a nonsite “just goes on constantly permuting itself into this endless doubling, so that you have the nonsite functioning as a mirror and the site functioning as a reflection.” Within the parameters of the work, “existence becomes a doubtful thing. You are presented with a nonworld ... The problem is that it can only be approached in terms of its own negation, so that leaves you with this very raw material that doesn’t seem to exist.” Smithson invokes a “suspension of destination,” wherein location can be neither measured nor named: “You are really going from someplace to someplace, which is to say, nowhere in particular.”<sup>10</sup>

There is a striking reciprocity between the principle of splash/cast and the concept of the nonsite, but the terms Serra shares with Smithson are set in motion toward radically opposing ends. Serra’s materialism is channeled into what he describes as the inseparability of work from “context”—a work’s “osmotic grip into the planes of the room,” to quote Max Kozloff’s inspired observation in these pages in 1969.<sup>11</sup> In subsequent splash/cast pieces, where the lead is pried from the wall, the work’s dependence on context is maintained by displaying the casts in the room where they were made. (According to Serra, there can be no question of showing them elsewhere; to do so would compromise their necessary correlation to the site of their making.) By establishing a coequivalence of object and event, a splash/cast piece represents a simultaneity of scatter and containment, two material extremes. In Smithson’s case this opposition expresses a “dialectical” relation of matter to form. Yet Serra’s move bypasses the nonsite, in which raw material plus information produces “dislocation”—the so-called suspension of destination. In aggressive contradiction to the function of the nonsite, Serra identifies the two elements—scatter and containment (or matter and form)—as possessing an almost primal significance to sculpture-making; he then binds them together in the service of a third—location—which, as an *intensification* of site, becomes a medium in and of itself.

A splash/cast piece is a compound entity that collapses, rather than dislocates, its temporal and spatial coordinates by using medium to seize site. To the key factors of raw material and room space we can add that of the bodily sensation of the perceiving subject or beholder, for whom the actuality of location is consolidated and redoubled rather than (as with the nonsite) distributed across time and space. As a deposit, the molten lead both marks and fills the juncture of wall and floor, becoming a seam that joins event to object and object to room. As a materialist, Serra shares certain concerns with other artists, including Smithson and Carl Andre (who actually imagined showing his work according to a progression of media based on the order of the periodic table). Yet for Serra

the *forming* properties of a given medium were of paramount significance to the work's critical relation to the history of sculpture. Serra's repeated application of molten lead over the course of a year or so represents an extended practice. By exploiting the material nature of the lead medium in a sequence of closely related works, he established an unprecedented syntax for sculpture as form, one in which form addresses itself to—even *inheres* in—the topography of the room as container, a province of actual space.

I began by saying that the early splash/cast pieces are no longer extant. However, Serra returned to the medium of molten lead in 1980, producing nine more works over the course of sixteen years, and three of those pieces have been preserved. (Those that remain were made for museums: the De Pont, Tilburg, the Netherlands; the San Francisco Museum of Modern Art; and the Hamburger Kunsthalle.) He would have welcomed the on-site preservation of other examples, but most of them were occasioned by temporary exhibitions. Moreover, like so many works by artists of Serra's generation, the works from molten lead are propositional, which means that a splash/cast piece is not esteemed for qualities of making that reflect on aesthetic values historically associated with uniqueness and craft. There are, of course, qualities of a given iteration that set it apart from others; such distinctions are in fact definitional to works of this kind. Yet, any long-shot prospects for the preservation of a splash/cast piece notwithstanding, expendability was acceptable within the parameters of the work. It may also have been a source of ambivalence: according to Serra, the fragile nature of the objects made by his friend Eva Hesse (to whom the splash/cast piece in his solo exhibition for Castelli was dedicated) gave him pause, encouraging him to consider the longevity of his own work.

Searching the early work's terms, however, we find that potential loss lies within the implications of its very means. With respect to the competing imperatives of permanence and change, the status of a piece made from molten lead is unstable. (All early works in lead by Serra, such as his props, are subject to the instability of the medium itself, which, being relatively soft, gradually fails to hold a form over time.) Conjoined to the temporality of the work's making—the elements of process and repetition that establish what Johns described as a co-identity of object and event—is its identity in historical time. In other words, the demise of a splash/cast piece, while not a given, is anticipated by the very circumstances of the work's fabrication. The permanence of *cast*, as object—as noun—issues from and arrests the material transience of *splash*, which at best denotes an indeterminate thing. As verb, the word *cast* is also dichotomous: it

references the forming of the object, yet it could further be used to describe the tossing of the molten lead, an action of making that, despite repetition, can be only partly controlled. And the toss is a gesture of dispersion, even disposal—we speak of that which is cast off or cast away.

Such an analysis is not just semantic, for the ambiguities that belong to the language are fully at stake within the material logic, and therefore the content, of these works. Moreover, the function of site deepens the connotations of unstable means: the temporality of the work as event holds two material opposites, splash and cast, while a given work's disappearance constitutes an intensive reversal of its sitedness—its osmotic grip. What we know of the first campaign of works from molten lead now belongs to the photographic record, the early criticism, and the memory of those who observed the work at the time (including the artist). Like so much else produced during this period of advanced art practice, the early splash/cast pieces now live in historical imagination alone. Absence will forever condition what we say about the works, whether or not we explicitly account for it. Through the language of *Verb List*, Serra asks us to accept that a splash/cast piece (among other process-based works of the period) has the capacity to implicate conditions of forming and being, conditions such as gravity, location, and time. In this regard, the complex “logic of the procedure”<sup>12</sup> shows that the work bears a critical relation not only to the history of sculptural practice but to itself.

Perhaps the content of process is, broadly speaking, a late-modernist device. Thomas Bernhard's novel *Correction*, published in German in 1975, is a relentless narrative of self-criticality in light of formal perfectionism. The text is composed of two interior monologues that eventually run together. The first is that of the book's narrator; the second is that recorded in the journal of the narrator's close friend Roithamer, a scientist and university lecturer who has taken his own life. The journal is infiltrated by intense doubt, which takes the form of incessant revision, an obsessive stream of second thoughts. Through these “corrections,” the process of composing the journal comes to figure Roithamer's unstable, deeply self-conscious inner life: the manuscript is described as an account of Roithamer's “conscious existence,” which the corrections are said to destroy. (For Bernhard, this pathology of writing and revision also allegorizes a crisis of collective psyche, the recriminating self-examination of national consciousness in postwar Austria.) Further, the composition and correction (or annihilation) of the journal assimilate themselves to the narrator's own account of reading the manuscript and, by extension, to Bernhard's composition—his writing and rewriting—of the novel that contains it. The penultimate line of *Correction*

draws these strands together in order to make a profound, if self-evident, claim, one that accounts, with respect to the protagonist and to the author, for both life and work: “*Das Ernie ist kein Vorgang*”—the end is no process.<sup>13</sup>

The relevance of Bernhard to Serra becomes evident when one acknowledges that the exposed implementation of process can possess a recursive function: that form activates fate. (Crucially, the works from molten lead, produced during the late 1960s, possess their own freight of politics and psyche, attended as they are by connotations of violence—heat, toxicity, the dropping of bombs—and by memory or loss.) In Serra's works from molten lead, making is grounded in process (this includes the self-forming capacity of a given medium), but process represents forward momentum, which the eventual realization of a work in object form brings to a halt. For the splash/cast pieces, the work's material nature—its dualities of liquid and solid, of form and anti-form, of weight and scatter (or splatter, to be precise), of object and event, of container and contained—reveals that potential absence is fundamental to the work's deep interrogation of matter and site. Process is *processual*—continual or forward-moving—and with the realization of process as form comes the beginning of the end.

## Notes

- 1 Unless otherwise noted, quotations and paraphrased remarks by Richard Serra are drawn from a conversation with the author on June 30, 2015.
- 2 Kynaston McShine, “A Conversation About Work with Richard Serra,” in *Richard Serra Sculpture: Forty Years*, ed. McShine and Lynne Cooke, exh. cat. (New York: Museum of Modern Art, 2007), 24. According to the artist, the much-reproduced Gianfranco Gorgoni photograph in which Serra appears to be splashing lead with an extravagant overhand throw was taken after work on his splash/cast piece (for his solo show at Castelli Warehouse in 1969) was complete, and simply records his euphoric mood.
- 3 Philip Glass, *Words without Music: A Memoir* (New York: Liveright, 2015), 247–52.
- 4 Richard Serra, “Verb Last,” in *Richard Serra: Writings/Interviews* (Chicago: University of Chicago Press, 1994), 3–4.
- 5 Yve-Alain Bois, “The Use Value of ‘Formless,’” in Bois and Rosalind E. Krauss, *Formless: A User's Guide* (New York: Zone Books, 1997). 13–40.
- 6 Benjamin H.D. Buchloh. “Richard Serra's Early Work: Sculpture between Labor and Spectacle,” in *Richard Serra Sculpture*, 51–2. Buchloh's text includes a lengthy theorization of the splash/cast works and related activity in Serra's early practice.

- 7 Jasper Johns, e-mail to the author, August 14, 2015.
- 8 Steve Reich, "Music as a Gradual Process," in *Writings on Music, 1965–2000*, ed. Paul I Hillier (New York: Oxford University Press, 2002), 35. The essay was written in 1968 and published in 1969 in the catalogue accompanying "Anti-Illusion: Procedures/Materials," the exhibition at the Whitney Museum of American Art for which Serra made *Casting*.
- 9 Steve Reich, "It's Gonna Rain" (1965; reworked in 1974), in *Writings on Music*, 21. A good deal of work by artists in the Whitney Museum's "Anti-Illusion" show was process-based, and the exhibition included an evening performance of Reich's "Pendulum Music," in which Serra participated. For a recent account of the significance of process and temporality in that context, see Janet Kraynak, *Nauman Reiterated* (Minneapolis: University of Minnesota Press, 2014), 108–13.
- 10 Robert Smithson. "Fragments of an Interview with P. A. [Patsy] Norvell" (1969), in *Robert Smithson: The Collected Writings*, ed. Jack Flam (Berkeley: University of California Press, 1996), 193–4.
- 11 Max Kozloff, "9 in a Warehouse: An 'Attack on the Status of the Object,'" in *Richard Serra: Early Work* (New York: David Zwirner Gallery, 2013), 119, Originally published in *Art forum*, February 1969, 22.
- 12 Richard Serra, "Play It Again, Sam" (1970), in *Richard Serra: Writings/Interviews*, 8.
- 13 Thomas Bernhard, *Correction*, trans. Sophie Wilkins (New York: Vintage, 1979), 271.

## Exorbitant Matter: Materiality according to Lynda Benglis

Luke Naessens

Consider two moments in the career of Lynda Benglis. The first is an imposing mound of lead. This is *Quartered Meteor*, a 1969 sculpture cast in 1975. [Figure 6.1] Its form suggests something that flows out from the gallery corner and toward the floor. Slumped in this corner, it does not deny or transcend its own environment but draws our attention to it. It is intimately responsive to the particular conditions produced by the intersection of two walls and floor, making a show of its literalness in the way it inhabits non-illusionistic space.<sup>1</sup> Benglis has stated that her intention in sculptures like this one was to produce “challenging forms” that would address the viewer in her own space.<sup>2</sup> It is a sculpture, in other words, that seems to insist on its own presence.

The second moment is a 1971 *Newsweek* article, titled “The Invisible Woman Is Visible,” which cheerily announces a “time of breakthrough and exhilaration for women in art.”<sup>3</sup> It leads with a photograph of a grinning Benglis standing in front of some of her works, a row of effusive polyurethane forms protruding from the wall. Unlike some female artists, we are told, who claim a division between their identities as women and as artists, Benglis is “quick to admit the influence of her sex” because, in her own words, “being an artist is being a person ... being a woman is being a person. They’re the same.”<sup>4</sup> Her words convey the image of a wholly autonomous artistic activity, one that allows for no contradictions or complications of identity. Benglis’s statement has the reassuring neatness of a tautology, recalling the kind of pragmatic common-sense posture frequently adopted by artists of the preceding generation: in Frank Stella’s aphoristic “what you see is what you see,” for example.

And yet, on closer investigation of *Quartered Meteor*, its solid leaden presence is partially deferred, for what we encounter is in fact a cast of an earlier polyurethane work: *King of Flot* (1969). [Figure 6.2] And yet, read a little further



**Figure 6.1** Lynda Benglis, *Quartered Meteor*, 1969/1975. Cast lead. 57 1/2 × 65 1/2 × 64 1/4 in. (146.1 cm × 166.4 cm × 163.2 cm). Photo by Phoebe d’Heurle, courtesy Pace Gallery. © 2020 Lynda Benglis/Licensed by VAGA at Artists Rights Society (ARS), NY.

in the *Newsweek* article and the artist provides a less pragmatic reading of her work. Each of her polyurethane sculptures (including *King of Flot*) is “a series of ironies”: “it’s organic-looking, but it’s plastic. The plastic itself is repulsive, but the form isn’t.”<sup>25</sup> Irony, surely, is the opposite of literalism. What you see is *not* what you see. Benglis’s sculpture has most commonly been seen as a kind of elaboration of Minimalist practice, a specifically personal (for which read embodied and gendered) reworking of the specific object. In this chapter, however, I want to point to a different Benglis, a materialist artist who nonetheless consistently interrogates seemingly axiomatic concepts like “material” and “body.”

*Quartered Meteor* will be my case study. I am concerned with the lead sculpture’s precarious, liminal materiality: the way it is somehow both upright and subsided, dull and lustrous, monumental and debased. As a material, unalloyed lead has the capacity to be at once utterly ordinary and strange, and



**Figure 6.2** Lynda Benglis, *King of Flot*, 1969. Pigmented polyurethane foam. 57 1/2 × 65 1/2 × 64 1/4 in. (146.1 × 166.4 × 163.2 cm). Photo by Norman Seeff. © 2020 Lynda Benglis/Licensed by VAGA at Artists Rights Society (ARS), NY.

Benglis took full advantage of its ambivalence. By engaging closely with this remarkable work, we can see that Benglis's sculpture of this period challenges us not only by occupying our space. Its challenge, rather, is to question how we occupy it, to undermine the first principles of our own material embodiment.

*Quartered Meteor* began life as *King of Flot*, produced in the loft of gallerist and critic Klaus Kertess.<sup>6</sup> Using a bucket, Benglis poured layer after layer of pigmented polyurethane foam into a corner that was wrapped in plastic sheeting. The finished sculpture made visible at least three different physical processes: Benglis's movement of the bucket; the force of gravity, which pulled the foam downward toward a formless mass on the floor; and the foam's own internal chemical reactions, which caused it to expand outward as it rapidly hardened. Of course, Benglis shared this emphasis on exposed technique with many of her peers in this moment of process art. As articulated by its early theorist Robert Morris, process art was a continuation of the Minimalist campaign against idealism. This campaign had always hinged on a rejection of "rationalism" or "a priori" systems, but for Morris Minimalism's advocacy of literalism over composition and illusionism had not gone far enough. He pointed out that the

“well-built” industrial forms of Minimalism retained, in their prefabricated production, an attachment to the preconceived image and the “craft of tedious object production.”<sup>7</sup> His solution to purging art of these remnants of rationalism was twofold: on one hand to begin with the “concrete physicality of matter” and allow the particularity of the material to order the work’s form; on the other to dissolve images into a horizontal, dedifferentiated perceptual field.<sup>8</sup> Process art, in this formulation, was a kind of radical pursuit of material transparency.

The year 1969 was a banner year for process art: its ideas were laid out by Morris in his influential “Notes on Sculpture, Part 4: Beyond Objects” and institutionalized by the Whitney’s *Anti-Illusion: Procedures/Materials*, to which Benglis was invited to contribute.<sup>9</sup> In the catalogue, the curators included Benglis alongside artists like Carl Andre, Eva Hesse, and Richard Tuttle, whose work, according to curator James Monte, shared an “inconclusive quality,” caught somewhere between “sculptural tradition” and the “possibility of environmental extension.”<sup>10</sup> It is this inconclusiveness vis-à-vis process art that Benglis most cultivated in *King of Flot* and exacerbated with *Quartered Meteor*, in which the poured foam of her earlier work was subjected to that most traditional of processes: casting.

The title “King of Flot” was, in fact, a partially veiled reference to Morris.<sup>11</sup> Benglis’s strategy here appears to have been to question the terms of Morris’s polemic by enacting them in a fairly literal way. If Morris called for an art guided by “the concrete physicality of matter,” Benglis allowed the material specificity of polyurethane foam to shape the work, at least in the sculpture’s first form. In addition, the act of pouring responded to Morris’s emphasis on horizontality and dedifferentiation, submitting the work to the demands of gravity. This move to the horizontal had been a strong impulse in Benglis’s work prior to 1969: it is played out in earlier poured latex floor-based works, such as *Fallen Painting* (1968). In the shift from liquid latex to polyurethane foam, however, an element of verticality was introduced, one that worked partly in opposition to Morris’s dedifferentiating demands. In a work like *Night Sherbet* (1969), the sculpture retains the lateral spread of the latex pieces but gains a newly gelatinous three-dimensionality that is neither structured nor entirely formless: it has the nascent quality of half-risen dough. In moving to the corner for *King of Flot*, Benglis allowed the foam layers to build up vertically in a pile as well as flowing outward. She stressed the free-standing autonomy of these works: although dependent on specific architectural situations for their form, once hardened they could be moved around and even displayed backward.<sup>12</sup> Vertically oriented and yet appearing to slump toward the floor, *King of Flot* was anthropomorphic in scale,

although composed of the same layers of almost formless, slightly repulsive foam as *Night Sherbet*. In other words, Benglis went through the steps of process art according to Morris but found her endpoint to be the opposite of his: not just a bounded form, but a figure of sorts. What is this form? It is no longer dedifferentiated, but neither is it “well-built.” It has a structure, but one that seems always imminently on the verge of collapse: look at the viscous topmost layer, which runs down the left of the sculpture before ending in a pendulous blob that seems ready to break off and fall to the floor. For Benglis, Morris’s insistence on the elision of ends and means was a tautology. She attempted to put his means to new ends, prying open space for ambivalence and complexity within this tautological certainty.

*Quartered Meteor* was one culmination of this sequence in Benglis’s work: a progress from liquid latex to polyurethane foam to molten metal; from floor-bound two-dimensionality to semi-vertical form and structure. In it, the conflicting impulses that the artist explored in her earlier work came to a head. At first, the turn to casting seems like a moment in which Benglis’s ambivalent mockery of process art became outright rejection. Casting, with its associations of monumental permanence and solidity, is a technique that seems antithetical to the aims of process art. To be sure, permanence and solidity were, at least in part, the qualities that Benglis sought. Many of the polyurethane pours that she produced between 1969 and 1971 were destroyed after exhibition, and after receiving a Guggenheim grant in 1974, Benglis wanted to preserve this body of work by producing seven cast metal versions.<sup>13</sup> In relation to *King of Flot*, then, *Quartered Meteor* is at once souvenir, remnant, monument. Implicit within the monumentalizing tendencies of casting is a kind of deathliness, and *Quartered Meteor*’s materiality emphasizes this funereal aspect: its impenetrable gray lead surface has a dour, tomb-like quality. The plastic sculptures had always retained a sense of liquid lightness and mutability. Indeed, the term “flot,” an antiquated term for grease sitting on a liquid’s surface, is little used in contemporary English but has a wide range of etymological cousins, all denoting buoyancy or liquidity: the word “float,” for example, or the French *flot*, a stream, wave, flood, or flow. Casting in metal makes rigid things out of fluid movement, and in many ways, it seems like the end of the line for Benglis’s polyurethane experiments.<sup>14</sup> Pouring had liberated her materials, which were allowed to flow outward and downward with no limits. In the corner, they became partly restricted by the architecture of the space, and in the foundry this restriction became absolute. The material was bound and set in a series of molds. Expansion became enclosure.

So much for dedifferentiation. It was, however, the other tenet of process art—the emphasis on the “concrete physicality of matter”—which *Quartered Meteor* seemingly most offends. The phrase conveys a faith in matter, an appeal to the literal materiality of materials as something foundational and prior to human thought and action. If “images” always implied some hidden system or preconceived idea, matter here is granted the potential to be entirely literal, transparent, and present to itself. Casting undermines this assurance. The structural condition of the cast, after all—its own inherent quality or “concrete physicality”—is to always refer elsewhere. A cast is always a cast of something. *Quartered Meteor* stresses its own materiality—its important qualities are the mass, weight, and surface of lead—but its material qualities are not autonomous. Its form is that of another sculpture produced with a completely different material in a different way. According to Benglis, her original intention in casting the polyurethane works was to replicate them in as many different metals as she could afford.<sup>15</sup> In the four-part *Modern Art* (1973–74), for example, a single sculpture was cast in bronze, aluminum, lead, and tin. The concrete physicality of matter here seems less important than the mimetic capacities of one material to imitate another. Illusion takes center stage.

This is not to say that materiality does not matter. On the contrary, Benglis maintained that her approach was a materialist one. In a 1969 statement, she claimed: “I realized that the idea of directing matter logically was absurd. Matter could and would take, finally, its own form.”<sup>16</sup> *Quartered Meteor* is a work that is fundamentally about lead, in the same way that *King of Flot* is centrally concerned with plastic foam. It is rather that both materials, lead and polyurethane, were prized by the artist for their ambivalence rather than their concreteness, their capacity to raise questions rather than provide conclusions.<sup>17</sup> If process implied demystified, transparent production, it is precisely Benglis’s materials that rendered her work so ambiguous. The chemical process by which *King of Flot*’s polyurethane foam changed from foam to solid, for example, means the work appears soft even though it is physically rigid. In this case, deception is the prerogative of matter itself. Illusion is a material property.

Lead, on the other hand, is less deceptive. Its relationship to the polyurethane foam of *King of Flot* sets in play a subtle dance between illusion and literalism. By the mid-1970s, when *Quartered Meteor* was cast, American art was in the grip of what Rosalind Krauss famously identified as a turn to indexicality.<sup>18</sup> The index is the signifier that is directly connected to its referent, such as the shadow or the footprint, and although Krauss’s primary reference was photographic media, the indexical turn had secured new relevance for casting, revitalizing a

postwar, neo-Duchampian tradition that ranged from Jasper Johns's banal casts of everyday objects through Bruce Nauman's wax casts of his own body. This is an important context for *Quartered Meteor*. In Hal Foster's gloss on Krauss's essay, the shift to the index was symptomatic of a desire to "reground art" in the wake of a general "crisis in representation" in the wider culture of this period.<sup>19</sup> Benglis's cast is, in one sense, a "regrounding" of *King of Flot*: literally, in the shift from synthetic plastic to base, elemental metal, but also formally, in the way *Quartered Meteor* appears to make literal many of its predecessor's illusionary qualities and to resolve its playful ambiguities.<sup>20</sup> If the inherent deceptions of polyurethane foam had produced an object that appeared both soft and ponderously heavy, but was in reality rigid and lightweight, in *Quartered Meteor* this weight and softness have become literal, for considerable weight and softness are perhaps unalloyed lead's most notable characteristics. In this move, then, we see the first of the almost paradoxical, ambivalent properties of Benglis's work. *Quartered Meteor* is a derivative of *King of Flot*; it copies the latter and mimics its form. It is only in this copy, this re-presentation, however, that what you see actually becomes what you see: the object's visual properties become properly aligned with the material qualities of lead. It is only, therefore, in representation that illusion is eliminated, only in this image of another object that material literalism is attained. Somber and monumental, *Quartered Meteor* appears as the closure of the promiscuous plastic mockeries of the 1960s.

Yet this monumentality is itself a mockery, due once again to the materiality of unalloyed lead. Lead, in sculpture and more everyday uses, is often bolstered by alloys because on its own it is soft and relatively unstable. The softness and weight of lead, the same qualities that enabled *Quartered Meteor* to resolve *King of Flot's* ambiguities, severely compromise its actual structural stability. The sculpture is hollow, supported from the inside by a steel armature that prevents it from collapsing in on itself. Without any alloy, it is susceptible to oxidation, and its environment must be kept at a controlled temperature to prevent it. In the gallery, it has a formidable presence, but it is fragile: almost any contact could leave a mark or a scratch.<sup>21</sup> In this sense, too, it is a literal realization of one of *King of Flot's* illusionary properties: its appearing to be on the verge of collapse. This, then, is a regrounding that is in fact an opening out into uncertainty. The erasure of ambiguity produces only instability.

In this respect, the difference in the two titles that Benglis attached to her sculptures is suggestive. The farcically regal personage of *King of Flot* has been replaced by a meteor. It is "quartered" not whole: its presence has been compromised, its title refers us to its absent parts. A meteor is a piece of ground

without an earth, an object that has broken free from its prescribed trajectory and will burn up as it enters the planet's atmosphere. It is transitory, dynamic, an agent of change. It is unstable and out of orbit, exorbitant. Benglis's cast brings her earlier work back to earth, renders it seemingly more traditional, rational, and comprehensible. This monumentalizing, however, in fact undoes the earlier work's stability and rigidity, as if reversing the hardening of polyurethane foam and setting the work back into motion.

In the context of process art, lead was perhaps most associated with Richard Serra, who made extensive use of the metal in his early work. Serra had switched to lead after first using rubber, which he prized as "a material to which you could apply a host of procedures with pretty good yield," offering "the same possibilities as rubber with more mass, more weight, and more gravitational load."<sup>22</sup> For Serra in this period, then, lead's primary quality was its manipulability. It functioned as an almost neutral material ground for the artist's famous list of generative actions, to be splashed, torn, propped, or rolled.<sup>23</sup> Viewed in this context, Benglis's use of lead in such a traditional process as casting seems regressive. *Quartered Meteor*, in part, represents a turning away from the radicality of Serra's experiments toward an anachronistic monumentality. At the same time, due to its materiality, the sculpture so markedly fails to meet the criteria of the monument—permanence, stability, fixity—that we might productively read it as an attempt to offer compromise. It proposes a weak monumentality, one that contains within it the malleable potentiality which Serra so valued in lead. It is a vulnerable monument, emphasizing its means of production while pointing toward its own potential dissolution. This gesture also makes visible what Serra's matter-of-fact practicality elides: *Quartered Meteor* represents a refusal to take material for granted. It is not a neutral ground for action or a passive entity to which one applies procedures. Matter, itself, is in process. It is transformative, acting as much as it is acted upon. It is something fundamentally strange: wrought by ambivalence and compromise, rethought and reformed through each encounter.

Time and again in writing or interviews by or about Benglis one finds the word "mock." To mock has multiple meanings: it can mean to deceive or to fool, to ridicule, to defy or flout, and to mimic or imitate.<sup>24</sup> Deception, ridicule, transgression, and mimicry are all operating strategies within Benglis's work, but for her mockery does not necessarily entail a negative stance. It is, instead, a form of "allusion" in which one thing plays at being another.<sup>25</sup> It is performative. Mockery, in this work, is also a means of suspending oppositions. It represents an attempt to unsettle what is seemingly fixed and make uncertain what appears

obvious. Benglis perceived process art as a tautological endgame comprising “closed questions.” By engaging with the movements through which a bucket of polyurethane foam became a weak monument of unalloyed lead, we can track Benglis’s own preferred compromise of “closed and open questions.” Each moment of closure provides material to be reworked. For the artist, “the process is many things.”<sup>26</sup> Objects, materials, and actions are not endpoints but catalysts for transformation and allusion: they lead in many directions at once.

The body, especially the artist’s body, is one particularly potent nexus of these considerations in Benglis’s work. Once again, however, the bodily presence of *Quartered Meteor* is altogether less resolved than one might first assume. In 1972, writing about Benglis, Kertess effused:

the polyurethane pieces are liquids that come from within and pour out—the pull of the moon, the ebb and flow of the tides, menstrual cycles, volcanic eruptions, the secretion of hormones. These are not the subjects of the work but are phenomena that are either part of or sympathetic with the artist making work determined by the pull of gravity and the movement of her complete body-mind.<sup>27</sup>

The language is dated, but the reading that Kertess provides remains dominant today: that Benglis is an artist of the body, and specifically that her work records the experiences of *her* body. That the work, in the words of critic Peter Schjeldahl, is “an ‘erotic’ art, an art in touch with the roots of various sexualized sensation, emotion and fantasy. Her works invite recognition, whether in the mind or at the fingertips or in the gut, or sensual feelings that might be mild and pleasant or wrenching and grotesque, but are in any sense humanly true.”<sup>28</sup> Or that it is, as in Cindy Nemser’s description, composed of “exceedingly tactile surfaces, built up over a period of time out of a layered-on process which ultimately takes the form of an orgasmic gush, these pieces are allusionary images of sensual self-satisfaction.”<sup>29</sup> For these critics, it is the active involvement of the artist’s “complete body-mind” (again, that confident assurance of self-presence) that makes the work “humanly true”: true because physical and sensual, directly connected to the private interior of Benglis’s body as if emitted from within it. But just as *Quartered Meteor* put pressure on the simple appeal to materiality, it calls into question this bodily truth.

These two elements of Benglis’s work, material and body, are closely related. The many photographs of the artist at work suggest as much, none more so than the 1970 *LIFE* article “Fling, Dribble and Drip” (subtitled “Young sculptors pour their art all over the floor”), in which the magazine, casting about for

heirs to the legacy of Jackson Pollock, profiled four Post-Minimalist artists: Benglis, Serra, Hesse, and Richard van Buren.<sup>30</sup> The short text describes how these artists “stress the physical nature of their materials.” The accompanying photographs, however, make it clear that their bodies are the real stars, just as the title emphasizes the actions of the artist over the materials. The images of Benglis show her performatively pouring brightly pigmented latex directly on the floor, standing in studied contemplation of the work in progress, and finally posing alongside the finished work. This is an embodied art, the images tell us. Process, here, is wrapped up in the movements of the body. The “physical nature of the materials” is dependent on this body in order to be made visible.

The images have stuck, and Benglis’s body was further fixed as a central component of her art by the infamous *Artforum* affair of 1974, in which the artist paid for advertising space in order to publish a photograph of herself naked, oiled, and wearing sunglasses, clutching an oversized double-headed dildo to her crotch.<sup>31</sup> The firmly tongue-in-cheek attitude of this image, however—its pronounced superficial gloss—should alert us to the possibility that the relationship between Benglis’s body and her work is not always sensuously, “humanly true.”<sup>32</sup> Similarly, *Quartered Meteor*, with its anthropomorphic scale, is bodily, but its corporeal immediacy is in fact repeatedly deferred. To account for this, it is necessary to briefly return to *King of Flot* and its polyurethane peers. For, unlike the somewhat theatrical performance of the *LIFE* photographs, production images for these works show that this material made its own demands. In the latter, latex is poured directly on the floor and the artist is stylishly dressed and unprotected. Polyurethane foam, on the other hand, is highly toxic: to pour it, Benglis had to clad herself in heavy-duty gloves and gas mask.<sup>33</sup> The way in which her body is armored in these images suggests that there was always an element of careful distance between artist and her materials. Indeed, even though Benglis’s movements controlled the flow of foam, the latter was always kept at one remove, not only by the protective equipment but also by the unwieldy bucket with which she distributed the polyurethane. Benglis’s corporeal engagement always contained an element of distancing and detachment.

In the shift from the domestic space of Kertess’s loft to New York’s Modern Art Foundry, the labor of production was transformed from the relatively simple, private pouring of foam into a more complex operation involving a team of laborers wielding more elaborate tools and machines. The polyurethane pours were often made on site by the artist herself, and so despite the initial distancing between Benglis and her polyurethane foam, these works did preserve some

sense of bodily presence. The casting of *Quartered Meteor*, however, is a revision that makes clear the distancing that was always a factor. Even if both works flirt with the appearance of bodily emissions, the direct connection between body and work is less immediate than might first appear.<sup>34</sup> It is perhaps no coincidence that the period in which Benglis cast *Quartered Meteor* was one in which lead's toxicity had become household knowledge in the United States.<sup>35</sup> (Indeed, during the late 1960s and early 1970s, "toxicity" in general became a central concern in American public discourse, indicating an increasing anxiety over the presence of toxic substances and carcinogens in many realms of everyday life.<sup>36</sup>) Our knowledge of *Quartered Meteor's* toxicity grants it an aura of threat, a contact taboo that is compounded by the material's fragile lead surface. To modify Kertess's description somewhat, if this work is a bodily product ("liquids that come from within and pour out"), it seems to evoke less the sensual unity of natural rhythms as some abject substance. This toxic mound of dark lead is frankly fecal in form. If it was once bodily, it is now rejected or repelled, kept at a distance.

What model of the body does this distancing produce? It is not that Benglis's work is not sensual or tactile, but rather that sensuality and tactility are worked through at the level of *surface* rather than interior. Sensuality, in Benglis's work, is most often suggested by the tactile encounter between materials layered one atop the other. The layer is the operation that recurs most in her work of this period, across various media.<sup>37</sup> The pours were composed of layers on top of layers: layering, in fact, is the entire sum of their production. In Benglis's early work, layering served as a means of producing three-dimensional objects using painterly means (i.e., composed of overlapping surfaces rather than a more sculptural division of interior and exterior). This repetitive process might productively be read as a retooling of Minimalist seriality, in which serial forms are presented not in orderly progression but overlaid on top of one another. Formed of semi-liquid substances like wax, foam, and molten lead, these layers do not always remain distinct, occasionally collapsing into the layer beneath. This is Benglis's own way out of the "well-built": the layering of repetitive forms produces a tactile form that is structured but seemingly without structure. Her work is produced through accumulation and excess; it exclusively comprises surfaces and skins.

The casting of *Quartered Meteor* was, therefore, a more natural progression than might first appear. For casting is just another layer, or, rather, layers: a mold is intimately wrapped around the body of the original object, and liquid lead is poured into that mold in order to produce a copy. Casting is a

tactile process in which form is reproduced through the physical proximity of one layer and another, like clothing next to skin. Once again, however, the materiality of unalloyed lead disrupts the rhetoric of proximity as much as enacts it.<sup>38</sup> *Quartered Meteor* reproduces the stratified form of *King of Flot*, without replacing its vertically layered structure. It is, on the contrary, produced through the wrapping of a new layer around the exterior of this form. The material particularities of polyurethane foam have been embalmed through the tactile encounter between old layers and new. It is this encounter that allows *Quartered Meteor* to re-present its predecessor. Its own presence in front of the viewer is literally dependent on the absence of the earlier sculpture it recreates: *King of Flot* was cut in half, and thus destroyed, in order to make the master mold.<sup>39</sup> This is important. The dull gray *Quartered Meteor* sometimes seems only to exist in the negative, referring always to the earlier sculpture whose form it mimics and transmits. At the same time, in order to talk about *King of Flot* today, to consider its shape, its scale, the way it occupied space, we can only approach it through *Quartered Meteor*. The two exist only in relation to one another, neither wholly autonomous nor present. Of course, this is the case for many cast sculptures, but unalloyed lead brings this reciprocal interdependency to the fore. Lead's soft malleability allowed it to closely reproduce the viscous liquidity of expanding plastic foam, and to form a faithful, detailed imprint of the older sculpture's surface, but this malleability means it does not preserve it in any stable or confident way. Rather, even a light touch would leave an imprint, setting in motion a new process that would irrevocably alter its form. In contrast to the impassive durability of bronze, this cast only weakly clings to the form it preserves. Its unstable, leaden solidity performs the precarity of presence.

This is not a shift from solidity to fragile dependency. Rather, the lead cast makes visible a kind of compromised presence that was always suggested by Benglis's layered work. *Quartered Meteor* is not merely a derivative of a lost original: as one more accumulated surface it extends the layering process of *King of Flot*. The instability of lead implies, if only hypothetically, that this process has not come to a close. Just as there is no final limit, the origin remains unclear: if we track the process backward we find that the sculpture was always a kind of cast, an imprint of the corner of Kertess's loft, which was wrapped in plastic sheeting. Layers, here, suggest a material *mise-en-abyme*, a perpetually expanding structure of reflections and imprints in which neither origin nor final limit can be determined. In this sense, the lead layer is a kind of Derridean supplement, a surplus layer that usurps the origin, showing it to have been absent all along. *Quartered Meteor* resonates with the account of the supplement's devious process in *Of Grammatology*:

the indefinite process of supplementarity has always already *made* a break within presence, has always already inscribed the space of repetition and of the doubling of the self. The representation *en abyme* of presence is not an accident of presence; the desire of presence is, on the contrary, born from the abyss of representation, from the representation of representation, etc. The supplement is quite exorbitant, in every sense of the word.<sup>40</sup>

While other metal casts that Benglis produced at this time, in aluminum and bronze, tend to reify the artist's original encounter with her foamy material, the lead *Quartered Meteor* preserves the contingency of this encounter: preserves it by reiterating its precarity and fragility. The lead cast reveals something important about corporeality according to Benglis's work: it is not synonymous with the kind of fully autonomous self-presence conveyed by the *LIFE* photographs (and parodied by Benglis as onanistic self-sufficiency in the *Artforum* advertisement). The genesis of this sculpture lay in the artist's physical engagement with her material: *Quartered Meteor* still presents us with the record of Benglis's gestures in space. It is tactile or corporeal even if it is not exactly handmade. Bodily presence, here—not just that of the artist but also that of the figure suggested by the sculpture itself—is not so much a literal thing as a matter of traces, delays, and sedimented layers of experience, of contingent encounters between surfaces that are remembered as much as felt. In other words, bodily presence is never entirely present or autonomous. The body is material, but this means it is something shaped through time, space, and memory. Its form and presence are only ever partial and never fixed.

In this chapter, I have read against the grain of what might be called a literalist interpretation of Benglis's work: that her sculpture primarily operates at the stable or "real" ground of materials and bodies, that it continues in the pragmatic vein of Minimalist and Post-Minimalist American art. This is not to say that Benglis stands apart from this position. On the contrary, time and again she adopts a literalist stance—concerns herself with the materiality of matter or physicality of bodies in actual space—only to muddy the waters, to reveal the literal as more complex than simple; materiality as eccentric and elusive rather than self-evident; and the body as altogether less bounded and autonomous than first appears. Benglis's strategy is to inhabit these positions and break from them from within. There is perhaps even something viral about Benglis's mockeries, the way her initial gestures persistently mutate into something the same and yet other. No wonder, then, she was attracted to such virulently toxic substances as polyurethane and lead. *Quartered Meteor* testifies to the artist's persistently transformative process, her capacity to fold one position into another, or to hold both in uneasy alliance. It shows us how Benglis gravitated toward materials

like lead that possess a kind of excessive or complex materiality, and which thus allowed her to unmoor the fixed grounds of matter and body: to set them into (and out of) orbit. It demands an account of its materiality that does not accept these concepts as given, one that is as awake to repetitions, reflections, and double entendre as it is to declarations of the seemingly self-evident. Of course, there is a real risk here of mystifying the work by emphasizing ambivalence over clarity. Benglis's work in this period, however, was intended as a process of open-minded inquiry, one that aimed to avoid generalization and abstraction in favor of a more complex (and hence more concrete) relationship to reality. *Quartered Meteor* makes clear the way Benglis's practice operates on a model of excess rather than reduction: layers added to layers rather than forms and ideas whittled to their essence, the slippery precarity of lead over the cool clarity of steel or stone. It "is quite exorbitant, in every sense of the word."<sup>41</sup>

## Notes

- 1 The use of the corner as a way of insisting on the artwork's literal presence in space was a legacy of Russian Constructivism, in particular Vladimir Tatlin's *Corner Relief* (1915), which had been featured in Camilla Gray's *The Great Experiment: Russian Art 1863–1922*, published in 1962. This example was taken up by a number of Minimalist artists in their attempt to implicate their work in the actual space of the viewer: see, for example, Dan Flavin's *pink out of a corner (to Jasper Johns)* (1963), Robert Morris's *Untitled (Corner Piece)* (1963) and Eva Hesse's *Ennead* (1966).
- 2 Lynda Benglis, interview with author, May 22, 2018. In an unpublished 1971 interview with art historian Cindy Nemser, Benglis states that the transition from the horizontal latex floor pieces to the vertical polyurethane pours was the result of asking the question: "how does something look when it confronts you on your level?" Lynda Benglis, interview with Cindy Nemser, October 20, 1971, C5a, Series III, Box 20, Series III, Cindy Nemser Papers, 1966–2012, Getty Research Institute, Los Angeles.
- 3 Douglas Davis, "The Invisible Woman Is Visible," *Newsweek*, November 15, 1971, 130.
- 4 Ibid. For a discussion of Benglis's complicated relationship to feminism see Susan Richmond, *Lynda Benglis: Beyond Process* (New York: I.B. Tauris, 2013).
- 5 Richmond, *Lynda Benglis*.
- 6 Klaus Kertess, "Foam Structures," *Art and Artists*, May 1972, 34. Kertess was a friend of Benglis's who showed her work in his Bykert Gallery, where Benglis also worked part-time at the beginning of her career.

- 7 Robert Morris, "Anti-Form," in *Continuous Project Altered Daily: The Writings of Robert Morris* (Cambridge: MIT Press, 1993), 41; "Notes on Sculpture, Part 4: Beyond Objects," in *ibid.*, 68.
- 8 Morris, "Notes on Sculpture, Part 4," 61, 68.
- 9 The exhibition was curated by Marcia Tucker and James Monte. Benglis produced a work for the exhibition, but ultimately pulled out during installation after the curators tried to install it in a location the artist felt was inappropriate for the work. On this incident see Richmond, *Lynda Benglis: Beyond Process*, 21–2.
- 10 James Monte, "Anti-Illusion: Procedures/Materials," in *Anti-Illusion: Procedures/Materials*, ed. James Monte and Marcia Tucker, exh. cat. (New York: Whitney Museum of American Art, 1969), 10.
- 11 Benglis confirmed this in a 1989 interview with curator Susan Krane: "I always called it *Untitled*, because of its sort of secret title, and then in parentheses it was 'King of Flop'—[in reference to] flop art." The use of "flop art" as a way of describing process art indicates that, for Benglis, it was the way Morris's work of this period was subjected to gravity, its collapsing quality, was her primary association. Susan Krane "Introduction," in *Lynda Benglis: Dual Natures*, ed. Susan Krane, exh. cat. (Atlanta: High Museum of Art, 1991), 1918.
- 12 Production photographs show that the walls and floor of the loft were protected from the foam by transparent plastic sheeting: this sheet, in turn, allowed for the sculpture to be freestanding once the plastic was peeled away. The work's form, in other words, was dependent on the site, but its autonomy was dependent on this prophylactic layer.
- 13 According to Benglis this group comprised two pairs of *Modern Art* in bronze, aluminum, tin and lead, the aluminum *Wing*, the bronze *Eat Meat*, and *Quartered Meteor*. There is also a bronze work cast titled *Come* from this period. Lynda Benglis, interview with Seungduk Kim, "Liquid Metal," in *Lynda Benglis*, ed. Frank Gautherot, Caroline Hancock and Seungduk Kim, exh. cat. (Dublin: Irish Museum of Modern Art, 2009), 181. The works were cast in New York's Modern Art Foundry. Lee Ann Norman, Benglis Studio, email message to author, February 2, 2014.
- 14 For Robert Pincus-Witten the "frozen gesture" was one of the central operations of Benglis's work, which he understood as concerned with capturing fluid movement. He proposed this reading in the March 1974 profile of her work in *Artforum*, which was a major moment in the artist's career. Part of my argument is that throughout her work Benglis consistently attempts to re-animate her own frozen gestures. If her work captures movement, this stilling forms the basis for new actions. See Pincus-Witten, "Lynda Benglis: The Frozen Gesture," *Artforum* 8, no. 3 (November 1974): 54–9.
- 15 Lynda Benglis, in interview with author, May 22, 2018.

- 16 Lynda Benglis, artist's statement, in Elayne H. Varian, *Art in Process IV*, exh. cat. (New York: Finch College Museum of Art, 1969).
- 17 As Benglis described in her 1971 interview with Nemser: "I'm not just interested in 50 gallons of latex on the floor or 1000 pounds of foam on the wall, but in *what they do*." C5a, Series III, Box 20, Series III, Cindy Nemser Papers. Emphasis added by author.
- 18 Rosalind Krauss, "Notes on the Index: Part 1" and "Notes on the Index: Part 2," in *The Originality of the Avant-Garde and Other Modernist Myths* (Cambridge: MIT Press, 1986), 196–220.
- 19 Hal Foster, "The Passion of the Sign," in *The Return of the Real: The Avant-Garde at the End of the Century* (Cambridge: MIT Press, 1996), 83.
- 20 The way in which *Quartered Meteor* makes literal the weight alluded to in *King of Flot* was pointed out to me by the artist. Lynda Benglis, interview with author, May 22, 2018.
- 21 Lee Ann Norman, email to author, February 2, 2014; Katie Dungate (Conservation Administrator, Tate), email to author, February 4, 2014.
- 22 "Interview with Kynaston McShine," *Richard Serra Sculpture: Forty Years*, ed. Lynne Cooke and Kynaston McShine, exh. cat. (New York: The Museum of Modern Art, 2007), 27.
- 23 See Richard Serra, *Verblist, 1967–68*, pencil on two sheets of paper, Museum of Modern Art, New York. Part of Benglis's weariness of process art was likely its linguistic tendencies, revealed by gestures like Serra's list. In 1971, trying to tease out her differences from artists like Serra, Benglis stated that some artists are more concerned with "verbal definition" than others: she, on the other hand, was interested in "visual statements and visual imagery, as well as ... visual ideas and concerns." The phrase "verbal definition" is an informative one, because it suggests the twofold nature of Benglis's objections to process art: a perceived prioritization of the linguistic over the visual, as well as a tendency toward "definition" or closure over open-ended "allusive qualities." C5a, Series III, Box 20, Series III, Cindy Nemser Papers.
- 24 "mock, n.1," *Oxford English Dictionary*. Available online: <http://www.oed.com/view/Entry/120525> (accessed June 22, 2018).
- 25 Lynda Benglis, in interview with author, May 22, 2018. The term "allusion" is one that Benglis has persistently used in relation to her own work since the early years of her career.
- 26 Lynda Benglis, interview with author, May 22, 2018.
- 27 Kertess, "Foam Structures," 34.
- 28 Peter Schjeldahl, "Lynda Benglis: Body and Soul," *Lynda Benglis: 1968–1978*, exh. cat. (Tampa: University of South Florida, 1980), 4.
- 29 Nemser was describing the polyurethane pours. Cindy Nemser, "Four Artists of Sensuality," *Arts Magazine* 49, no. 7 (March 1975): 74.

- She was riffing on a statement Benglis had made to Robert Pincus-Witten regarding the process of producing her wax paintings, which she had compared to “masturbating in the studio.” Pincus-Witten, “Lynda Benglis: The Frozen Gesture,” 54–9.
- 30 David Bourdon, “Fling, Dribble and Drip,” *LIFE*, February 27, 1970, 62–3
- 31 The image was published in *Artforum* 8, no. 3 (November 1974), an issue which also included Robert Pincus-Witten’s profile of the artist, “Lynda Benglis: The Frozen Gesture.” The photograph caused an instant controversy, with five of the magazine’s associate editors denouncing Benglis’s intervention for its “extreme vulgarity,” partly because of its pornographic content, but mostly due to its apparently cynical use of advertising space to circumvent editorial standards. See Lawrence Alloway, Max Kozloff, Rosalind Krauss, Joseph Masheck and Annette Michelson, “Letters,” *Artforum* 8, no. 4 (December 1974): 9. Contemporary contributions to this debate included Dorothy Sieberling, “The New Sexual Frankness: Good-by to Hearts and Flowers,” *New York*, February 17, 1975, 37–44; and Cindy Nemser, “Lynda Benglis—A Case of Sexual Nostalgia,” *The Feminist Art Journal* 3, no. 3 (Winter 1974/75): 7, 23.
- 32 In two almost contemporary accounts of Benglis’s work, Nemser praised the polyurethane pours as “allusionary images of self-satisfaction” (Nemser, “Four Artists of Sensuality,” 74), while condemning the *Artforum* advert as an attempt to assimilate the phallus “in an artificial way by grafting it unconvincingly onto her female body” (*ibid.*, 75), or worse as a cynical and ultimately disingenuous manipulation of spectacle. (Nemser, “A Case of Sexual Nostalgia.”) However, rather than draw a line between sensuality on one hand and artifice on the other, I would argue that a more holistic approach to Benglis’s work of this period must identify the ways in which she consistently revealed connections between these two terms, rather than insisting on their separation.
- 33 The contaminating capacities of plastics like polyurethane (specifically in relation to the natural environment) were something that Benglis admits interested her during this period. Lynda Benglis, interview with author, May 22, 2018.
- 34 In other works from both the polyurethane series and the cast metal versions, Benglis makes the analogy of bodily products more explicit: through color (the fecal brown of *For Carl Andre*, for example), site (the hot pink poured work produced for the bathroom of collector Vera List), or title (the 1974 bronze *Come*).
- 35 The 1970s was the decade in which once-controversial criticisms of the lead industry became widely accepted, and successive federal regulations were finally introduced to combat environmental lead poisoning. See Gerald Markowitz and David Rosner, *Lead Wars: The Politics of Science and the Fate of America’s Children* (Berkeley: University of California Press, 2013), 28–86.
- 36 See Sarah A. Vogel, *Is It Safe?: BPA and the Struggle to Define the Safety of Chemicals* (Berkeley: University of California Press, 2013), 43–77.

- 37 Speaking of her earliest work in wax and latex, Benglis said that her “concerns were skin-like, were those of surfaces.” Lynda Benglis, interview with Cindy Nemser, C5a, Series III, Box 20, Series III, Cindy Nemser Papers. Wax paintings like *Embryo II* (1967) and *Excess* (1971), which Benglis memorably described as “masturbating in the studio” consisted of pigmented wax repeatedly applied to Masonite in two long brushstrokes. Each stroke formed a new layer, and as these layers accumulated every lump and pocket of wax was exacerbated and exaggerated, resulting in a rippling, sculptural facture.
- 38 In what follows, I aim to bring the sculptural Benglis a little closer to her video work such as *Mumble* (1972) and *Now* (1973), in which the artist is explicit in playing with the registers of presence and delay. Previously, Benglis’s experiments in video have always formed a kind of subset of writing on Benglis, discussed by theorists of the medium such as Rosalind Krauss and Ina Blom in isolation from her other work. In more holistic accounts of Benglis’s work, such as Susan Richmond’s monographic study of the artist, the video work is allocated its own, medium-specific chapter. See Krauss, “Video: The Aesthetics of Narcissism,” *October* 1 (Spring 1976): 50–64; Blom, “The Autobiography of Video: Outline for a Revisionist Account of Early Video Art,” *Critical Inquiry* 39, no. 2 (Winter 2013): 276–95; Richmond, *Lynda Benglis: Beyond Process*, 98–126. In the 1971 interview with Nemser, the artist states that “video is extreme tactility”: suggesting that for her the tactile is wrapped up in the deferrals and delays so well expressed by the medium of video. C5a, Series III, Box 20, Series III, Cindy Nemser Papers.
- 39 Lynda Benglis, interview with author, May 22, 2018. It should be noted, however, that this master mold was retained, because two more cast versions of *Quartered Meteor* (in aluminum) were made at a later date.
- 40 Jacques Derrida, *Of Grammatology*, trans. Gayatri Chakravorty Spivak (Baltimore: Johns Hopkins Press, 2016), 177.
- 41 *Ibid.*, 7.

## Lead in the Lexicon of Gilberto Zorio's Sculpture

Elizabeth Mangini

In two separate interviews of 1972, Italian artist Gilberto Zorio (b. 1944) was asked about the importance of novel materials in his recent works. His responses emphasized the inseparability of material and concept in his works. In one case he maintained: “The materials are important merely because I try to maintain the utmost consistency between reality and the idea.”<sup>1</sup> In another, he argued: “Today one writes (and I won’t cite the authors) about Arte povera as using ugly materials, rough materials, and it is totally wrong. [...] The materials are what they are and are used for their own properties.”<sup>2</sup> Given his insistence that materials were employed for their beneficial characteristics, what is one to make of the consistent use of certain hazardous substances over the course of his career: cobalt chloride, asbestos, lead, acid, phosphorous? Do these materials signify something specific in the artist’s emergent project during the late 1960s and early 1970s?

As the present volume attests, lead also features in the art of Zorio’s international contemporaries, such as Vija Celmins, Luciano Fabro, Jasper Johns, Roelof Loew, Bruce Nauman, and Richard Serra, among others. Further, several of these artists exhibited together in generation-defining exhibitions like *9 at a Warehouse* (1968), *When Attitudes Become Form* (1969), *Tokyo ’70* (1970), and *Documenta V* (1972). Given this confluence, can we draw conclusions, beyond those specific to Zorio, from the transnational impulse to use lead in this period? Or, could focusing on this single material help reinforce some of the boundaries currently separating diverse artistic practices? Sometimes formal similarities reflect actual dialogue among artists who would encounter one another while installing at these exhibitions, or through their galleries with international rosters. And yet, one must be wary of succumbing to pseudomorphism, a taxonomic term Erwin Panofsky used to refer to the misleading way two artistic forms that look similar

might be considered to mean the same thing, or to share similar influences.<sup>3</sup> This chapter will read the leaden works of Zorio against those by Serra in order to uncover the shared aspects of the contexts in which the material was taken up, as well as to elucidate the sociohistorical aspects that more clearly distinguish Italian and American artistic discourses of the late 1960s.

Zorio employed lead to make sculptures that exhibited open-ended vitality in the space of the viewer, yet his work has often been received in the tired romantic terms of the artist as alchemist.<sup>4</sup> This vein of criticism is largely formalist, and is often applied to the artists that art history categorizes as belonging to *Arte Povera*, a concept developed by Italian curator Germano Celant in a series of essays and exhibitions between 1967 and 1972.<sup>5</sup> *Arte Povera* has become a materialist, if not nationalist, moniker, which belies the fact that Zorio was included in several important international shows in 1968–69, and that many of the leaden works he executed in this period resist crystallization into a finished object in ways that resonate with American artist Robert Morris's 1968 essay "Anti-Form."<sup>6</sup>

Serra, who repeatedly used lead in his *Prop* and *Splashing/Casting* works of the late 1960s, does occupy a seat near Morris at the art-critical table of Post-Minimalism, a broad category that refers to American sculpture's move away from the objecthood of Primary Structures toward the situational, processual, and site-specific aspects of Anti-Form. But, then again, Serra spent several years in Italy in the 1960s, working with live animals and readymade materials, and his inclusion in Celant's 1969 book *Arte Povera* might seem to suggest that at one time he could be considered a member of that artistic tribe. In order to more clearly see the divergent practices of these artists using the same materials, this chapter will first look at the points of intersection between Zorio and contemporaries like Serra, and will further read each artist's work with lead in the aesthetic and social contexts in which he was working.

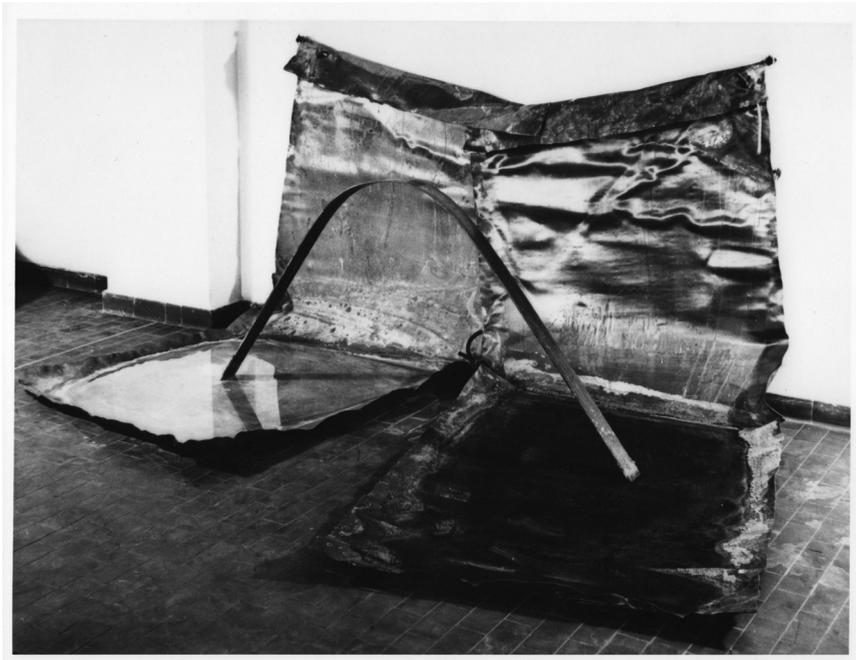
## Lead and Process

Since both Zorio and Serra exhibited early works with lead as a primary material in the much-celebrated exhibition *9 at Leo Castelli* (New York, December 1968), a glance at that show initiates this investigation of their coincident deployment of lead in the late 1960s. Zorio, exhibiting work for the first time in the United States, contributed an arrangement of lead sheeting and chemical liquids, which he had exhibited previously at Turin's *Deposito d'Arte Presente*. Serra propped a rectangular lead sheet against the wall—using another, rolled up lead

sheet to hold it aloft (*Prop*, 1968)—and splashed molten lead at the join of the gallery's floor and wall (*Splashing*, 1968).<sup>7</sup> On the surface, these and other pieces selected by Morris for this group show might seem to be in perfect step with the historical avant-garde's project of bringing the everyday into the realm of art. Indeed, the spectacle of neon tubes arcing away from the walls (Bruce Nauman), damp cotton wool billowing across the concrete floor (Giovanni Anselmo), and a twisted cyclone fence bifurcating Leo Castelli's warehouse-cum-art-gallery (Bill Bollinger), seemed, on first glance, to argue that it was the materials of contemporary sculpture that were undergoing a radical shift in the late 1960s. However, it was how artists were deploying these non-traditional substances that turned out to be more important.

Rather than a transgression based solely on their presence, it was the way materials spoke to the process of making that distinguished their projects from the formal experimentation of Modernist forebears. Reviewing the show for *Artforum*, critic Max Kozloff remarked that all you needed to know about how sculpture was changing at that moment could be gleaned by imagining how the works would be de-installed, packed away, and/or shipped back to the studio.<sup>8</sup> Morris, in his own text for *Artforum* earlier that same year, had argued that modernism's medium specificity had led to an investigation into the properties of materials, which in turn meant reevaluating and even abandoning traditional tools. More radically, he suggested, it also called for disengaging with formal preconceptions.<sup>9</sup> If Morris's essay sought to focus attention on the means of making rather than its ends, the exhibition was his vision of its manifestation. Indeed, the leaden works contributed by both Zorio and Serra can be read to foreground process, but they engage the material in significantly divergent ways.

Zorio's contribution to the show *Senza titolo, piombi (Untitled, leads, 1968)* consists of two shallow basins formed of lead sheeting [Figure 7.1]. They are set side-by-side against a wall so their liquid contents are as visible and accessible to the viewer as vegetables at a market stall. Here lead appears relatively innocuous and stable, and indeed its density and stability were among its values for Zorio when conceiving this sculpture.<sup>10</sup> This is because the two vessels contain much more volatile substances—hydrochloric acid and copper sulfate, respectively—which would react with each other, would corrode many metals, and could harm human skin. Although potentially toxic itself, here lead has a defensive function: it creates a basic barrier for the corrosive liquids, keeping the blue salt and the yellow acid contained, and preventing them from interacting with each other.<sup>11</sup> In this instance, the artist's use of lead protects the viewer, inasmuch as it presents a potential danger to her.



**Figure 7.1** Gilberto Zorio, *Senza titolo (Piombi)*, 1968. Two sheets of lead, copper sulfate, hydrochloric acid, copper bar, rope. 100 × 240 × 150 cm. Installation view: Deposito d'Arte Presente, Torino, 1968. Photo courtesy of the artist; © Paolo Bressano.

Here Zorio appeals to the viewer to open her senses to such materials, which, as he remarked in a recent interview, “speak to us; we just have to listen.”<sup>12</sup> By thus focusing on reception, Zorio recasts his works’ potential materialism in phenomenologically specific ways. For instance, though visually flat in comparison to the glint of stable metals like gold and platinum, lead provides a perfect backdrop to the electric blue of the copper sulfate and the chartreuse of the hydrochloric acid. The liquids remain visually distinct, set off by the matte gray of the lead, a contrast that appealed to the artist.<sup>13</sup> These seemingly aesthetic factors draw the viewer in, but they are not the ends in themselves. Rather, they are clues to more fundamental relationships among these materials.

In *Untitled (leads)*, the base metal’s inertia is in evident contrast to the work’s more dynamic aspect: the potential of the liquids, which would react and turn green if allowed to combine. Instead, a copper arch spans the two liquids, providing the only means to predict this potential because, throughout the duration of the exhibition, each liquid independently interacts with the copper, forming separate trails of colored crystals along the arch. The work is, in a very real sense, purposefully unfinished.

Zorio puts the geologic scale of material transformation into an anthropologic frame by highlighting the constant, but often imperceptible, transformation of the physical world. Process is indeed the focus of this work, but not solely the means by which the artist shaped the material. Instead, the exchange of electrons, the transformation from liquid into solid, and the resistance of the leaden vessel to the reactive fluids all place the artist on equal footing with the viewer: both witness their potential for continued exchange. Further, “process” in this work means providing the conditions for potential conceptual stimulus, long after the artist has stepped away.

In contrast to such entreaties to the viewer, the leaden works Serra exhibited in *9 at Leo Castelli* reflect more exclusively on the labor of the artist in relation to the material. *Splashing* (1968), for instance, consisted of the metal being stripped of its ability to withstand either the forces of gravity or the directional invectives of the artist. Serra's lead works at Castelli did engage the physical space of the viewer, but in a way that attests to their making and to site-specificity more than to active reception. *Prop* (1968), for example, demonstrates the forces at work among the structures and materials of that specific space—the brick wall, the concrete floor—thereby highlighting the action taken to make an object that stands against such forces. That is, when Serra rolled one lead sheet into a cylindrical form, it was he who concentrated its relatively low tensile strength such that an identical sheet might resist gravitational pull.

A testament to artistic aura in Serra's early leaden works can be traced to a handwritten list the artist began to keep in 1967–68 of actions that could be carried out with regard to a material: to roll, to cut, to spread, to heap, and so on. In an interview from 1980, Serra recalled that this *Verb List* was originally devised as a road map for working with the malleable metal. Lead had initially been suggested to him by his friend and composer Philip Glass, who, in addition to being a studio assistant to Serra, had worked as a plumber and was familiar with lead's physical properties.<sup>14</sup> The verbs Serra put to paper are transitive, meaning they require one or more objects upon which their action is taken. Undoubtedly, this also means the action must be propagated by someone.<sup>15</sup>

Serra's *Verb List* and works like *Prop* and *Splashing* that issue from it reflect back on the artist, attesting to a concept of the artist as a transformative, and rarely benign, source of energy. Italian critic Tommaso Trini noted something of this character in the works of the American artists shown at Castelli, writing in *Domus* that for them: “It is the problem of ‘artistic control,’ enucleated and placed in crisis by the ideas of Kaprow: one wants to eliminate it, or knead it, to increase the quotient of involvement in the creative act.”<sup>16</sup> In citing Kaprow, Trini

places the American artists shown at Castelli in a lineage of work in which an artist's body is at the center of an artwork's meaning. At the same time he notes that there is a palpable challenge to that construction in a formless work like Serra's *Splashing*. Kozloff similarly identifies artistic presence as one of the main values of Serra's contributions to the show, noting, however, that this shaping force imbued the artist's works with an inherent violence.<sup>17</sup>

Since all of the public *Splashing/Casting* works were destroyed, their documentation remains the most evocative trace of such artistic ferocity today. One iconic photograph—which often stands in for the six “splashings” or “castings” made between 1968 and 1969—is chiefly responsible for this mythology. Taken in 1969, the image shows the artist masked and outfitted in heavy protective gear: helmet, goggles, gloves, and gas mask. Serra's appearance in this photograph, dressed as for battle with the artwork, would seem to acknowledge the toxicity of the material being used and to skew any reading of danger as being directed toward the artist during its making. However, the central, elevated position of the artist's body within the frame of the image indicates that he is in command, and that any perception of violence in the splashing series is rooted in Serra's wielding of artistic aura.<sup>18</sup> Indeed, looking at the photograph, one is more afraid of this masked warrior than the molten metal he commands.

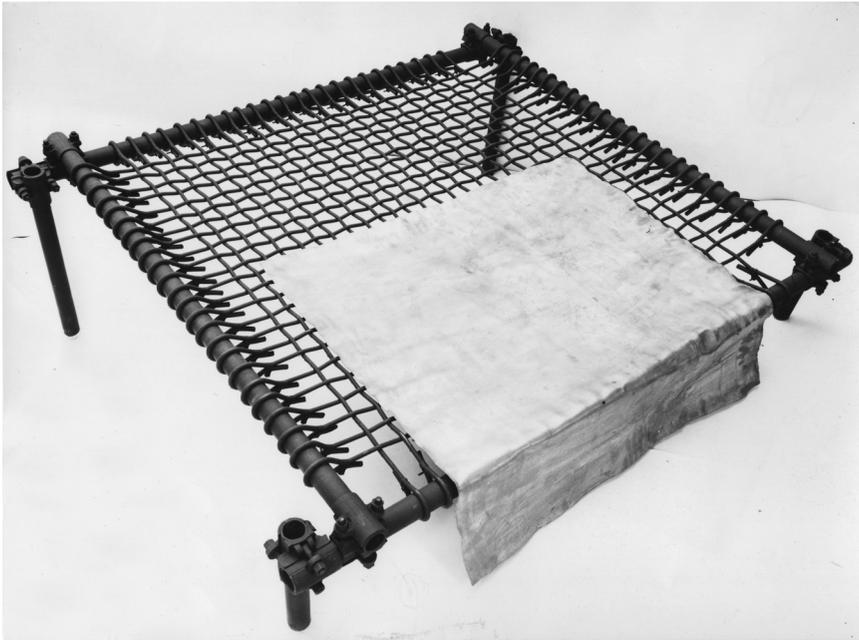
Serra's performance of formidable force is in stark contrast to Zorio's positioning of himself alongside the viewer, as a witness to process. Whereas for Serra power is concentrated in his body and expended in his action upon the material, for Zorio such energy remains *in potentia* during the entire life of the work. This allows energy, both physical and mental, to become the subject of the work without artistic persona overshadowing its deployment. A work like Zorio's *Untitled (leads)* demonstrates the potential for radical transformation already present in the material world. It is not reserved in the artist's individual body; rather, it is stored in the work itself and distributed to the viewer. This distinction emanates from the aesthetic context in which Zorio's mature project emerged, as well as the sociopolitical climate of 1960s Italy.

### Physical and Psychological Tensions: Italy c. 1968

The work Zorio exhibited at Castelli was not the first he had made with lead, nor the first that featured a reaction that reflected back on the potentially transformative role of the spectator. In 1966 Zorio constructed *Letto (Bed)* of

scaffolding pipes, rubber tubing, and a lead sheet, upon which viewers were enticed to sit and lie down [Figure 7.2]. In doing so, they shaped the soft metal sheet with the weight and warmth of their bodies, pushing it against the resistance of the structure's frame. Thus, the artist, the viewer, and the materials themselves could each be said to take an active role in sculpting the lead. The artist used lead here specifically because of its malleability, which allowed it to transform, continuously, through this interplay of physical tensions.<sup>19</sup> At the same time, the lead itself was active, rubbing off and dirtying the clothes and skin of those who accepted the invitation to rest upon it. As with the lead basins, there is a physical and aesthetic aspect to the choice of metal, but only in so far as it allows the artist to introduce several other phenomenological and psychological aspects to the viewer's experience.

Zorio exhibited *Bed* along with a number of works that shared a similar instability in 1967, on the occasion of his first solo show at Galleria Sperone gallery in Turin.<sup>20</sup> Trini authored the exhibition's brochure, describing it as comprising "a group of works that demonstrate the action, and the spectacle, of certain laws of physics that are as elementary as they are absurd."<sup>21</sup> Indeed



**Figure 7.2** Gilberto Zorio, *Letto*, 1966. Steel pipes, black rubber rods, lead sheet. 50 × 170 × 170 cm. Installation view: artist studio, Turin, 1966. Collection of the artist. Photo courtesy of the artist; © Paolo Bressano.

each of the works—which included such arrangements as an asbestos cylinder filled with plaster that changed color with fluctuating humidity, as well as a rudimentary tent crusted with salt deposits left by evaporated seawater—was a simple arrangement of substances. By bringing them into relation with one another in the viewer's space, Zorio revealed the often invisible, yet wondrous, processes of the material world. His actions amplified and focused attention on the vitality of the objects and their tension within a given environment, which they shared with the viewer.

In the same essay Trini described Zorio's works as "destructures," which are "a-conceptual and sub-physical" by inferred comparison to the primary structures of American Minimalism and its successors. He noted that the Italian's materialism, if one could call it this, indicated the fundamental structures of the universe rather than those directly related to the laws of aesthetics.<sup>22</sup> Art historian and critic Mirella Bandini went further in an essay of 1977, arguing that Zorio's materials were stripped of their technological function, and instead used to create displays of energy and dynamics.<sup>23</sup> His works account for the reactions, entropy, and decay that are endemic to any material relationship, and by bringing this aspect to the foreground, the viewer becomes aware that the artist has no more privileged a view to the spectacle that they do.

Zorio's overtures to the viewer in works like this must be read in the twinned contexts of Turin's intellectual and sociopolitical history. In the 1950s–1960s, the University of Turin was home to an important philosophical school known primarily for fostering phenomenology and hermeneutics in aesthetics. In particular, Luigi Pareyson pioneered an Italian vein of reception theory, carried forward by his students Umberto Eco and Gianni Vattimo, in which an artwork is understood as a structure through which the interests of the artist and the viewer meet.<sup>24</sup> Whether or not Zorio read the works of these contemporaries at that time, they formed part of the intellectual context of Turin. Celant, whose critical voice gave rise to the concept of Arte Povera, and Gian Enzo Sperone, the gallerist and promoter of Arte Povera who studied philosophy at Turin's university, were both likely familiar with such discourse.<sup>25</sup>

In *Untitled (leads)* Zorio had created the conditions for the viewer to perceive the latent energy present in the natural world, neither underscoring nor outright refusing his role as a formative force. Instead, the potential for transformation drawn from the instability of the material relationship springs from and surpasses the artist's own imagination for such objects.<sup>26</sup> In 1972, the artist identified the concept of process in his early works with these chemical reactions, noting

that this allows “the work goes on living by itself, while I become the spectator both of its own reactions and of the reactions of the public.”<sup>27</sup> Inasmuch as Zorio’s early works with lead and other unconventional materials can be read as underscoring the means by which the object comes into form, the position of the artist relative to process is distinct from those described by Morris in “Anti-Form” and showcased by American artists like Serra in the exhibition at Castelli. This intellectual consideration of the viewer as an equal partner in the production of meaning can also be attributed to the radical politics present in Turin during the postwar decades.

Between the Cold War struggles being fought by proxy in Southeast Asia, eastern Europe, and North Africa, and oppressed citizens asserting their civil rights in the domestic arena, the late 1960s and early 1970s were a period of significant social change in many parts of the world, including Italy. Nationally, this period marked the end of the Italian miracle, a postwar economic boom, and the beginning of a decade of social and political struggles known retrospectively as the *Anni di piombo*, or Years of Lead. In 1960s the Turinese newspapers were writing on a daily basis about the protests of the working classes, on whose backs the city’s postwar economic prowess rested.<sup>28</sup> By November 1967, students had occupied the Mathematics, Humanities and Philosophy Departments. Soon after, this same generation turned their attention to the ills of the factory and the laboring classes.<sup>29</sup>

At the same time, the Italian Communist Party (PCI) remained a strong anti-fascist force, especially in the rapidly industrialized North of the country. Zorio has spoken about his allegiance to the basic ideals of equality and humanity represented by the PCI, and he donated a site-specific artwork when commissioned by the local party headquarters in Turin.<sup>30</sup> The social and intellectual climates in which Zorio was working in the late 1960s—the political morality of sharing power and the theorization of reception as an integral part of the artwork—combine to provide a specific context for the open aesthetics of works like his *Untitled (Leads)*.

Speaking to Bandini in 1972, Zorio noted that in Turin, specifically, artists made works that seemed to reflect the seriousness and workerist ethics of the then industrial city: “Turin is the city that shuns worldliness; it’s a conservative city, a closed city, the city of FIAT [...] You don’t find that fun-loving irony in any of our work that you find in the work of Roman artists.”<sup>31</sup> He argued that, at least in part, the vitality of Turinese art included a toughness and rigor, which reflected the changing industrial city and its visible social movements of the era. When he first started using lead, Zorio was cognizant that the material had

specific historical connotations, having been used for plumbing since Roman times. This fact did not, however, eclipse its potential contemporary valences.

Rather, the dynamic, contradictory, and palimpsestuous nature of material history was central to lead's appeal for Zorio. For instance, in the late 1960s, the lead sheet of Zorio's *Bed* could be seen as harboring danger to those who rested upon it through its potential toxicity, but in the Cold War context it could also be read as a means of protection in the event of nuclear fallout.<sup>32</sup> With its chemical components housed in lead and connected by copper, the untitled work shown at Castelli could call up the starter batteries, wheel weights, and other automobile parts so vital to Turin's industry. Alternatively, it could summon notions of a scientist toiling in a rudimentary laboratory. The artist has stated that this object functions like a battery, aligning it with the voltaic arcs and live incandescent wires that populate his later oeuvre.

For viewers in the late 1960s, Zorio's use of lead in works like *Odio* (*Hate*, 1969) might signify the heavy reality of bullets and bombings deployed in the United States/Vietnam War, which students in Turin were protesting as early as 1964, or it might conjure images of economic recession and domestic terrorism from the first years of the *Anni di piombo*.<sup>33</sup> Here rope and lead comprise a rudimentary swing, which bears the word "odio" (hate) writ in rope.



**Figure 7.3** Gilberto Zorio, *Odio*, 1969. Lead, rope. Dimensions variable. Installation view: Centro Galego de Arte Contemporánea (CGAC) Santiago de Compostela. Collezione Fondazione Pistoletto, Biella. Photo courtesy of the artist; © Mark Ritchie.

[Figure 7.3] The lightness of a playground standard, through which a child experiences something like flight, is contrasted by the actual weight of the object as well as connotational gravity of the sentiment. The object leaves the viewer to “swing” between potential meanings. In such works Zorio welcomes the intersecting and contradictory connotations of lead, and thus the deployment of the material deflects attention away from the artist, not toward him.<sup>34</sup>

The cultural revolution that formed the context for Zorio's work in 1960s Italy had different specific touchstones in the United States. The civil rights, youth, and feminist movements, the ongoing war in Vietnam, as well as the high-profile assassinations of Martin Luther King Jr. and Robert F. Kennedy were among the events that made the late 1960s among the most turbulent years of the American postwar period. Writing about Serra's work of this period, Douglas Crimp argues that *Splashing* is tied to this broader social reevaluation. In the context of a year in which so many had taken part in demonstrations against oppression and imperialism, Crimp claims that Serra's work reflected that violence in its site-specificity—the way it would have to be destroyed in order to be moved.<sup>35</sup> That is, the work rejects being made into a luxury object in its refusal of portability. However, in refusing to leave its fate to the viewers, dealers, curators, and collectors of the art world, Serra's site-specificity can also be read to return agency to the artist as the arbiter of the work's status.

### Divergent Translations: Bern and Amsterdam c. 1969

In retrospect, the show at Castelli was one of the bellwethers of the art of its moment, since all of the artists included in its brief run were soon to be included in major international exhibitions in the following year, especially the near simultaneous *Op Losse Schroeven* (On Loose Screws) in Amsterdam and *Live in Your Head: When Attitudes Become Form*, which traveled widely after opening in Bern. Whereas in New York both artists were working with lead in ways that emphasized process, in the later exhibitions the differences in the meaning of process to their projects become clear. Serra reprised versions of *Splashing/Casting* and showed several prop pieces in both subsequent shows. Zorio did not exhibit works using lead in either 1969 exhibition, yet the themes of energy, danger, and psychological tension presented by his earlier experiments were amplified.

If the *Untitled (leads)* Zorio exhibited at Castelli invited communication with a viewer, these later works made explicit the energy of such exchanges. For

Amsterdam, he wrote messages in invisible ink on paper, which when set upon a heated copper plate would become briefly legible before the paper incinerated. This performance structure gave the written words the same urgency and fleeting temporality as speech: a direct communication that persisted only in the mind of the participant who received the message. In Bern, his *Giunchi con arco voltaico* (*Reeds with Voltaic Arc*, 1969) discharged an intermittent electric arc into a bundle of reeds, which audibly crackled each time they absorbed the charge. He also contributed a work that consisted of a suspended rope bridge on which lit torches burned to extinction and were replaced with new ones. Considered in the sociopolitical context of Italy in 1969, the latter work connotes the quickly consumed flames of youthful protest. At the same time the accumulated ashes below sculpture testify to the persistence of matter and memory, as well as the material transformation inherent to the discipline of sculpture itself.

Zorio's non-lead works in these 1969 shows are therefore linked to the leaden ones by virtue of their consideration of the receiving subject, their amplified demonstration of energy exchange, and their conceptual probing of the material world through sculpture. Lead was important for certain works because it helped him demonstrate certain ideas, draw out contradictions, and extend the potential meanings of his works so that they might be completed through subsequent encounters.

Reprising the *Splashing/Casting* works for both exhibitions, Serra continued to use lead to explore the myriad ways human force could transform a material, placing the artist back at the center of process. Through this physical aspect, such works were further read as connecting to the expressionist mythology of mid-century American art through their refusal of its codes. Surely, lead's easy malleability allowed Serra to work quickly, and to demonstrate the process of a work's making through traces of the hand and tool on the object itself.<sup>36</sup> The repetition of these works in different contexts opened another potential vein of meaning for Serra: because of their aggressive site-specificity, the works can be seen as materialist critiques of art and its institutions at a time when many of the institutions of American culture were under scrutiny.

Looking at the development of their works between 1966 and 1969—the short period after first taking up lead as a material—it seems clear that Zorio and Serra were traveling on parallel paths. Neither is Zorio better understood as a Post-Minimalist nor is Serra a lost Arte Povera adept, and their respective uses of lead must be understood separately. In 1969, Trini wrote an essay titled “A New Alphabet for Body and Material” that gives a contemporary perspective on the

conundrum of qualifying the apparent correspondences among artists of Zorio's and Serra's generation. The critic eschewed restrictive labels and movements in favor of descriptions of how these artists approached their work.<sup>37</sup> Some artists, he claimed, shifted the emphasis of their work to humanity and subjectivity, while other focused on raw materials, plasticity, and process. Where there were overlaps, he cautioned against reading these likenesses as constituting a new movement, since most artists were disavowing the labels that might limit their work. Rather, he argued that any shared tactics that were recognized signified a variety of new ways of thinking, or, more precisely, diverse means of putting new thoughts into practice.

If one looks only at the deployment of a single material like lead, it could be tempting to see a defining connection among artists, whereas in the context of their larger projects the differences speak louder than the similarities. After his experimental lead works of 1967–69, Serra largely switched to using steel, while for Zorio lead's physical properties and evocative connotations continued to be ideal for some chemical and environmental experiments undertaken after 1969. He used it, though infrequently, when it suited the needs of a particular work. When Zorio chose materials like lead, it was because either their resistance or reactivity aided the open poetics of his sculptural pursuits.<sup>38</sup> Phosphorescent paint, asbestos cement, live incandescent wires, as well as various acids, salts, and alcohols frequently feature in Zorio's works of the 1970s and 1980s as a means to create active, fluid works that transform in the spatiotemporal frame of the exhibition, and seem to "live" along with the viewer. Each material serves the explicit concept of the work and supports the larger project of making energy palpable.

When these non-traditional substances entered Zorio's lexicon of sculpture, they lost their industrial function and became part of an alphabet for physical and conceptual demonstrations. Like any letter is only a building block for communicating ideas, lead was only one part of his material investigation of the phenomenal world. In the case of lead, specifically, its potential toxicity is countered by its protective characteristics; its connotations of postwar industry balance its association with alchemy and ancient civilizations; and the contrast between lead's non-reactivity and its compliant nature parallels the artist's own generous stance toward the potentially divergent meanings in the reception of his works. Thus, the multivalent material connotations of working with lead telescopes out to Zorio's larger artistic project, which aims to reveal potential energy and to unlock possible meanings in the perceptible world.

## Notes

- 1 Gilberto Zorio, "An interview with Jole de Sanna," trans. Daniella Dangoor, *Data* 3 (April 1972): 75.
- 2 "Oggi si scrive (e non cito gli autori) sull'Arte Povera in quanto uso di materiali bruti, rozzi, e si sbaglia tutto. Di quest'uso dei materiali si è fatto un nuovo materialismo. I materiali sono quelli che sono e sono stati usati nella giusta dimensione. Per esempio, io uso l'eternit perché è un materiale che regge al calore, ottuso per eccellenza, e lo metto in contrapposizione al cloruro di cobalto, materiale ipersensibile per eccellenza." Gilberto Zorio, "Interview by Mirella Bandini," in *1972: Arte Povera a Torino*, ed. Mirella Bandini ([1972] Turin: Allemandi, 2002), 101. My translation.
- 3 Yve-Alain Bois picked up where Panofsky left off, developing this concept in several essays that provide the most thorough analysis of contemporary offenses of pseudomorphism. Most notably, Bois investigates the spurious charge that Sol Le Witt "stole" the idea for one of his monochromatic works from Francois Morellet. He argues that when encountering an artwork, the context in which it is exhibited may prevent it from being seen as connected to other artworks, ideas, and contexts, or indeed to one's own project. Yve-Alain Bois, "On the Uses and Abuses of Look-alikes," *October* 154 (Fall 2015): 127–49.
- 4 For a thorough investigation of this phenomenon, see Elizabeth Mangini, "Gilberto Zorio's Radical Fluidity," in *Postwar Italian Art History Today: Untying 'The Knot'*, ed. Sharon Hecker and Marin Sullivan (New York: Bloomsbury, 2018), 245–60.
- 5 Germano Celant, "Arte Povera: Appunti per una guerriglia," *Flash Art*, no. 5 (November–December 1967): 3.
- 6 Robert Morris, "Anti-Form," *Artforum International* 6, no. 8 (April 1968): 35.
- 7 See Jeffrey Weiss, "Due Process: Richard Serra's Early Splash/Cast Works," originally published in *Artforum* (November 2015), reprinted in this volume.
- 8 Max Kozloff, "9 in a Warehouse," *Artforum International*, January 1969, 38.
- 9 Robert Morris, "Anti-Form," *Artforum International*, April 1968, 35.
- 10 Zorio, conversation with author, September 4, 2018, Turin.
- 11 Metallic lead exposed to air, as opposed to a theoretically pure elemental lead, carries a layer of lead oxide on its surface, making its available surface area very slow to react to acids and salts.
- 12 Carolyn Christov-Bakargiev, "Gilberto Zorio: Before the Words Burn Up. A Conversation," in *Gilberto Zorio*, ed. Marcella Beccaria (Milan: Skira, 2017), 79.
- 13 Zorio, conversation with author, September 4, 2018, Turin.
- 14 Clara Weyergraf, ed., "Interview: Richard Serra and Bernard Lamarche-Vadel (New York City, May 1980)," in *Richard Serra: Interviews, Etc., 1970–80*, ed. Richard Serra and Clara Weyergraf-Serra (Yonkers: Hudson River Museum, 1980), 142.

- 15 Richard Serra, *Richard Serra: Writings/Interviews* (Chicago: University of Chicago Press, 1994), 3–4.
- 16 Trini here cites Allan Kaprow's assessment of the state of painting in the United States after Abstract Expressionism, a zero ground that eventually led Kaprow to move away from such plastic works toward dematerialized events and "happenings." "È il problema del 'controllo artistico,' enucleato e posto in crisi dalle idee di Kaprow: lo si vuole eliminare, ospostare, per aumentare il quoziente di coinvolgimento nell'atto creativo." Tommaso Trini, "L'Immaginazione conquista il terrestre," *Domus*, no. 471 (February 1969): 50.
- 17 Kozloff, "9 in a Warehouse," 42.
- 18 The photograph in question is from late 1969, when Serra created a version the work for a solo show, again at Castelli Warehouse, a year after the first splashing piece. It was taken by Gianfranco Gorgoni.
- 19 Zorio, conversation with author, September 4, 2018, Turin.
- 20 To be clear, this was the first solo show he had at Sperone, and the first one of his post-academy career. Zorio had a previous solo show in 1963, when he was only eighteen years old, at Piccola Galleria d'Arte Moderna in Turin, where he showed drawings as well as sculptures made of polystyrene and terracotta.
- 21 "Zorio presenta un gruppo di lavori che mostrano l'azione, e lo spettacolo, di alcune legge fisiche tanto elementario quanto assurde." Tommaso Trini, *Zorio* (Turin: Galleria Sperone, 1967), unpaginated brochure. My translation.
- 22 Indeed, Zorio also spoke out against reading a new materialism in his work, during an aforementioned interview with Bandini in 1973: Zorio, "Interview by Mirella Bandini," 101.
- 23 Mirella Bandini, "Gilberto Zorio's Stars," *Data*, no. 24 (1977): 37–8.
- 24 Umberto Eco, "Form and Interpretation in Luigi Pareyson," in *The Open Work*, trans. Anna Cancogni ([1962] Cambridge, MA: Harvard University Press, 1989), 160.
- 25 Indeed, in the later 1960s Eco and Celant worked together on *Marcatrè*, an arts magazine for which Eco was on the editorial board and Celant was the managing editor.
- 26 Bandini, "Zorio's Stars," 77.
- 27 Jole de Sanna, "Gilberto Zorio: An Interview," trans. Daniella Dangoor, *Data*, no. 3 (1972): 75.
- 28 Christov-Bakargiev, "Gilberto Zorio: Before the Words Burn Up ...," 79.
- 29 See Robert Lumley, *States of Emergency: Cultures of Revolt in Italy from 1968 to 1978* (New York City: Verso, 1990), 112. See also Pietro Derossi, "Anni Cinquanta/ Settanta, alcuni ricordi," in *Un'avventura internazionale: Torino e le arti 1950–1970* (exhibition catalogue), ed. Ida Gianelli (Turin: Castello di Rivoli and Milan: Charta, 1993), 175–7.

- 30 Alessandra Mammi, "Gilberto Zorio, artista alchimista," *L'Espresso*, October 20, 2017. Available online: <http://espresso.repubblica.it/plus/articoli/2017/10/12/news/gilberto-zorio-artista-e-alchimista-1.312002> (accessed May 1, 2019).
- 31 Zorio, Interview by Bandini, 325.
- 32 Zorio, conversation with author, September 4, 2018, Turin.
- 33 Throughout the 1970s, lead was widely invoked to refer to the political crises of the decade, which culminated in the 1978 sequester and murder of the country's former Prime Minister Aldo Moro. See, for example, Umberto Eco, "Il silenzio è di piombo," *L'Espresso*, April 2, 1978, 13–15.
- 34 Certainly, there are a few works made by Zorio in this period that could be considered actions. These include *Fluidità radicale* (*Radical Fluidity*, 1969–70) and *Odio* (Hate, 1971), both of which are photographic documentations of actions performed for the camera, not for an audience. While the 1969 version of *Odio* that I mention in the text does use lead as a material in the space of the viewer, neither of these performative works features lead. More importantly, these photographic documentations use the artist's body as a material or tool for demonstrating a concept, not as a means to assert authorial primacy. As photographs of actions, they are exceptions that prove the rule: Zorio's work is primarily oriented toward creating direct experiences of energy in the phenomenological space of the viewer.
- 35 Douglas Crimp, "Serra's Public Sculpture: Redefining Site Specificity," in *Richard Serra/Sculpture*, ed. Rosalind Krauss (New York: The Museum of Modern Art, 1986), 43.
- 36 Rosalind Krauss, "Portrait of the Artist ... Throwing Lead," in *Richard Serra Sculpture*, ed. Krauss (New York: The Museum of Modern Art, 1986), 19.
- 37 Trini, "Nuovo Alfabeto per Corpo e Materia," *Domus* 470 (January 1969): 46–8. Reprinted in English as "A New Alphabet for Body and Material," in *Arte Povera = Art Povera*, ed. Germano Celant (Milan: Electa, 1985), 109–13.
- 38 The artist notes his own naiveté as to the toxicity of materials when describing a work he made while still a student at Turin's Academy of Fine Arts in 1965. There he had used ammonium dichromate crystals, which are carcinogenic, to catalyze the color change of a polystyrene and wood sculpture. See Christov-Bakargiev, "Gilberto Zorio: Before the Words Burn Up ...," 78.

## The Stopping Power of Lead: Luciano Fabro, Giuseppe Penone, and Marisa Merz

Sharon Hecker

Many artists associated with Arte Povera have used lead as a material, but three of them—Luciano Fabro, Giuseppe Penone, and Marisa Merz—have juxtaposed it with vegetal motifs in their art.<sup>1</sup> Fabro explored the connection in *Felce* (Fern, 1968–69), *Edera* (Ivy, 1969), *Corona d'alloro. Facsimile* (Crown of Laurel. Facsimile, 1969), and *Corona di piombo. Facsimile* (Crown of Lead. Facsimile, 1969–71); Penone related the vegetal to lead in *Alpi Marittime. I miei anni collegati da un filo di rame* (Maritime Alps. My Years Linked by a Copper Wire, 1968); recently, Marisa Merz has combined the organic and lead in a sculpture titled *Fontana* (Fountain, 2015). Such juxtapositions merit examination. By looking at the historical and traditional significance of these materials, a new understanding of meaning in these works emerges.

It might be easy to understand the use of nature and plants, as well as lead in these works, simply as a return to the raw materials commonly used by Arte Povera artists. It might also be easy to write off the linking of lead and the vegetal as a random, arbitrary association. Or else, one could consider it the product of aesthetic connections made between diverse “poor” materials in a manner that has traditionally characterized Arte Povera. The recurrence of this juxtaposition of materials, however, suggests that something meaningful might be at stake. In this chapter, I suggest that by examining historically associated symbolism of plants and lead, the focus can be shifted from materials per se to a combination of materials that generate meaning. This sense of the meaning of material juxtapositions is explicitly stated or implicitly suggested by all three artists.

Plants are known as signifiers of the lively process of natural growth, while lead has an association with the opposite properties of stasis, stability, taking

<sup>1</sup>I would like to thank Dr. Judith Hecker for her precious insights on lead, as well as Silvia Fabro, the late Marisa Merz, and the Archivio Giuseppe Penone for information on the works discussed in my chapter.

stock, and containment. Traditionally associated with Saturn, lead was connected with old age and the limitations of death. For this reason, its alchemical symbol was an old man with a wooden leg and a scythe. For the same reason, lead was associated with entombment in Ancient Egypt. Lead's power to stop motion is mined in metaphors such as Shakespeare's quip about shooting an arrow that will fly "as swift as lead."<sup>2</sup> Vestiges of lead's stopping power are retained in linguistic metaphors. True to its chemical weight as a heavy, dense element, lead is connected with symbolic heaviness in words such as "aplomb," signifying groundedness and self-possession, and in the Italian expression *andare con i piedi di piombo* (walk with leaden feet), meaning slowing down in order to proceed with caution. I contend that the juxtaposition of the lead with the vegetal in these works can be read as the artists' exploration of two contrasting temporal forces—growth and stopping of motion—that, taken together, suggest a dynamic of artistic creation.<sup>3</sup>

The connection between the vegetal and lead as oppositional signifiers of motion and stopping has a long history. The archetypal example is found in the Ovidian myth of Apollo and Daphne. The story begins with Eros, god of Love, punishing Apollo for having boasted about being the better archer. To prove Apollo wrong, Eros shoots a golden arrow into Apollo's heart, which makes him fall in love with the wood nymph Daphne. At the same time, Eros shoots a lead arrow into Daphne's heart, causing her to be unmoved by Apollo's desire. Apollo pursues Daphne through the forest. On the verge of being captured, Daphne calls out to her father the river god Peneus (or, in other accounts, to her mother, Earth) to save her. At the moment Apollo catches up and tries to embrace her, she stops, leaden, in her tracks, and is turned into a laurel tree. Apollo then worships Daphne through poems of praise and creates for himself a crown from the leaves of the laurel, an evergreen that, like his love, can never decay.

Lead's stopping power is the motor for the myth: the lead arrow causes Daphne to be unresponsive to Apollo's desires, to stop her in her tracks and eventually to be transformed from human into a laurel tree. Essential to the process of metamorphosis, lead has the crucial effect of stopping the action and then transforming human experience into artistic achievement. The Ovidian myth suggests that it is through this stopping that transformation of nature into art becomes possible.<sup>4</sup> Classicist Norman O. Brown suggests that Daphne's transformation is a sublimation of nature in order to give eternal voice to the poet, so that lead's stopping power is seen as a way to transform nature into art.<sup>5</sup>

This chapter bases its methodological framework and justification on these known associations of lead and the vegetal, as well as on the ways in which the

three artists in question reflect on their respective creative processes. During his lifetime, Fabro meditated extensively and wrote about his ideas on these works, placing them in the broader context of art history and human thought. Penone photographed his performance of making his work, wrote in an instinctual way about his process and shared his fantasies with the viewer. The most opaque of the three is Marisa Merz, who remains silent, refusing to communicate her thinking, presenting instead the finished artwork to the viewer and leaving it open to interpretation.

Each work discussed contributes to my analysis of lead's stopping power in a different way. Fabro's sculptures and writings lay out an intellectual and art-historical roadmap to a creative process that is only implied in Penone and Merz, but, as will be discussed, is crucial to all three. Penone's work shows lead to be a marker of the artist and his lifespan; Merz's sculpture gives new meaning to lead as a container for artistic creation.

### Lead, Plants, and Iconography: Luciano Fabro

Luciano Fabro began juxtaposing the vegetal and lead in the late 1960s, after making a series of rigorous, minimal geometrical metal forms. The first two of these works, *Felce* and *Edera*, appear similar in conception: Fabro pressed dried leaves of each plant between glass and lead sheets, wrapping lead around the borders of each work. [Figures 8.1 and 8.2]. In *Felce* the lead sheet follows the shape of the plant while in *Edera* the lead support is rectangular, and the plant conforms to the shape of it. Fabro approached nature with the classificatory impulse of a botanist in a way that recalled ancient *Erbari*, or compendia that preserve dead specimens for future study. The third and fourth works, *Corona d'alloro. Facsimile* and *Corona di piombo, Facsimile*, comprise repeated sequences of small "leaves" shaped out of lead that together reproduce the form of a laurel wreath or crown. [Figure 8.3] In the former work the "leaves" are more realistically depicted, while in the latter they are more stylized.<sup>6</sup>

Upon initial inspection, Fabro's botanical sculptures seem to embody Arte Povera's common use of "poor" materials as well as creative interventions with elements from the natural world. However, Fabro took care to distinguish these works from Arte Povera, writing: "It could have seemed to be a poem about nature. No. It could have seemed to be a caption about the use of uncommon materials. No. It could have seemed to be an aesthetic solution. No." In creating



**Figure 8.1** Luciano Fabro, *Felce*, 1968. Lead, fern, glass. 125 × 92 cm. Private Collection. Photo © Silvia Fabro (Archivio Luciano e Carla Fabro).



**Figure 8.2** Luciano Fabro, *Edera*, 1968–69. Lead, ivy, and glass. 153 × 87 × 8.9 cm. Private Collection. Photo © Silvia Fabro (Archivio Luciano e Carla Fabro).



**Figure 8.3** Luciano Fabro, *Corona d'alloro. Facsimile*, 1969. Lead, iron, hay. Diameter 102 circa × h 15 cm. Private Collection. Photo © Silvia Fabro (Archivio Luciano e Carla Fabro).

these works, Fabro stated that he had discovered “the theorem of the closed form. Yes, of iconography.”<sup>7</sup> Deliberately blocking the facile interpretation of his vegetal/lead sculptures as quintessential Arte Povera works, and linking them instead to their iconographic associations, Fabro provided an interpretive art-historical roadmap. Although he was not always univocal in readings of his own works, with this statement he pointed to art history’s method of iconography—literally, writing with images. Iconography, then, can provide one avenue for exploring these works.<sup>8</sup>

Through iconography Fabro said he embarked on an examination of the linguistic forms of nature as essential to his art-making process. By means of these works, he reached back in time to the roots of Western culture in order to recover pre-modern associations between plants, lead, and human creativity as imagined by authors ranging from Ovid and Dante to Petrarch and Shakespeare, and as seen in iconographic emblems from the Renaissance period.<sup>9</sup> Fabro claimed that his aim was to make the materials he used reverberate meaningfully. He stated, “I have no doubts about [my choice of] the materials, but I am not interested in them as materials, but rather as something that is made to resonate; my problem is not the materials [in themselves], but that they reverberate.”<sup>10</sup>

Fabro described to critic Jole De Sanna his process of making *Felce*:

In making *Felce*, the artist began with a fern branch that, once dried, started to crinkle along its edges. Then he cut the glass to match [it], and then [he cut] the lead sheet. He considered the fern in its arrangement, profile, and colors while it was drying, then he found the glass and the way to cut it, and lastly the lead as a means of involving it. All this did not aim to represent the form of a fern leaf again, but rather to make the three things flow together. Through this respective turning of the object's elements the realization of the work's form, the fern, occurs.<sup>11</sup>

If we follow Fabro's roadmap, we can begin with the iconography of ferns. There are very few symbolic images of ferns in Western art. From antiquity to the present, the fern has been used mostly as a decorative pattern due to its beautiful shape that is mathematically determined by Fibonacci fractals. Fabro's selection of the simple fern as his first botanical subject suggests a desire to explore nature's earliest qualities in his art. Through the fern, he created a bridge back to the oldest evolutionary links to primordial plant life, highlighting one of the most ancient, primitive Mediterranean plants, fossils of which have been found dating from 360 million years ago. He may have been interested in the way ferns can reproduce autonomously.<sup>12</sup> Delicate plants that typically live in the shade, ferns reproduce from within themselves via microscopic spores from which new plants can grow.<sup>13</sup> Furthermore, he may have been attracted to this plant's qualities of rejuvenation. In the mountains of Sicily, ferns are considered symbols of rebirth since they thrive and are ubiquitous in volcanic ash generated from eruptions that kill off all other vegetation.

Fabro's writing on lead has numerous implications. In some discussions he remarked on an interest in the gray color of lead and how it played against the color of the plant, as well as on the softness of lead and the haptic sense of tactility it offered to his hands, all of which provided ways for the works to resonate meaningfully.<sup>14</sup>

It seems clear that the juxtaposition of lead, glass, and the vegetal was significant for Fabro. In the manner of *Felce*, he created a front-piece for the tomb of his wife Carla out of sheets of lead and glass, with a vegetal branch of cotton pressed between them. He framed the entire front-piece with lead fringes, echoing the way in which he made *Edera*. On his own tomb, his daughter Silvia echoed her mother's front-piece by bending the lead to enclose the glass in a way that recalls the flouncy pattern of *Felce*.<sup>15</sup> Fabro's viewpoint is consistent with early notions of lead coffins such as the one in which Osiris was buried in Ancient Egypt. In these stories, entombment in lead is seen as a way to preserve intact something valuable for rebirth at a future moment.

Fabro's second work, *Edera*, is a similar enclosure of a plant within a glass and lead sheet. The work is composed of multiple dried ivy vines in a horizontal and vertical grid with glass on top, sealed into a fringed lead frame. In contrast to the way he created *Felce*'s shape by following the natural outline of the plant, Fabro's composition of *Edera* is a more artful arrangement, recalling ivy's dual growth pattern: young non-reproductive ivy spreads horizontally, while mature, reproductive ivy expands vertically. Unlike the naturally formed frame he made for *Felce*, for *Edera* Fabro created a square lead frame that resembles a work of art. Unlike *Felce*, which is exhibited on the ground, *Edera* hangs on a wall like a painting.

Botanically and iconographically, *Edera* is a more complex piece. In keeping with the plant's ambivalent botanical qualities, ivy has been linked by numerous symbolic associations to vigorous growth, both good and bad. For this reason, it has countless representations and multiple meanings. To give some examples, ivy's ability to wrap itself around trunks and columns, like limbs in a lover's embrace, associates it with images of support, reciprocal love, and fidelity. Ivy's tenacity symbolizes virtue, firmness of will, and devotion. It is found wrapped around the waist of St. John, as a sign of his connection with the pagan world of Dionysus and his unwavering dedication to Christ. Ivy's tenacity has made it an iconographic emblem of regeneration. The ancients compared it to serpents that seem to be reborn after shedding their dead skin. Ivy appears winding around a dead or chopped-down tree in several *Pietà* images, foreshadowing the resurrection of Christ. Similar imagery connects ivy to the faithful clinging of eternal love, or life after death, when entwined onto *memento mori* and tombs.

In its negative sense, ivy's vigorous growth made it a symbol of uncontrolled sensuality, eroticism, and lust.<sup>16</sup> Numerous examples of this were created by the father of Renaissance iconography, Cesare Ripa, in his book of emblems titled *Iconologia*, a copy of which Fabro owned. Perhaps Fabro's discovery of the importance of iconography has its roots in his reading of Ripa's book. Ripa's *Libidine*, for example, is portrayed as a beautiful robust woman wearing an ivy crown.<sup>17</sup> Ivy's unbridled growth links it to corruption, for the plant can suffocate whatever it wraps around. In Ripa's emblem for *Carezze amatorie*, ivy's embrace binds, encircles, loves, and chokes.<sup>18</sup> His emblem for *Tenacità* makes ivy like a lover, clinging to a wall even after death, a caress that destroys the wall since ivy pulverizes whatever comes in its path. In its most negative form, ivy is associated with ingratitude, thanklessness, and false friendship because its unrestrained growth kills its host, as in Barthelémy Aneu's iconography for *Picta Poesis* (1552), which shows the harmful union of a tree covered with winding ivy.<sup>19</sup>

This same unrestrained vitality associates ivy with negative artistic creativity. Its uncontrollable growth was connected with unrestrained creative profusion. Ovid portrays Arachne as the weaver who oversteps her mortal boundaries, challenging the gods with her ivy-bordered tapestry. This metaphor is thought to reflect the mode of poetic transgression used by Ovid himself in writing *Metamorphoses*.<sup>20</sup> Most strongly, the association of ivy with uncontrollable creativity links it to the pagan Dionysus, who was known for wild, frenzied rituals and whose name comes from *kissos*, the Greek word for ivy.<sup>21</sup> Classicist J.B. Trapp notes: “the smoky and disreputable songs of a hedgerated [ivy-clad] and frenzied devotee, or the lubricious elegances of a love poem are not for the priest of Apollo, whose exaltation is of a purer and nobler kind.”<sup>22</sup> This distinction between Dionysian and Apollonian poetry is expressed in Ripa’s iconographic emblem, titled *Furor poetico*, which depicts a male figure furiously engaged in the inspired act of writing poetry; the figure’s waist and genital area are flanked by a ring of ivy while his head bears a crown of laurel, the plant of Apollo.

Fabro’s *Edera* is a dried plant whose life sap has been drawn out. Was his physical act of pressing ivy between glass and lead just an act of botanical preservation? Could this juxtaposition also reflect Fabro’s sense of his own creative process: an attempt to control and compress into an essence the plant’s overwhelming vital power? Was he attracted to ivy’s capacity to inspire poetic furor, but wary that this vigor may corrupt and suffocate? What is the role of lead in Fabro’s process?

Consider Ripa’s iconographic emblem for *Pertinacia*: a female figure dressed in black covered with vigorously climbing ivy while on her head is a cast-lead die. [Figure 8.4] Lead’s power to stop ivy’s unrestrained growth makes this emblem a symbol of firmness and stability. Like the lead die, Fabro’s lead frame may be read as a way to halt ivy’s characteristic action and liberty, remaining true to lead’s attribution to Saturn, the god of boundaries, borders, and limits.

Fabro’s *Corona d’alloro, Facsimile*, and *Corona di piombo, Facsimile*, abandon the plant-and-glass formula in favor of a vegetal sculpture entirely wrought from lead. Foregoing real leaves, he transposes nature’s vital forces onto the lead while preserving the plant’s essential form and qualities. No longer a real plant, Fabro’s artful reproduction now achieves the highest iconographic value through replication: hence the word “facsimile.”

For Italians, Fabro’s work has an iconographic association with the mourning wreaths or garlands placed for military heroes at commemoration ceremonies, to remind one of these figures’ victory and glory, in reference to the laurel crowns

## PERTINACIA



**Figure 8.4** Cesare Ripa, *Pertinacia*. In Cesare Ripa, *Iconologia* (Rome: Appresso Lepido Facij 1603).

that were placed on the heads of victorious Roman generals.<sup>23</sup> As well, the laurel wreath is associated with those conferred upon great poets and athletes from Ancient to Renaissance times. This significance is also present in the Italian university term *laureato* (graduate). All of these three are based on laurel leaves, which have always been the sacred plant of Apollo.

This reference to Apollo, the god of poetry, and his sacred plant, the laurel, recalls the myth of Apollo and the nymph Daphne, from her transformation into a laurel tree, which leads to Apollo's creation of poetry in singing her praises.<sup>24</sup> It

extends to the symbolism of Dante and Petrarch, two of Italy's most celebrated poets. In *Purgatorio*, Dante writes: “*e coronarmi allor di quelle foglie*” (and crown me then with those leaves), playing on the words *allor* (then) and *alloro* (laurel). With this artful pun, Dante expressed his dual desire to be crowned “*allor*” (with laurel, “those leaves” of the poet’s crown), but also “*allor*” (“later,” in the future, after his death).<sup>25</sup> Dante was only crowned for his poetic accomplishments posthumously, through the laurel wreath placed on his grave in 1321. The laurel crown further recalls Petrarch’s coronation in Rome, his *laurea*, the *lauro*, and his desire to connect his poetic success with the creative pursuit of his ever-unattainable, beloved Daphne-like muse, Laura, whose name evokes the Italian word for laurel.

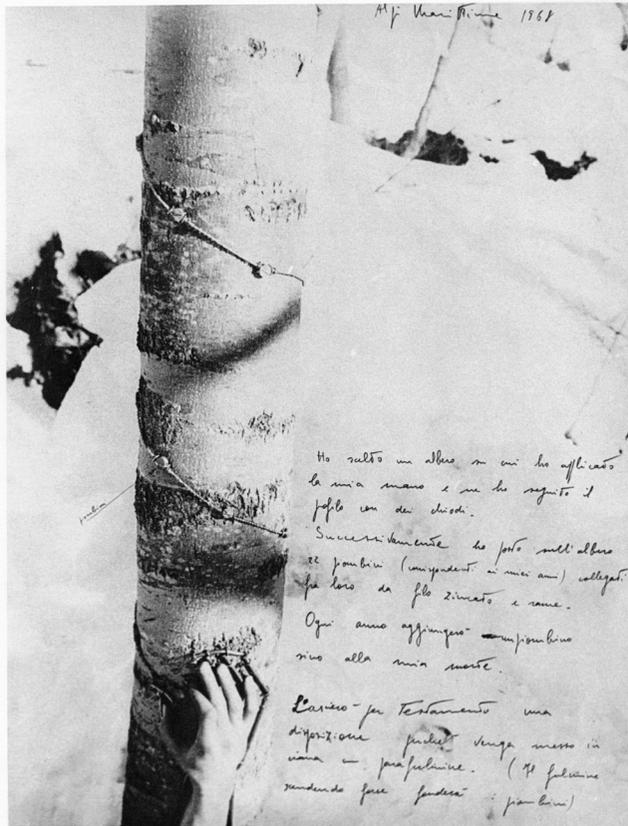
In transposing laurel to lead, Fabro may have been seeking to suggest metamorphosis.<sup>26</sup> Like the arrested and transformed Daphne as well as the leaden cases of *Felce* and *Edera*, lead stops nature’s proliferation. Interpretations of the myth imply that stopping the motion has a superior objective. The simultaneous stopping of Daphne and the staunching of Apollo’s desire through her loss are read as the path to achieving a higher poetic goal.

### Lead, Tree, and Lightning: Giuseppe Penone

Giuseppe Penone’s *Alpi Marittime. I miei anni collegati da un filo di rame* (Maritime Alps. My Years Linked by a Copper Wire, 1968) juxtaposes the vegetal with lead in a more instinctual and aggressive manner.<sup>27</sup> [Figure 8.5] His work consists of an action he performed in a forest near his home in Garessio near Torino. Penone traced the form of his hand in nails on a tree trunk and then affixed twenty-two pieces of lead, his age at the time, joined by zinc and copper wire. He then photographed the performance and added a handwritten note to the photograph:

I chose a tree on which I applied my hand and I followed its profile with nails. Subsequently I placed onto the tree 22 lead weights [*piombini*] (corresponding to the number of my years [my age]) tied to each other by a [galvanized] zinc and copper wire. Every year I will add a lead weight [*piombino*] until my death. I will leave a disposition so that a lightning rod will be placed on top of the tree. (The lightning will perhaps melt the lead on its way down.)<sup>28</sup>

The juxtaposition of lead and tree in Penone’s work through this performance, the subsequent photograph of it, and the note he added to the photograph all read as a personal manifesto of the artist’s process and trajectory over time.



**Figure 8.5** Giuseppe Penone, *Alpi Marittime. I miei anni collegati da un filo di rame*, 1968. Titled by artist: “I placed my hand on a tree and marked the outline with nails. Later I attached 22 lead weights (representing my age) on the tree and tied them together with galvanized wire. I’ll add a weight every year until I die. In my will I’ll leave a disposition that a lightning rod be placed at the top of the tree—maybe the lightning will melt the lead on its way down.” Photo © Archivio Penone.

As distinct from Fabro, for whom each botanical form was related to a specific plant, Penone’s tree is not specified. The tree will become the emblem and archetype of Penone’s entire oeuvre, symbolizing organic vitality and growth as well as the artist’s life.<sup>29</sup> Unlike Fabro, with his philosophical approach to nature, Penone describes his artistic gesture upon the tree in very personal terms. He connects himself directly and viscerally to nature in an ongoing spatial and temporal flow between agent, action, and outcome.

While his performance is instinctive, Penone’s use of lead in this work seems to be a more carefully considered action. Although critics have translated the

twenty-two pieces of lead as generic “lead weights,”<sup>30</sup> the artist describes the lead pieces with specificity, calling them *piombini*. In Italian, *piombini* are small lead bits or discs.<sup>31</sup> Penone refers to his own lived experience by stating that the *piombini* represent his own age at the time of the performance. He therefore sees the lead as an index of his lifespan. Each *piombino* serves to stop, mark, and seal a recurring moment in his life, from his birth to the present moment. Birthdays occur at an annual set time. They can be moments of stopping in the form of an evaluation and assessment of each year in one’s life. Penone thereby establishes a contrast between the continuous growth of nature and the lead disks used to stop and mark each year of his own existence. True to its iconographic associations, lead anchors and stabilizes the artist within his work and in time, stopping the natural motion of nature in the context of one’s life: taking stock of what one has achieved, or what one imagines will be achieved in the future.

In an analogous process of reflecting, stocktaking, and weighing of his actions, Penone further stopped and marked creation by taking a photograph of his performance. In yet another act of stopping, he added to the photograph the handwritten explanatory annotations for the viewer. These verbal annotations describe his fantasy that lightning will strike the lead *piombini* after his death. In his mind, the violently downward-striking lightning will be so strong that it will melt, dissolve, and open up the lead stops that rise up the tree and are placed at each year of his life. This fantasy reveals an imaginary release of energy in the future. Like Fabro’s laurel wreath, Penone’s stocktaking contains an element of futurity. For Penone, lead is associated with a process of measuring of one’s life within the greater trajectory of time, as well as with a contemplation of his posthumous legacy.

### Lead as Container: Marisa Merz

A recent work by Marisa Merz titled *Fontana* (2015) provides a final example of the combination of the vegetal and lead, as well as of lead’s stopping power for the creation of artistic meaning. [Figure 8.6] Merz often uses lead in her art.<sup>32</sup> For years, she has fashioned thin lead sheets into softly formed yet resilient containers, into which she pours liquids such as wax and water, which become receptacles for symbolic objects. In *Fontana*, she formed a small, rectangular, folded lead container and placed it on the ground. She then filled it with water and equipped it with a motor that kept the liquid moving. Into the fountain she placed a plant, which at first glance seemed to be generic tumbleweed but was identified by the artist as a Rose of Jericho.



**Figure 8.6** Marisa Merz, *Fontana*, 2015. Lead, Rose of Jericho, water, motorized pump. 90 × 90 × 20 cm. Collection of the artist. Photo © Renato Ghiazza, courtesy Fondazione Merz, Torino.

The iconography of both plant and lead comes into play here. Beginning with the plant, the Rose of Jericho (known botanically as *Anatastatica*) lives in the desert and resists droughts. It can survive this way over months or even years, “hibernating” by curling up into a tight tumbleweed-like ball and letting its leaves dry up so that it appears to be dead. The wind can blow the plant around the desert during this period. Within the ball, the fruits of the Rose of Jericho remain attached and firmly closed in order to protect the seeds and prevent them from being dispersed prematurely. The seeds are very hard and can in this way remain dormant for years. Through contact with water, the Rose of Jericho can miraculously regenerate. The ball uncurls and the plant awakens from its dormant state, leading the fruits to open and the seeds to disperse and germinate. For this reason, the Rose of Jericho is also known as the Resurrection Plant.

The formal name of this ancient biblical plant relates to its natural habitat in the desert. Furthermore, its description as a rose associates it with the feminine, through the rose’s association with the goddess Aphrodite and its identification

with the Virgin Mary.<sup>33</sup> Mary is considered the “rose without thorns” due to her purity, and from this association derives the creation of the rosary. The Rose of Jericho’s apparent barrenness and sudden miraculous opening upon contact with water was seen as symbolic of the miraculous opening of Mary’s womb. For this reason, the plant was often displayed at Christmastime. Merz’s insertion of a Rose of Jericho into a container filled with moving, amniotic fluid-like water can be interpreted as a symbolic gesture. Her work re-creates a miraculous act of one of the most profound stories of creation seen from the point of view of feminine experience.

Is it too far-fetched to further intuit in this work an image of the artist’s process and self? How can one ignore the fact that her own name, Marisa, derives from a contraction of Maria Luisa that recalls Maria Rosa, which is a combination of Mary and Rose? How can one avoid noting how her own biography, as an artist who has seemed “dormant” for many decades and rarely exhibited until recently, can be compared to the revitalization of the Rose of Jericho?

In *Fontana*, Merz rephrases the juxtaposition of vegetal and lead with respect to her predecessors. Fabro’s artistic action consisted of pressing the plants in and into lead, while Penone hammered lead into the tree and imagined it struck by lightning. In fashioning lead into a container, Merz allows it to hold the water, thereby creating another form of container. She adds the motor to keep the water moving and fluid rather than stagnant, and places inside this flowing water the resurrection plant. Merz presents lead to the viewer as a vivid image of boundaries that are nonetheless open rather than closed off. Instead of acting on the plant, she floats the plant in the water to elicit and contain the plant’s own natural regenerative properties.

Ultimately, Merz’s *Fontana* allows us to re-imagine the archetypal myth of Apollo and Daphne from a feminine viewpoint. Thus re-visioned, the myth would not take Daphne’s stopping either as her death or the endpoint. Instead, Daphne’s condition would be seen as a form of necessary creative dormancy—the need to go inside oneself in order to survive and come to life again in another form.<sup>34</sup> When considered as Daphne’s story, the myth can be reread as stopping the motion of nature for the purpose of regeneration, of curling up into a tumbleweed-like ball, protecting one’s creative seeds, and eventually of being re-activated in new form at the right time. When the life-juice finally re-emerges, the tree is revealed to have been a protective temporary container. The leaden arrow can be seen as a mode of stopping animation for Daphne’s—not Apollo’s—transformative purposes. Merz envisions lead’s stopping power as a receptacle that can contain, support, and keep open the potential for artistic transformation.

## Notes

- 1 Other Italian artists associated with Arte Povera have used lead in different ways. Examples are Jannis Kounellis, Gilberto Zorio (see the chapter by Elizabeth Mangini in this volume), Giovanni Anselmo, and Remo Salvadori (see the interview with Silvia Bottinelli and Sharon Hecker in this volume). Other postwar Italian artists such as Emilio Prini also used lead in ways that merit further exploration in the future. All translations, unless otherwise noted, are by the author.
- 2 William Shakespeare, *Love's Labour's Lost*, Act III, Sc. 1, line 51 ([1597] London: Palgrave Macmillan, 2008 Edition).
- 3 The meaningful use of vegetation in contemporary art has been widely explored. See, for example, Marga Bijvoet, *The Greening of Art* (Norderstedt: Lex-ikon, 2016). The use of lead in contemporary art has not been examined systematically.
- 4 On Daphne's swiftness vs. her sluggishness and its relationship to Ovid's own mode of poetic expression, see Andrew Feldherr, *Playing Gods: Ovid's Metamorphoses and the Politics of Fiction* (Princeton: Princeton University Press, 2010), 40.
- 5 Norman O. Brown, *Apocalypse and/or Metamorphosis* (Berkeley, Los Angeles and London: University of California Press, 1991), 8–22.
- 6 *Felce* was first exhibited at the *Arte Povera più azioni povere* exhibition in Amalfi in 1968, while *Edera* and *Corona d'alloro. Facsimile* were first exhibited at the Galleria de Nieubourg in Milan in 1969. Fabro reproduced *Edera*, *Felce* and *Corona di piombo. Facsimile* in Luciano Fabro, *Attaccapanni* (Turin: Einaudi, 1978), 72–3.
- 7 The full quote is: “Poteva sembrare una poesia sulla natura. No. Poteva sembrare una didascalia sull'uso di materiali inusitati. No. Poteva sembrare una soluzione estetica. No. *Edera* e, ricordo per inciso quella *Felce* presentata alla mostra d'Arte povera ad Amalfi, sono la proposizione della forma chiusa. Sí, dell'iconografia.” Luciano Fabro, in Jole de Sanna, *Luciano Fabro. Biografia/Eidografia* (Passian di Prato, Udine: Campanotto Editore, 1996), 50. The original quote is in Luciano Fabro, *Vademecum* (Rotterdam: Museum Boymans-van Beuningen, 1981), n.p.
- 8 On the relevance of the role of iconography in art history, see Brendan Cassidy, ed., *Iconography at the Crossroads* (Princeton: Trustees of Princeton University, 1993).
- 9 On how postwar Italian artists appropriate and explore art-historical models, sometimes in order to subvert them, see Denis Viva, “Learning from Artists: Methodological Notes on Postwar Italian Art History,” in *Postwar Italian Art History Today: Untying 'the Knot'*, ed. Sharon Hecker and Marin R. Sullivan (New York: Bloomsbury, 2018), 37–54.
- 10 “Sono certo dei materiali [che uso], ma a me non interessano da materiali, ma come cose fatte per risuonare, il mio problema è che risuonino, non il materiale.” Luciano Fabro, *Luciano Fabro, Letture parallele IV*, exh. cat. Padiglione d'Arte Contemporanea di Milano (PAC) (Cinisello Balsamo: Silvana Editoriale, 1980), n.p.

- 11 See Jole De Sanna, *Fabro* (Ravenna: Essegi, 1983), 100. A slightly different English translation is provided in *Luciano Fabro*, exh. cat., San Francisco Museum of Modern Art (San Francisco: San Francisco Museum of Modern Art, 1992), 104.
- 12 Fabro also wrote: “La natura tende sempre a cercare una nuova relazione, quello che noi chiamiamo adattamento: l’artista sente molto proprio questa forza, di applicare l’esperienza estendendola” (Nature tends always to search for a new relationship, that which we call adaptation: the artist feels this strength to be very much his own, to apply experience by extending it). Luciano Fabro, “Febbraio 1981,” in *Luciano Fabro*, exh. cat. Museum Folkwang, Essen and Museum Boymans-van Beuningen (Essen: Museum Folkwang, 1981), 15. Here and elsewhere, Fabro often speaks of the law of attraction in nature as a model for how he believes art can be created.
- 13 Due to its love of shade, Italian poets such as Cesare Pavese associated the fern with hermits and the related qualities of humility and isolation.
- 14 “Nella Felce si vede la felce sul grigio del piombo,” (In *Fern* one sees the fern on the gray of the lead). Luciano Fabro in Jole De Sanna, *Fabro*, Pinacoteca Comunale di Ravenna (Ravenna: Agenzia editoriale Essegi, 1983), 42. Fabro speaks of the softness of lead in same publication on page 46.
- 15 Silvia Fabro states that she had no intention of creating an artwork by doing this. I am indebted to Silvia Fabro for these and other important information and descriptions of Fabro’s work in lead, which have greatly enriched this essay.
- 16 This iconographic association has been retained in Italian cultural production. In the late nineteenth century, Scapigliatura artists Tranquillo Cremona and Giuseppe Grandi title several sensuous paintings and sculptures *Ivy*. A steamy controversial Italian song of the 1950s by Nilla Pizzi was called “Avvinta come l’edera” (Bound like Ivy).
- 17 See Cesare Ripa, *Iconologia*, ed. Piero Buscaroli (Milan: TEA, 1992). This book was given to me by Fabro, although many other editions exist with different iconographic emblems.
- 18 See Beverly Ormerod, “The Ivy Emblem in Scève’s *dizain* 150,” *Australian Journal of French Studies*, 17, no. 1 (January–April 1980): 58–84.
- 19 Ormerod, “The Ivy Emblem.”
- 20 The various authors who have offered this interpretation are summed up and reviewed in Ann Rosalind Jones, “Dematerializations: Textile and Textual Properties in Ovid, Sandys, and Spenser,” in *Subject and Object in Renaissance Culture*, ed. Margareta de Grazia, Maureen Quilligan and Peter Stallybrass (Cambridge: Cambridge University Press, 1996), 189–209. See also “Arachne’s web: Velasquez’s *Las Hilanderas*,” in *Renaissance Clothing and the Materials of Memory*, ed. Ann Rosalind Jones and Peter Stallybrass (Cambridge: Cambridge University Press, 2000), 89–103.
- 21 Ovid recounts how the nymphs of Nysa screened Dionysus, the mortal Semele’s baby with Zeus, by covering his cradle in ivy leaves to hide him from Hera, wife

- of Zeus, until he was old enough to defend himself. Dionysus later remembered this protective beginning by planting ivy and wrapping it around his thyrsus, and ivy became his emblem. Among the many sources consulted, see Richard Folkard, *Plant Lore, Legends, and Lyrics Embracing the Myths, Traditions, Superstitions, and Folk-Lore of the Plant Kingdom* (London: S. Low, Marston, Searle and Rivington, 1884); Charles Montgomery Skinner, *Myths and Legends of Flowers, Etc.* (Philadelphia and London: J.B. Lippincott Co., 1925); *Emblems of Desire. Selections from the Délie of Maurice Scève*, ed. and trans. Richard Sieburth (New York: Archipelago Books, 2003).
- 22 J.B. Trapp, “The Owl’s Ivy and the Poet’s Bays. An Enquiry into Poetic Garlands,” *Journal of the Warburg and Courtauld Institutes*, 21, no. 3/4 (July–December 1958): 242.
- 23 See also Trapp, “The Owl’s Ivy and the Poet’s Bays,” 234.
- 24 Fabro’s deep engagement with this myth is evident in a work called *Apollo e Dafne* (Apollo and Daphne, 1976), Spanu-Olnick Collection New York.
- 25 Dante Alighieri, *The Divine Comedy*, “Purgatory,” Canto I, line 26, trans. John Ciardi ([1320] New York: New American Library, 1970 edition).
- 26 Fabro wrote that “caratteristica dell’opera d’arte—che forse non è presente nella natura fisica, nella natura-natura in cui la fusione di due elementi ne origina un terzo—è che gli elementi si trovano una volta di più differenziati ma diventano nello stesso tempo un’altra cosa” (characteristic of the work of art—which perhaps is not present in physical nature, in nature-nature in which the fusion of two elements gives origin to a third—is that the elements find themselves once more differentiated but at the same time become something else). Luciano Fabro, in de Sanna, *Luciano Fabro. Biografia/Eidografia*, 172.
- 27 In numerous publications, the photograph is titled *Albero/filo di zinco/rame/piombo* (Tree/Zinc wire/copper/lead, 1968). This title refers to a work in the Pinault Collection (it refers to the original tree in the photograph, which grew but was cut in 1985 due to the beginnings of a disease).
- 28 “Ho scelto un albero su cui ho applicato la mia mano e ne ho seguito il profilo con dei chiodi. Successivamente ho posto sull’albero 22 piombini (corrispondenti ai miei anni) collegati fra loro da filo zincato e rame. Ogni anno aggiungerò un piombino sino alla mia morte. Lascerò per testamento una disposizione perché venga messo in cima un parafulmine. (Il fulmine scendendo farà fondere i piombini).” For the photograph, see Germano Celant, *Penone* (Milan: Electa, 1989), 34. I have translated the text here a little differently from Celant’s translation in order to adhere more closely to the original Italian. It should be noted that the zinc and copper are probably what Penone calls in his text “galvanized wire,” or a copper wire wrapped in zinc to prevent rusting. Or else there may have been two wires: one in zinc and another in copper.

- 29 See, for example, Ida Gianelli, *Giuseppe Penone. Sculture di linfa*, exh. cat. 52nd Venice Biennale Exhibition, Italian Pavilion (Milan: Mondadori Electa, 2007), 16–29.
- 30 Celant, *Penone*, 34.
- 31 These include weights used to weigh down fishing lines; plumb bobs on plumb lines to measure verticality; lead pellets for air guns; and formed disks used to seal packages.
- 32 To my knowledge, lead has never been discussed in relation to Marisa Merz. For discussions related to Merz and materials such as wax, nylon, copper, and salt, mostly in passing, see Germano Celant, *Marisa Merz* (Paris: Editions du Centre Pompidou, 1994), 245. For a discussion of temporality and materials, mostly copper, see Catherine Grenier, “The Thread of Time,” 268 ff. and 274 in the same volume, in which the essay “Da dove viene il rame” (Where does copper come from) is attributed to Marisa Merz. Others, such as Dieter Schwarz, however, have attributed the essay to Mario Merz. See Dieter Schwarz, “The Irony of Marisa Merz,” *October*, 124, (Spring 2008): 157–68.
- 33 Gender fluidity in terms of Marisa’s work is discussed by Richard Flood, “Animating the Essence,” in *Marisa Merz*, exh. cat. (Turin: Fondazione Merz, 2012), 12–19.
- 34 I am indebted for my thinking to the following personal blog. Available online: <http://juliegabrielli.com/2015/06/04/daphne-and-the-laurel-tree/> (accessed October 17, 2018).

## “Mankind Needs Some Lead so as to Be Somewhat Heavier”: Beuys, Alchemy, and Duchamp

Claudia Mesch

Materials and materiality are central aspects of Joseph Beuys’s art. A focus on materiality even marks Beuys’s distinctive practice of performance art, and distinguished it from the Fluxus practices that had drawn Beuys to the medium of performance in the first place. The Austrian artist Valie Export identified this “specific awareness of material” as a characteristic of European performance, or of “actionism”: “Material was the stage for various meanings, not only processing and integrating people’s experiences, but also activating their ability to experience and sharpening their awareness of the meanings the material called forth.”<sup>1</sup>

One of Beuys’s many biographers registered a particularly telling statement by the artist on this subject: “I do not work with symbols; I work with materials.”<sup>2</sup> More directly than other performance artists and European actionists, Beuys integrated a traditional notion of sculpture—the manipulation of physical material beyond the artist’s own body in three-dimensional space—into performance, despite the improbability of this very idea. The material basis of performance as a process of the forming and ordering of “chaotic” matter would become a central notion within Beuys’s totalizing and emancipatory theory of art and a principle that structured his art practice. For Export and other actionists the body remained the threshold of materialist exploration for their art. For Beuys, in contrast, the mutability of physical matter and its consistent tie to numinousness were foundational.

In his art practice, Beuys certainly had a direct sensorial or physical engagement with material, and also with lead. He was very aware of the material- and medium-based experimentation being carried out by his artist-colleagues of the time in Europe and the United States. In fact, Dirk Luckow has tracked

Beuys's points of confluence (and lines of mutual influence) with American anti-form sculptors such as Bruce Nauman, Robert Morris, Eva Hesse, and Richard Serra (the latter artist's work is discussed elsewhere in this volume).<sup>3</sup> And like his Arte Povera colleagues in Italy—who are also discussed in this book—Beuys explored both lead and organic matter as unconventional sources for sculpture.

Yet Beuys's well-known adventurousness with artistic material goes beyond such connections with fellow artists of his time in several ways. As I discuss in this chapter, Beuys worked to expand the medium in his experimentation with unusual found objects and readymades, whose materiality was central to how he selected them. He made use of the idiosyncratic artistic materials of hare's blood, animal carcasses, and of tallow, gold, and lead, for an additional crucial reason.

In a poem he wrote in the late 1940s, Beuys noted, "A blacksmith I'd like to be and give shape to the sounding magical metal."<sup>4</sup> Thus, even early on in his artistic career, Beuys describes the material terrain of sculpture as spiritual in nature, based in the transhistorical realm of hermetic knowledge, and particularly in the alchemical process. He understood that the transformation of (primal) matter that happens in sculpture offered a realm where powerful allegories of numinousness and transformation could unwind. The Beuys literature is replete with references to this dual nature of Beuys's unique antimodernist approach to sculpture and sculptural material: at once concerned with the physicality of material as well as its inherent spirituality.

Therefore, an examination of Beuys's work with lead that exclusively foregrounds lead's physical properties at the expense of Beuys's roots in hermeticism would ignore deeper historical concerns and intentions that infuse Beuys's art and his own self-image as an artist. Perhaps also encouraged by the work of modernist precursors such as Max Ernst and, most of all, his nemesis, Marcel Duchamp, Beuys similarly drew upon the "archaic science" of hermeticism. This chapter then seeks to illuminate Beuys's consistent association of sculptural material with numinousness and with alchemy's systematic understanding of the mutability and inherent spirituality of material as a path of self-discovery.

As part of his fascination with Western alchemy, Beuys frequently engaged lead/Saturn, who has a special place as the *prima materia* within the cosmic unities that alchemy maps for artifices, or its practitioners. In his 1986 lecture "Speaking About One's Own Country: Germany," Beuys associated the materiality of lead with the qualities of *geistiger Mut* (spiritual fortitude), ecological awareness, and not least, with the creative process. In this lecture he

stated the words that I cite in the title of this chapter—“mankind needs some lead so as to be somewhat heavier.”<sup>5</sup> Made within the context of his discussion in the lecture of late twentieth-century environmental concerns regarding the dangers of consuming fish with high lead and mercury levels, Beuys’s comment about the need for humans to up their lead intake is both an exaggeration and a characteristic reversal of logic; his famous phrase “anyway I think with the [my] knee” participates in similar linguistic gymnastics. Most importantly for this chapter, his comment articulates alchemical thinking about the transformative power that alchemists believed was an inherent property of lead. Beuys’s turn to alchemical ideas is consistent with other evidence in his oeuvre of his consistent reckoning with the work of Duchamp, from whom Beuys learned the numinous resonance that the readymade and readymade material could take on within hermetic knowledge systems.<sup>6</sup> This chapter also considers Beuys’s alchemical explorations of lead as another dimension of Duchamp’s continuing influence on his art and their very different alchemical conclusions regarding the Saturnian or masculinist pursuit of art. Yet even as I consider the relation of alchemical myths to aspects of Duchamp’s and Beuys’s art and Beuys’s engagement with the alchemical metal, I am not claiming alchemy as the master narrative that enables us to grasp these artists’ art with a measure of finality. As is always the case, there are multiple layers and hermeneutics to the most compelling artworks, which cannot be exhausted with any singular critical lens. For Beuys, lead provided a means to channel his deep interest in alchemy as an ancient and German system of material and animal symbolism that unified science, art, and spirituality, one of the totalizing goals of his practice.

Much has been made of the symbology of physical material in Beuys’s work, most often in reference to his signature materials of felt and “fat” (in practice this was actually margarine, which he used throughout his oeuvre). In interviews of the early 1970s Beuys suggested that this material essentially functioned as a tactile trigger for his own memories of resuscitation from near-death wartime experience, a rebirth enabled by means of his imagined or hallucinated rescue by the indigenous ethnic Tartar people of the Crimea, the site of his military plane crash during the Second World War. Many thus conclude that because Beuys’s use of material is autobiographical, it is therefore hermeneutically limited. This ignores a web of ancient sources for Beuys’s art: its roots in the ancient science of alchemy, which understood the analysis and manipulation of matter as a process of redemption and rebirth. Beuys’s infamous materials function symbolically as a kind of tactile ouroboros, as matter that is symbolic of the point where death and rebirth are conjoined, just as the serpent’s head symbolically bites its own

tail. The alchemists appropriated this totalizing hermetic symbol of creativity as a process of constant regeneration, one that characterizes the cosmic unity between humans, substance, the planets, and the gods.

In his passion for the numinousness of material and of the sculptural process, it is logical that Beuys would find great resonance in alchemical ideas. James Elkins points out the relevance of alchemy to critical considerations of artistic material and medium in his 1999 materialist treatise on painting, *What Painting Is*:

some art historians ... suggest that since art history is so adept at thinking about what paint represents (that is, the stories and subjects, and the artists and their patrons), then it should also be possible to write something about the paint itself. [...] This is where alchemy can help, because it is the most developed language for thinking in substances and processes.<sup>7</sup>

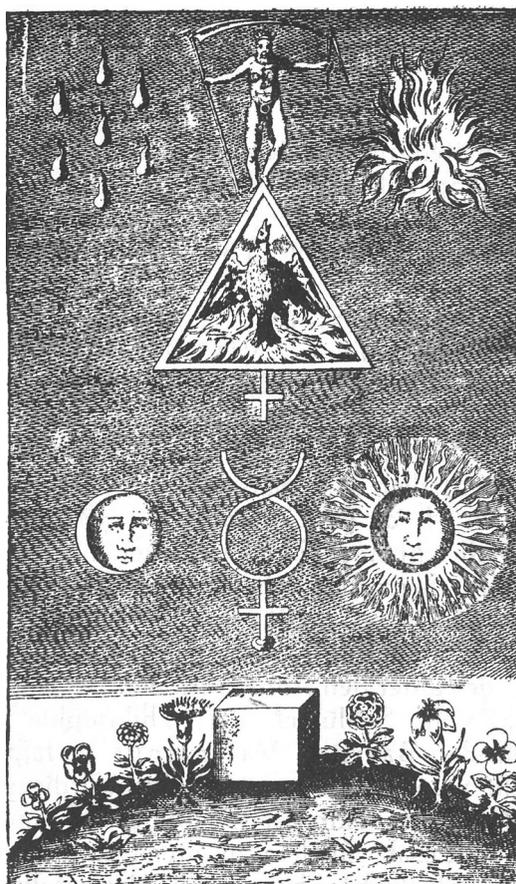
It is not coincidental that several of Beuys's installations, *Scene from the Stag Hunt* (1961), *Barraque dull'Odde* (1961–67), *Show Your Wound* (1976), and even *Wirtschaftswerte* (Economic Values, 1980), evoke the clutter of instruments and equipment of the laboratory, and, no less, the spaces of alchemical investigation. Elkins, however, keeps what he calls the “spiritual alchemists” at an arm's length in his counter-modernist reception of alchemical ideas, which mostly ignores the scholars of alchemy who had actually ushered the field into modernism: Ethan Allen Hitchcock, Herbert Silberer, and, of course, Carl Jung, all of whom Luther Martin aptly discussed as the psychological alchemists.<sup>8</sup> Elkins reserves particular scorn for Carl Jung, a follower of Silberer, even as he acknowledges Jung as “the decisive instance” of the psychological interpretation of alchemy in the twentieth century. Elkins then marginalizes the modernist fusing of alchemy and psychoanalysis that Silberer initiated, that was further developed in surrealist ideology and art and that Beuys later took up, though I can't make the entire case here.<sup>9</sup>

Art historians Donald Kuspit, Antje von Graevenitz, Evan Firestone, and John F. Moffit have recognized the significance of hermeticism in Beuys's art, and explicate occult ideas that are operative in the artist's work. A number of German dissertations also explore this same subject.<sup>10</sup> Avant-garde artists in the earlier part of the twentieth century such as Marcel Duchamp and the Surrealists, especially Max Ernst—another of Beuys's aspirational peers and with whom he shared common experiences as a German artist and veteran—revived occult and specifically alchemical ideas. Art historian M.E. Warlick and others have convincingly traced Ernst's systematic engagement with the visual

symbols of alchemy, which was also a touchstone for the surrealists Leonora Carrington, Remedios Varo, André Breton, and Kurt Seligmann.<sup>11</sup> Warlick notes that Silberer's *Problems of Mysticism and Its Symbolism* of 1914 was a major source for Ernst. Notably, Silberer's book was reprinted in a new edition by the Wissenschaftliche Buchgesellschaft Darmstadt in 1961, the same year Beuys was appointed as professor of monumental sculpture at the Düsseldorf Academy. The book was likely in Beuys's library. Warlick also notes the link between wartime trauma and the revival of alchemical texts and images, as was the case in Germany after the First World War.

Within the system and process of Western alchemy the metal of lead as Saturn—the alchemists often referred to the metal as its corresponding ancient planet—played an important role in the quest for cosmic unity and for knowledge of the self. Some alchemists placed lead at start of the alchemical process in categorizing it as *materia prima*, base matter of alchemy, a substance that is connected to the earth and must be found by the alchemist before work or creativity can begin. Silberer discusses an engraving or plate contained in the 1660 French edition of *Twelve Keys of Philosophy*, a treatise by the German alchemist Basilus Valentinus that charted Western alchemical theory (and incidentally was later integrated by the Freemasons) [Figure 9.1]. It presents a kind of totem image of alchemy. The print was surely known to Beuys, as well as to Ernst. It includes representations of the four basic elements, earth as a horizon at the bottom, and at the top of the image, water (left), fire (right), and air. Arranged along a central vertical axis are the symbols for salt (the cube); above it, the feminine principle of Philosophic Mercury (also described in hermetic texts as Queen) positioned as a symbol between the moon (Eve) and the sun (Adam); and above this, a triangle form with a cross at its bottom edge, or, the masculine principle of Philosophic Sulphur (King). In Western alchemy, these opposing male/female principles are located in the chaos of primal matter. The alchemist must separate and refine these elements, and as a final step, reunite them.

Culminating all of these symbols at the top of the seventeenth-century image is a crowned or royal figure whose torso bears the symbols of various planets and holds the masonic instruments of scythe and compass. Silberer identifies this figure as the “kingly form” of Saturn, or lead. The water and flame symbols to each side of Saturn notate suffering and resurrection, necessary since the triangle below the figure contains a phoenix rising from flames, which references the Philosopher's Stone or alchemical child who is born out of the death of his father Saturn/lead. Silberer comments that the image reiterates the status of alchemy and Freemasonry as the “royal art,” which is first noted in the oldest Egyptian



**Figure 9.1** Figure 1 in H. Silberer, *Probleme der Mystik und Ihrer Symbolik*, 2nd edition, 1961, page 124.

sources: “the hermetics derived their art expressly from kings, Hermes, Geber and the patriarchs of alchemy were represented as kings.”<sup>12</sup> It appears that even in his early work, Beuys learned the lesson of the symbolic importance of Saturn/lead as both the beginning to and the end of the material and philosophical process of alchemy or art that is put forward in this image.

Beuys’s work of the 1950s and the 1960s often simultaneously references the systems of both Christianity and alchemy. Many of his artworks in these years featured multiple Greek and Latin cross forms and other references to Catholicism, which Beuys used to link spirituality, materiality, and numinousness to sacred and specifically Christian allegories as well as to alchemical ones. Among the numerous sacred artworks Beuys completed while he was a student

of Ewald Mataré in the late 1940s is a model for a baptismal font, an early lead sculpture [Figure 9.2]. It features an oval form with a stylized depiction of water that emerges from a short rectilinear element in which a prone, thin figure carved in relief is positioned horizontally along its bottom edge. In this sculpture Beuys compresses the symbolism of an entire cosmic cycle: first, of the Christian notion of original sin as condemnation and death, and the liberation or resurrection from it through the purification of water. His representation of water in the model points to one of the four basic elements of matter in alchemy, and its material of lead aptly connects to destruction and putrefaction, the initial stage of primal matter, from which alchemical work can begin in the quest for perfection or mystic enlightenment. As is often noted, the cyclical motif of death and resurrection that is found in the story of Jesus parallels the secularized chemical romance and the reborn child, or the philosopher's stone, in alchemy, which shares similar symbols. The German art historian Karlheinz Nowald has traced Beuys's engagement with sacred themes of transubstantiation and resurrection in his use of the materials of felt, fat, and copper, first manipulated in his 1964 performance *The Chief*. Nowald notes that Beuys implies a spiritual potential "as an evolutionary principle," a quality of spiritual warmth, that establishes a relation between idea and reality. He furthermore relates Beuys's warmth principle to the Christian concept of the transubstantiation of matter, in which matter is transformed into "the word" of scripture.<sup>13</sup> Nowald claims that this theological dimension of transformation can be seen in *The Chief* in its implication of Christian redemption and resurrection, symbolized in Beuys's presentation of his own body shrouded in a blanket of felt.

This 1964 performance included the central animistic element of the hare or rabbit to which Beuys would return repeatedly in his artistic and shamanistic explorations. Animals often appear in alchemical images and literature as symbols and, as was well known to Beuys, Max Ernst often positioned the image of a bird, the bird figure Loplop, as both alchemical symbol and alter-ego figure. At the beginning of his study Silberer recounts a story from an "old book" entitled "Parabola," about a wanderer who, after being advised to seek enlightenment by several philosophers, discovers he must kill an old and formidable lion.<sup>14</sup> Given his athleticism, the wanderer finds he's able to kill and flay the lion, draining blood from its body. After this process the philosophers in the story inform him that he must bring the animal back to life. Silberer notes that the story lays out the basic symbolism of hermeticism, with the animal's "blood and bones" encompassing the colors of the three stages of the alchemical process from black (death, putrefaction) to white (bones/purification) to red (blood/reunification),



**Figure 9.2** Joseph Beuys, model for baptismal font, 1949–51. 31 × 22 × 6.5 cm. Photo Fritz Getlinger. © 2019 Artists Rights Society (ARS), New York/VG Bild-Kunst, Bonn.

corresponding to the three stages of black, white, and red, as the mysterious *materia prima* is sought, purified, and reunified by the alchemist in order to reach perfection and enlightenment.

Of course, animal symbols and physical animal bodies continued to be central to Beuys's art practice. He explicitly identified the hare with "Materia (earth)" and the beginning of alchemical work; it clearly functioned as his primal matter and as a material that he elevated to the same level as lead itself.<sup>15</sup> Beuys began with and continually returned to the hare as material, using a rabbit carcass in his first performance of 1963, *Siberian Symphony, Section 1*, at the "Festum Fluxorium Fluxus" in Düsseldorf, in the aforementioned *The Chief*, and in *How to Explain Pictures to a Dead Hare* the following year (1965). As I discuss below, he associated the rabbit or hare with specific alchemical processes, and it appears as an image or representation in many other works.

Other works reference hare's blood or use it as a medium, as in the 1957 drawing *Mädchen (Hasenblut)*, or in a multiple edition *Hare's Blood* of 1971–79, where Beuys suspends the substance in a plastic envelope and mounts it with an adhesive bandage to paper, or, in an identically titled object of 1974–77, where he used hare blood to draw upon or mark an aluminum plate (currently in the Tate Modern). A remarkable drawing of 1952, *Untitled (Hare Woman)*, imputes femininity to the hare/rabbit as a hybrid creature. Beuys here forwards the body and blood of the hare as a substance and material that points to the transformational stages of the alchemical process.

Beuys had otherwise explored qualities of the feminine in relation to the alchemical metal Saturn/lead in a related group of alchemical works. His fragmentary *Torso* of 1945–51, a figurative sculpture of a female nude currently in the Beuys estate, is polychromed in part, and constructed of the aforementioned metal and plaster, iron, gauze. A photograph recently identified in Polish archives includes a tripartite maquette made of wood and lead forms which Beuys submitted for the international competition for a proposed memorial at Auschwitz-Birkenau in 1958. Beuys had mailed the maquette to Oświęcim for the competition, and it contains a geometric, horizontally placed form made of cast lead placed on an axis in front of a post and lintel wood structure.<sup>16</sup> Because of its horizontal or reclining orientation the form might reference a feminine element. Made by the jury photographer for the competition between 1958 and 1961 and on deposit in the archives in Oświęcim, Poland, the photograph is the only evidence of Beuys's plan for this monument. The jury followed Beuys's instructions for the placement of the three components of the work, but the photographer failed to include in the image a third element that was to be positioned to the left, and which is outside the frame of the photograph. After he was eliminated as a finalist Beuys apparently reworked the returned and separate elements of the piece into or as other works. Beuys repurposed the horizontal lead component of the piece, described as a "crystalline sculpture," in placing it on a small square table as *Table with Crystal*, which is currently in a private collection.<sup>17</sup> Little else is known about this unrealized memorial, which merits additional research on its own.

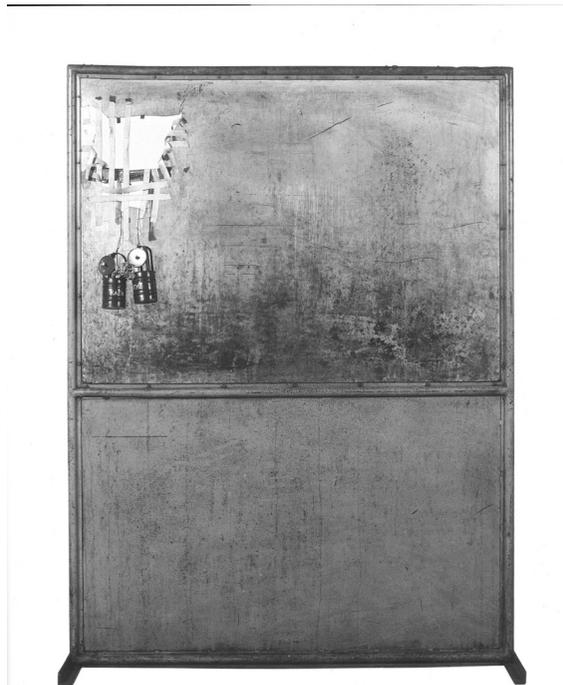
Beuys frequently followed—or better, emulated—Duchamp in his explorations of lead and of alchemy's mythical system that linked material to not only numinousness but also to psychic interiority. It furthermore appears that alchemy proved especially magnetic for Beuys when he traveled to the south, specifically, to Italy, since it's there that he seemed better able to give free reign to the play of alchemical symbols and also to relate them to developments

around the Italian leftist extra-parliamentary organization, *Lotta Continua* and its house newspaper of the same name. Because of his association with Lucio Amelio's Modern Art Agency Gallery in Naples, Beuys frequently traveled to Italy after 1970. And, the readymade medium in particular remained a touchstone. In one instance, Beuys included lead in the multiple edition *Bruno-Corà Tee per la lotta continua vera* (1975, produced in Rome), which makes simultaneous references to Paracelsian alchemy and to the leftist EPO. A Swiss physician, alchemist, and astrologer during the Renaissance, Paracelsus (Phillipus Theophrastus Bombast von Hohenheim) applied alchemical ideas to medicine, and believed that the alchemical elements of salt, mercury, and sulfur were to be found in the human body in a kind of equilibrium; he also thought that body organs were involved in the purification of unpure elements. Against popular belief of the time, he displayed an early understanding of antisepsis in that he advocated that wounds should be kept clean; he pursued diagnosis and treatment of illness through carefully administered doses of mercury and other agents, or, chemical remedies. As he adhered to the notion that the healthy body was necessarily a holistic part of the universe and thus needed to be in harmony with nature, Paracelsus also believed that naturally occurring herbs and minerals could be curative and contribute to this cosmic unity (an alchemical idea). According to the account by Bruno Corà, who had traveled from Rome to meet Beuys and Amelio in Naples, Beuys was fascinated by the homemade concoction in a Coca-Cola bottle which Corà had brought with him and which he drank throughout their meeting. Corà explained it was meant to cure him of a lingering stomach problem. After tasting it, Beuys recited a list of botanical names of the herbs he tasted in it, and said he would produce a multiple like it with their help.<sup>18</sup> Assisted by Corà, Beuys decanted a similar herbal brew into Italian-labeled Coca-Cola bottles, and placed them in a wooden box with a glass front, each bearing a triangular label and a small lead seal with the initials "J.B." The assisted readymade multiple edition *Bruno-Corà Tee* was issued by the Edizioni Lucio Amelio later that year, and part of the edition run was gifted to the local offices of the EPO's newspaper, *Lotta Continua*. The preparatory sketch for the multiple bore a more complete title, *Bruno-Corà Tee per la lotta continua vera*, or tea "for the true continuing struggle," a sign of support for newspaper and political organization, which had found itself in financial difficulties. Housed in hijacked corporate packaging and framed in the type of wooden box used in many of his multiples, the artist presents a Paracelsian organic tonic as a curative for local Neapolitans frustrated in their quest for local political and economic change, flagging the object and its

contents as curative. Silberer reminds that the “man in humility or resignation must be associated with lead, the soft, dark metal.”<sup>19</sup> In this multiple Beuys again connects the alchemical agent lead/Saturn to himself as an artist. But he also applies its transformational symbolism to local political change sought by others in Naples during what had come to be called Italy’s “years of lead,” the era of domestic political terrorism of the 1970s and early 1980s.<sup>20</sup> The *Bruno-Corà Tee* multiple is an artistic antidote to the state of complacency or surrender.

Duchamp’s art practice intersected with the complex gender dynamics and reversals of alchemical thought and myth; he made the Dadaist connection between the readymade and alchemical plays of gender and sexuality. Antje von Graevenitz first traced the central significance of gender dynamics and Duchampian alchemical ideas for Beuys in works such as *Thermal/plastic Primeval Meter* of 1984, with its (concealed) device of soldered copper and galvanized iron that introduced puffs of steam in the gallery, a materialist realization of the “chemical wedding” of Venus and Mars that had the *Large Glass* as one point of departure. The child produced in/as steam is inhaled by the viewer, a “life-giving seed” of material and spiritual mutability and transformation.<sup>21</sup>

*Prison (Cabir+Dactyl)* of 1983 formally evokes the *Large Glass* but, in Beuysian fashion, rejects imagery in favor of an exclusive concern with materiality [Figure 9.3]. The piece is a found object that echoes Duchamp’s dual-pane structure. Beuys obtained it from Josef W. Fröhlich’s Stuttgart factory, where it was used as a shield for soldering in the machine shop until damage resulted in a hole in the top plexiglass panel, which made it useless for this purpose. The lower metal plate panel similarly bears the marks of extreme heat. Workers attempted to patch the damage to the top panel with a grid of tape and paper. Beuys completes this collaborative assisted readymade by dangling two carbide or miner’s lamps on the edge of the upper hole. Each is crowned with two small rocks and emblazoned with the names “Kabir” and “Daktyl.” Beuys’s reference is to chthonic gods of the Cabeiri, the twin gods of Samothrace, and to the Daktyloi or Dactyls, related Trojan gods with which they have been associated. The former appear in Aeschylus and are known as the metal workers of the underworld who man the forge of their father Hephaestus (Roman: Vulcan). Beuys bridges modern metalworkers and the ancient gods of the underworld in his lyrical title, a realm where the heating process of metal brings light and enlightenment but also ceaseless labor. The materials of this object, iron and copper—suggested in the etymological association of Hephaestus and the Cabeiri with the Sumerian “kabar/kibir” or copper—bring alchemical associations to this chthonic realm and suggest an alchemical union.<sup>22</sup>



**Figure 9.3** Joseph Beuys, *Prison (Cabir+Dactyl)*, 1983. 76.5 × 56.5 × 15.75 cm.  
© 2019 Artists Rights Society (ARS), New York/VG Bild-Kunst, Bonn.

The feminine element is, admittedly, difficult to discern in *Prison*. The work is characterized by opacity instead of transparency, and the hole of the upper panel is not coincidentally positioned exactly where Duchamp's bride is to be found in the *Large Glass*. The viewer's vision is not swept upwards toward the "cloud"/bride but rather downwards to a grim reminder of mortality, and of the endless striving of the ancient metallurgists of the underworld, who nonetheless seek knowledge and enlightenment in their labor. It is a realm where a mythic bride can no longer assure transcendence. One would not expect such a muted, dour homage to alchemical myths of gender unification and parity in pursuit of creativity from Beuys the utopian. The object's ancient alchemical associations seem to focus almost exclusively on masculine Philosophical Sulphur, in the heat or fire marks on the metal and in the flame's function in the "illuminating" carbide lamp. Given his critical statements about Duchamp, one wonders if Beuys's readymade insinuates that Duchamp's *Glass* remains a shield that obstructs true insight, or, as Tobia Bezzola suggests, serves as a harbinger of confining states of mind that insure inevitable defeat and lack of insight.

Or perhaps Beuys yet again found himself, in 1983, to be firmly in Duchamp's orbit, in that similar alchemical and psychological themes of gender conflict were still operative in his art?

Duchamp's multiple alchemical references in *The Large Glass* have been well established: most obviously to the culmination of the alchemical wedding, in the cloud-shaped bride of the upper panel, eternally separated from the bachelor apparatuses below it; in the possible citation of the imagery of alchemical vessels or furnaces; in the mystical numerology of the numbers 3 (parts of the chocolate grinder and other elements), 7 (sieves) and 9 (malic molds) of the lower panel; and in Duchamp's use of specific alchemical metals, lead wire and foil, to form the malic molds and the bachelor apparatus/glider. Its multiple references to chess connect the bride form to the figure of the queen and to the number 16 (the number of one player's chess pieces). In another manifestation, Duchamp titled the lower-panel form *Glider Containing a Water Mill in Neighboring Metals*, an additional reference to the (adjoining) six alchemical metals, in addition to lead. Beuys's *Prison* directly substantiates the artist's desired association with Duchamp. It confirms that his alchemical works might like Duchamp's explore alchemical gender/sexual dynamics and its imagery as an engine of (creative) individuation. The later points to a Jungian alchemical definition: that the feminine and masculine alchemical principles mirror or anticipate the self's successful psychic navigation of male/female duality and conflict into an idealized state of reconciliation of the two selves, the androgyne. Clearly Duchamp and Beuys's positions toward alchemy are fundamentally different.

Beuys's Saturnian, totemistic approach to hermetic knowledge generally didn't include the androgyne who is so central to Duchamp's alchemical references (as Lanier Graham has perhaps most recently outlined). The androgyne or the symbol of the male and female conjoined in one body, the fusing of the alchemical king and queen, is the crucial figure in *Rebus*, another key alchemical image or emblem analyzed by Silberer. This alchemical image contrasts the Saturnian/lead alchemical totem engraving that I discussed earlier, and which I believe is the alchemical diagram that most influenced Beuys. Beuys experimented with the alchemical androgyne only once—in his 1967 performance *Mainstream: >Hauptstrom>* in Darmstadt, a singular instance in his oeuvre. At one point in the performance Beuys positioned a piece of gauze over his pants. He described this sequence as follows to Caroline Tisdall: "When I stood erect I wore a triangular filter of gauze over my groin, a change of character, a vagina as a balance to the heavy lead balls in the action and with the same connotations and size as the *Fat Filter Corner*."<sup>23</sup> The reference to lead spheres in this performance

is puzzling, as none are to be found in multiple performance photographs, nor have I located any reference to them in Uwe M. Schneede's *Joseph Beuys Die Aktionen* (1994), the catalogue raisonné of Beuys's performance works. Beuys seems to have abandoned the performing of androgyny after this. Perhaps in keeping with his Saturnine conception of alchemical transformation, Beuys assumed in his description of *Mainstream* that any reference he might have made to the culminating alchemical androgyne would by necessity have to be accompanied with the corrective presence of Saturn/lead.

While Duchamp then seems to have had a formative impact on Beuys's alchemical works, other Beuys works clearly reject Duchamp's influence. Beuys's explicit admiration for early alchemists like Agrippa von Nettesheim, Athanasius Kircher, or Paracelsus set him apart from Duchamp. Beuys's performances and installations of the 1980s abandoned a restrained Duchampian approach to alchemical ideas. In his June 30, 1982 Documenta 6 *Kronenschmelze* performance—it was held in front of the Kassel Fridericianum and functioned as a kind of fundraiser for his simultaneous and very expensive *7,000 Oaks* action, a plan of tree-planting throughout Kassel—Beuys publically declared his epistemological debt to alchemy and to the aforementioned alchemists. Over the course of years Beuys had lobbied Helmut Mattner, a friend and Düsseldorf pub owner, to gift to him his life-sized, gem encrusted gold replica of a sixteenth-century crown owned by Ivan the Terrible that had become an attraction at Mattner's establishment, *Datscha*.<sup>24</sup> Although local Kassellers protested the public destruction of the object, and were perhaps unaware that the utilized gold crown was in fact a replica, Beuys and assistants proceeded to remove the gems from it, and prepare it for the brick oven that had been mounted on a pedestal in front of the museum. The crown was then melted down or destroyed as “a symbol of power, absolute rule, exploitation and persecution” with the goal of fashioning a “new peace symbol.”<sup>25</sup> As the object was placed in the oven and the melting commenced, Beuys called out the names of Paracelsus, Agrippa, and Kircher. The new golden form that emerged from the oven was a gold hare, along with a small sovereign's orb or “sun globe.” Both were displayed in a niche with the removed gems during the exhibition [Figure 9.4]. The hare mold was itself another readymade, its scale and form a recognizable copy of the mass produced, hollow chocolate bunnies that are wrapped in gold foil and sold by the millions during the Easter holiday.

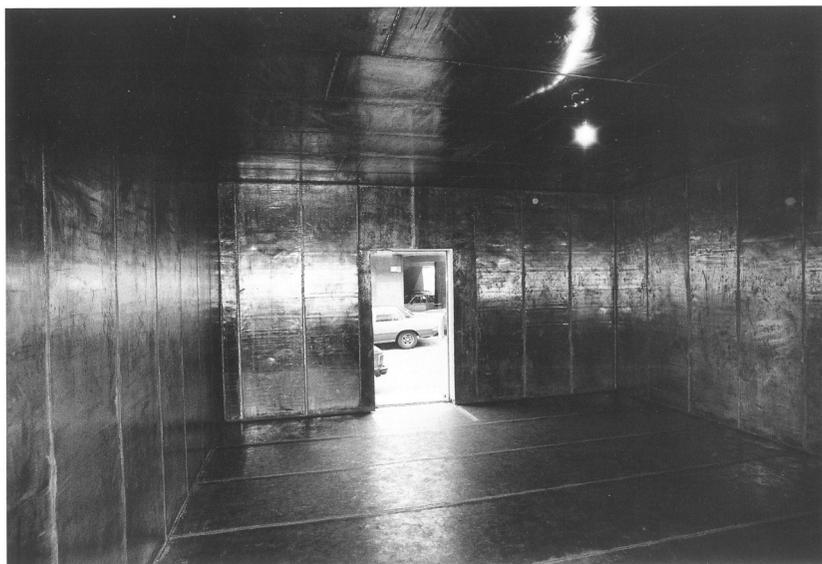
Beuys clearly enacts his own role as alchemist in this performance, though in this instance the process he oversees doesn't transform the material (gold) but rather preserves and transfers it as a symbol of power directly to the artist/



**Figure 9.4** Joseph Beuys, *Schmelzaktion* (Melting Action), June 30, 1982. Documenta 7, Friedrichsplatz, Kassel. Vintage brome-silver photographic print, on baryte paper. 21 × 31 cm. Photo: bpk Bildagentur/Foundation Museum Schloss Moyland, Joseph Beuys Archive, Germany/ Ute Klophaus/ Art Resource, NY. © 2019 Artists Rights Society (ARS), New York/VG Bild-Kunst, Bonn.

himself. *Kronenschmelze* embodies and celebrates the legacy of the “royal art” of alchemy. Only the alchemical symbol of masculinist Philosophical Sulphur, of the Sun/King/Adam, seems to be put forward by Beuys in it. This royal motif is also to be found in Beuys’s final installation *Palazzo Regale*, first installed in an opulent, marble-lined gallery of the Museo di Capodimonte in Naples in December of 1985, and reconstructed in the Kunstsammlung Nordrhein-Westfalen in Düsseldorf in 1992, where it remains. The installation consists of two brass vitrines and seven rectangular brass plates attached to the walls. In each vitrine Beuys assembled performance relics, objects, and costumes so as to invoke a body lying in state; many critics concluded the installation effectively functioned as a mausoleum-space the artist had dedicated to himself as a quasi-regal entity. In his last interview, Beuys insisted that the work instead dealt with the sovereignty of every individual (“every human being is a sun king”).<sup>26</sup> The seven “chemically treated” metal plates in the installation are not often discussed or noted, but their material composition and number is significant: they constitute Beuys’s material and symbolic reference to the cosmos of alchemy, with its seven ancient planets and seven alchemical metals.

It is difficult to square these celebrations of an explicitly masculinist alchemical King with Beuys's installation in Düsseldorf of a few years earlier, his most well-known work utilizing lead: *Hinter den Knochen wird gezählt: Schmerzraum* (possibly translated as *Behind the bone the counting begins: Pain Room*). Notably Götz Adriani dates this installation 1941–83.<sup>27</sup> An installation at the Konrad Fischer Gallery, the work was on view for about a month's time between December 1983 and January of 1984, and anticipates Beuys's environmental, whole room installation *Plight* of 1985 (similarly dated 1958–85), which lined two galleries in the Anthony d'Offay Gallery in London with floor-to-ceiling bolts of felt [Figure 9.5]. As installation photographs by Dorothee Fischer indicate, *Pain Room* consisted of a single room in which lead plates, hung on a steel support, lined all of the walls, floor, and ceiling of the space. A single lightbulb is visible; far less so, one can make out the glimmers of a reflection of the lightbulb as it is refracted off of two slender silver hoops also anchored in the ceiling nearby. Beuys noted that these silver rings were roughly in the dimensions or circumference of an adult and child's head, respectively.<sup>28</sup>



**Figure 9.5** Joseph Beuys, *Schmerzraum* (Behind the bone the counting begins: Pain Room), December 1983–February 1984. h. 295 × 545 × 740 cm. Galerie Konrad Fischer, Düsseldorf. Photo, Dorothee Fischer. Currently Caixa Forum, Barcelona. © 2019 Artists Rights Society (ARS), New York/VG Bild-Kunst, Bonn.

Given the centrality of Saturn/lead to Beuys, it is his most important and intricate alchemical artwork. *Pain Room* focuses upon the symbolic gender dynamics of the feminine alchemical principle of Philosophic Mercury, or the Queen, manifested by or in silver in its relation to lead/Saturn. Like many other Beuys works, *Pain Room* does not offer a primarily visual experience to its visitor. It rather engages the tactile and the aural senses, with the viewer able to touch or rub these sheet-lead surfaces which may have been soft (and possibly come off as a shiny gray deposit on visitors' hands or clothing). Because of its density, lead is used in industry to absorb and shield against X-rays or other radiation; sheet lead is an effective sound insulator that is used in sound studios. It is likely that in entering this completely lead-lined space, the sudden change in the way sound traveled in it and its muffling qualities, made for the visitor's very dramatic sensorial and spatial registering of a liminal space that was marked off by sound. (One imagines that a similar spatial dynamic created by the muffling of sound was also operative in the later *Plight* installation.) Beuys made the material encounter with lead unavoidable in this work; the viewer/visitor is spatially immersed in the material, and experiences it as would an alchemist in a laboratory.

*Pain Room* is a demonstration of lead and the transformational powers of Saturn as it was grasped in alchemical philosophy. Silberer recounts a seventeenth-century alchemistic text or treatise on lead by Johann Isaak Hollandus, which in his psychological reading, "could quite as well be called a treatise on mankind as on lead."<sup>29</sup> Hollandus categorizes lead as the most important alchemical metal and central to the process of alchemy. The philosopher's stone comes directly from it/Saturn. The difficult process of the dissolving and extraction of mercury, and of the making of Luna/silver as well as salt, can quickly take place with it. Hollandus writes, "In Saturn is a perfect mercury . . . in it are all the colors of the world."<sup>30</sup> With his psychoanalytic lens, Silberer interprets this passage to mean that the "whole universe lies in the nature of man," and that "consciousness easily develops after the destruction of superficialities or obstacles in the plastic lead man."<sup>31</sup> Perhaps even as a model of consciousness, Beuys investigates the perfection the alchemist Hollandus claimed for lead/Saturn, and symbolically references the separation and refinement, and reuniting and fusion, of the King and Queen (Philosophical Sulphur and Philosophical Mercury) that lies behind the material inclusion of silver/moon/Eve in this work and in its proximity to lead—the chemical marriage.

Adriani and others have read *Pain Room* as biographical in very literal ways, suggesting Beuys knew physical pain and thus presented an extended spatial and

material metaphor for it as a state of being, and for the isolation it inflicts. Adriani suggests that another plausible layer of meaning is provided in Beuys's own words about the installation as an allegory for the moral bankruptcy of his present, of the Reagan era's escalating nuclear conflicts. Alternatively, the installation has been understood as a commentary on the inquisitorial lead chambers or prisons of Renaissance Venice. But *Pain Room* is mostly Beuys's final rejoinder to Duchamp's alchemical concerns in the *Large Glass*. It allows us to consider the shifting arc of Beuys's thinking about materiality and numinousness, and the possibilities of sacred or secular redemption of the self. Beuys first foregrounded the alchemical *materia prima* of lead and of the animal body in his art in tying it to the narrative and symbolism of Christian redemption. He pursued the medium of the Duchampian readymade in a conflicted series of works that at points emulated but then also redirected Duchamp's own ruminations on the centrality of the androgyne to the course of (alchemical) creativity. Yet in *Pain Room*, his most significant installation regarding the processes of alchemy, Beuys stages his final materialist realization of the alchemical marriage that acknowledges the necessity of an androgynous union between masculine and feminine, king and queen, and sculpturally redirects Duchamp's conclusions. Ever the optimist, Beuys the sculptor and alchemist instead allows for the material consummation of alchemical marriage—a symbolic rebirth enabled by the psychic unity between king/Saturn, or lead, and the queen/Luna, or silver—on the fertile creative ground of alchemical philosophy.

## Notes

- 1 Valie Export, "Aspects of Feminist Actionism," *New German Critique* 47 (Spring/Summer 1989): 70. Export lists as actionists a number of women artists including herself, Maria Lassnig, Niki de St. Phalle, Lygia Clark, Carolee Schneemann, Friederike Pezold, Barbara Bloom, Rebecca Horn, and the circle of the Viennese Actionists of the '60s, Otto Mühl, Günther Brus, Hermann Nitsch, and Rudolf Schwarzkogler.
- 2 Heiner Stachelhaus, *Joseph Beuys*, trans. David Britt (New York: Abbeville Press, 1991), 136.
- 3 See Dirk Luckow, *Joseph Beuys und die amerikanische Anti Form-Kunst* (Berlin: Gebr. Mann Verlag, 1998).
- 4 ("Schmied sein möchte ich und dem klingenden magischen Metall Form geben.") Joseph Beuys, \_\_\_\_\_IV, 9, *Metall*, 1948, in Eva Beuys, ed., *Das Geheimnis der*

- Knospe zarter Hülle. Texte 1941–1986* (Munich: Schirmer/Mosel, 2000), 196 ff.; cited in Dedo von Kerssenbrock-Krosigk et. al., “Art and Alchemy, an Introduction,” in *Art and Alchemy: The Mystery of Transformation*, ed. Sven Dupré, Dedo Kerssenbrock-Krosigk and Beat Wismer (Düsseldorf: Hirmer, 2014), 16.
- 5 Joseph Beuys, “Talking About One’s Own Country: Germany,” in *In Memoriam Joseph Beuys: Obituaries, Essays, Speeches*, trans. Timothy Nevill (Bonn: Inter Nationes, 1986), 51.
  - 6 Antje von Graevenitz, “Breaking the Silence: Joseph Beuys on his ‘Challenger’ Marcel Duchamp,” in *Joseph Beuys the Reader*, ed. Claudia Mesch and Viola Michely (Cambridge: MIT Press, 2007), 29–49. The literature on Duchamp and alchemy is extensive; Karen M. Olvera’s “Marcel Duchamp’s *The Large Glass* as Negation of Women” (MA Thesis, North Texas State University, 1986), offers an older though still useful overview. Selected works on the subject include: John Golding, *Marcel Duchamp: The Bride Stripped Bare by Her Bachelors, Even* (New York: Viking Press, 1972); Robert Lebel, *Marcel Duchamp* (New York: Grove Press, 1959), essays by John Moffit and Arturo Schwarz, *Marcel Duchamp*, ed. René d’Harnoncourt and K. McShine (Philadelphia and New York: Philadelphia Museum of Art and Museum of Modern Art, 1973); Jack Burnham, “Unveiling the Consort” (Parts 1 and 2), *Artforum* (March/April 1971): 56 ff.; Moffit’s later book, *Alchemist of the Avant-Garde: the Case of Marcel Duchamp* (Buffalo: State University of New York Press, 2003); Lanier Graham, *Duchamp & Androgyny: Art, Gender and Metaphysics* (Berkeley: No-Thing Press, 2003). It seems likely that Beuys would have read into at least part of this literature of the ‘70s, as it would have been available to him.
  - 7 James Elkins, *What Painting Is* (New York: Routledge, 1999), 3–4.
  - 8 Luther H. Martin, Jr., “A History of the Psychological Interpretation of Alchemy,” *Ambix* 22, Part 1 (March 1975): 10–20.
  - 9 On this point see also M.E. Warlick, *Max Ernst and Alchemy: A Magician in Search of a Myth* (Austin: University of Texas Press, 2001).
  - 10 Donald Kuspit, “Beuys: Fat, Felt and Alchemy,” *The Critic Is Artist: The Intentionality of Art* (Ann Arbor: UMI Press, 1984), 345–358; Evan Firestone, *Animism and Shamanism in Twentieth Century Art* (New York: Routledge, 2016); Verena Kuni, “Der Künstler als ‘Magier’ und ‘Alchemist’ im Spannungsfeld von Produktion und Rezeption: Aspekte der Auseinandersetzung mit okkulten Traditionen in der europäischen Kunstgeschichte nach 1945. Eine vergleichende Fokusstudie—ausgehend von Joseph Beuys” (PhD diss., Philipps-Universität Marburg, 2004); and Stephan Malaka, “Die Aktualisierung der Alchemie im Werk von Joseph Beuys –Der Beuys-Block als Manifestation eines okkultistisch geprägten Weltbildes” (PhD diss., Hochschule für Bildende Künste, Braunschweig, 2008). Seemingly forgetting about the occult tradition of twentieth-century modernism and perhaps in reaction to his own traumatic aesthetic experience of Beuys’s challenging 1979 Guggenheim exhibition, Kuspit mock Beuys for taking up

- alchemical associations, and thus his account represses the occult tradition, a major thread of twentieth-century Modernism. His position was arguably part of the New York artworld's wider vilification and marginalization of the occult in the 1980s. Ursula Szulakowska, an art historian who specializes in the history of alchemy, seems actually traumatized by her encounter with Beuys's art; see Ursula Szulakowska, *Alchemy in Contemporary Art* (Farnham: Ashgate Publishing, 2011).
- 11 Important works include: Warlick, *Max Ernst and Alchemy*; David Hopkins, *Marcel Duchamp and Max Ernst: The Bride Shared* (Oxford: Clarendon Press, 1998); and Evan Maurer, "In Quest of Myth: an Investigation of the Relationship between Surrealism and Primitivism" (PhD diss., University of Pennsylvania, 1974).
  - 12 Herbert Silberer, *Problems of Mysticism and Its Symbolism* (New York: Moffat, Yard and Company, 1917), 196. Warlick believes Ernst based a painting on this alchemical image.
  - 13 Karlheinz Nowald, "Realität/Beuys/Realität," *\_Realität/Realismus/Realität\_*, ed. Johann Heinrich Müller, Tilman Osterwold, Rolf Wedewer (Wuppertal: Von der Heydt-Museum, 1972), 117–118.
  - 14 Silberer, *Problems of Mysticism*, 1–18.
  - 15 One of many references is in Caroline Tisdall, *Joseph Beuys* (New York: Guggenheim Museum, 1979), 101.
  - 16 See Stephan Rossler, "Joseph Beuys Modell für ein Mahnmal in Auschwitz-Birkenau," *Rheinsprung 11 Zeitschrift für Bildkritik* (2011): 216–21; 220. Available online: [https://rheinsprung11.unibas.ch/fileadmin/documents/Edition\\_PDF/Ausgabe02/vor-einem-bild.pdf](https://rheinsprung11.unibas.ch/fileadmin/documents/Edition_PDF/Ausgabe02/vor-einem-bild.pdf) (accessed June 25, 2018).
  - 17 Rossler, "Joseph Beuys Modell."
  - 18 Bruno Corà, "Once Again a German Artist Comes to Italy: Joseph Beuys," *Joseph Beuys and Italy*, ed. Marc Gundel and Rita E. Täuber (Bielefeld: Kerber Verlag and Städtische Museen Heilbronn, 2016), 151–2.
  - 19 Silberer, *Problems of Mysticism*, 158.
  - 20 The German film director Margarethe von Trotta adopted the phrase to describe the situation of domestic terrorism in West Germany during the same time period, in the title of her 1981 film about the RAF sisters Gudrun and Christiane Ensslin, *Die Bleierne Zeit* ("the time of lead"). Von Trotta has explained that she found the phrase in a poem by Friedrich Hölderlin.
  - 21 Von Graevenitz, "Breaking the Silence," 39.
  - 22 Tobia Bezzola, catalogue entry in *Joseph Beuys*, ed. Harald Szeemann (Zurich: Kunsthaus Zürich, 1993), 106.
  - 23 Tisdall, *Joseph Beuys*, 146.
  - 24 Veit Loers, "Kronenschmelze," in *Joseph Beuys documenta Arbeit*, ed. V. Loers and Pia Witzmann (Kassel: Museum Fridericianum Kassel and Edition Cantz, 1993), 257–60.

- 25 Loers, “Kronenschmelze,” 257 and 258. The action was filmed by Walter Raeune for ZDF. Available online: <https://youtu.be/t2j-579VznQ> (accessed June 25, 2018).
- 26 Stachelhaus, *Joseph Beuys*, 169.
- 27 Götz Adriani, Winfried Konnertz and Karin Thomas, *Joseph Beuys* (Köln: DuMont Verlag, 1994), 193.
- 28 Adriani et al., *Joseph Beuys*, 192–3.
- 29 Silberer, *Problems of Mysticism*, 158.
- 30 *Ibid.*, 160.
- 31 *Ibid.*, 159.



## A Conversation with Remo Salvadori

Sharon Hecker and Silvia Bottinelli

### Critical Introduction by Rosalind McKeever

Remo Salvadori always shows his students a film: *Powers of Ten* by Charles and Ray Eames. Made in the 1970s, when Salvadori began his artistic career, it explores the relative scale of the universe. Zooming out of an image of a couple picnicking, it shows the whole earth as the “blue marble” first broadcast from *Apollo 17* in 1972 and keeps expanding until the whole galaxy is visible. Then it zooms back in, past the human scale to the level of electrons buzzing around atoms. The oscillation—and implied connection—between macro and micro, aesthetic and scientific, spatial and material is an efficient primer for the artist’s way of thinking and desire to coalesce opposites.

Scale is crucial. Ever conscious of the observer, Salvadori’s sculptures are designed to be engaged with on a human scale. The physical and sensorial experience is evident in *Threshold*, a vertical form that bisects a doorway. Even large works retain human proportions in their creation. In the series *In the Moment*—an epic grid of metal sheets affixed to the wall—the components range from 10 centimeters to 1 square meter and are cut and folded by hand into geometrical forms.

A child of postwar Italy, Salvadori was only a few years old when Lucio Fontana and Alberto Burri began to pierce and suture the surface of the canvas. He was born a decade after many of the Arte Povera artists who activated their often-non-traditional materials, and is a generation younger than the conceptual artists of “the post-medium condition.”<sup>1</sup> Compared with a Sol LeWitt wall drawing, Salvadori’s works feel dense with matter, while in relation to Jannis Kounellis’s wall-mounted steel and iron, the younger artist levitates on a theoretical, even spiritual energy. Salvadori’s ongoing dialogue with Mario and Marisa Merz nurtured a closer connection and distinctive approach to metals,

as is evident in Marisa Merz's own use of lead and the hanging folded aluminum forms of *Untitled (Living Sculpture)*, 1966.

The critic Achille Bonito Oliva included Salvadori in the formation *Transavanguardia* coined in 1979, but this return to expressionistic figurative painting among his contemporaries, including Sandro Chia, Francesco Clemente and Mimmo Paladino, was quite other to Salvadori's practice.<sup>2</sup>

This detachment has generated a productive solitude, albeit one which has prevented the artist's easy packaging within art historical narratives. Although his work has been exhibited in an international context at the Venice Biennale (1982, 1986, and 1993) and Documenta (1982 and 1992), his presence in American museums—for example—is restricted to the postwar Italian collection of Magazzino in upstate New York.

Another facet of Salvadori's self-conscious isolation is his resistance of sociopolitical contextualization. The Tuscan-born artist moved to Milan in the early 1970s. In Italy this decade was severely marred by extremist violence, carried out by both the political right and left. It was known subsequently as Italy's "Years of Lead" (*Anni di Piombo*) for both the quantity of bullets and the heavy, leaden melancholia they brought. Salvadori distances his use of lead in this period from the tempting hindsight of this context. Instead he attributes it to a chance encounter with lead sheets in his studio, above a printer's shop that housed a disused linotype machine. Framed by the artist as an act of serendipity, these events speak of the technological shift away from industrial materials and production, itself inevitably related to the period's political unrest within and beyond Italy.

As Salvadori notes in the interview, the availability of lead sheets in his Milanese studio predated his interest in Austrian philosopher Rudolf Steiner but expanding our view to the international context of the latter is essential to the comprehension of the artist's interest in metals. Steiner defined his Anthroposophy, founded in the early twentieth century, as a way of connecting the spiritual and physical worlds, "a path of knowledge, to guide the Spiritual in the human being to the Spiritual in the universe."<sup>3</sup> His device of looking to the terrestrial to understand space—for example, linking lead with the planet Saturn—prefigures *Powers of Ten* made half a century later. The same is true of *The Secrets of Metals* by chemist and anthroposophist Wilhelm Pelikan, first published in 1952.<sup>4</sup> This addressed the importance of metals for the human body, not least their healing properties (an idea alien to a contemporary audience well versed in lead's dangers) and in so doing connected the impact of metals upon humanity on global, human, and microscopic scales.

Lead's crystalline structure gives it the quality of malleability intrinsic to Salvadori's practice and a geometrical formation echoed in the patterns he uses. The artist's rhythmic manipulation of the metal by hand is sensorial and meditative. It is not strictly alchemical, a description used for some Arte Povera artists, especially Gilberto Zorio, as well as Salvadori.<sup>5</sup> The transformation of the lead through cutting and folding transforms its appearance and material qualities while leaving its molecular structure unchanged. Salvadori does not shape with heat or mechanical force, but he does transform the darkness and weight of the metal into light and levity. Material presence becomes absence, matter converted into space.

As apparent in the interview, Salvadori talks about his practice on a philosophical and spiritual plane, yet his use of lead is a productive mode to examine his work exactly because of the connections he finds between macro and micro, terrestrial and spiritual. *Powers of Ten* is a nine-minute film, whereas in the work of Salvadori, this expansion and contraction happens *In the Moment*.

Rosalind McKever

Note: Our dialogue with Remo Salvadori about the use of lead in his work started years ago, when we first began reflecting on lead in modern and contemporary art. On October 31, 2018, we engaged in a more formal conversation with the artist and his wife Sally in Milan. These interactions happened in Italian. The encounter was followed by sustained email exchanges, through which the text below—our translation of an original text in Italian—has taken form. We have respected the artist's wish to use capital letters throughout and to adopt his particular way of using punctuation and grammatical forms.

Silvia Bottinelli and Sharon Hecker

Sharon Hecker (SH)/Silvia Bottinelli (SB). WHEN DID YOU START WORKING WITH LEAD? WHAT WERE THE FIRST WORKS YOU CREATED WITH IT?

Remo Salvadori (RS). AT THE END OF THE SIXTIES FOLLOWING A JOURNEY I CREATED A WORK WHOSE TITLE WAS "TEN ARROWS TEN MINERALS" WHICH, IN ITSELF ALREADY ENCOMPASSED A SIGN AND NUMEROUS DIRECTIONS. [Figure 10.1]

THERE WAS ANOTHER JOURNEY AND SOME COINCIDENCES THAT LED ME TO ENCOUNTER THE SPACE AT 19 VIA PACE, IN MILAN, LOCATED ABOVE A PRINTER WHERE A LINOTYPE HAD BEEN INSTALLED IN 1904.



**Figure 10.1** Remo Salvadori, *Dieci frecce, dieci minerali*, 1970. Galvanized iron. 114 x 16 x 18 cm (each). Private collection. Photo © Carlo Cantini, Florence.

IT IS PRECISELY IN THIS LOFT WHERE WE LIVED FOR 14 YEARS THAT I FOUND SOME LEAD FOIL, MOST CERTAINLY LEFTOVERS FROM THE PREVIOUS BUSINESS THAT HAD BEEN LOCATED THERE.

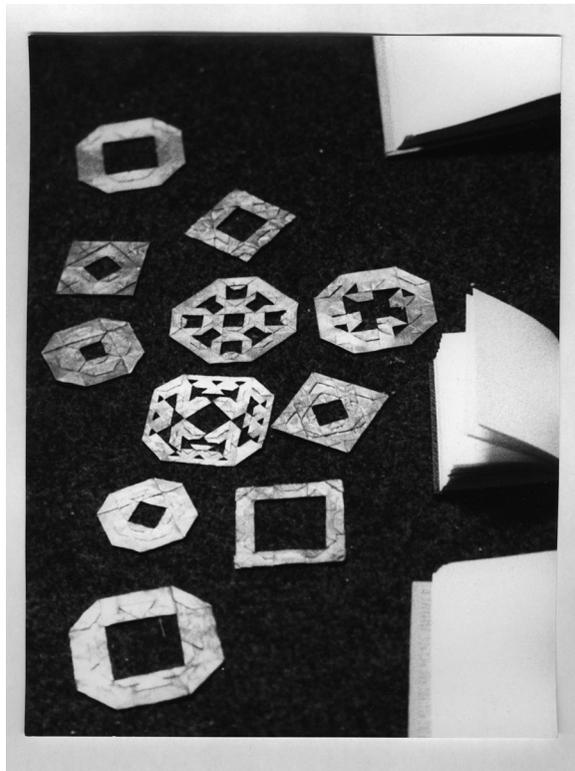
THE PRESENCE OF THESE LEAD SHEETS AND MY INCLINATION TOWARDS A PRACTICE LED ME TO INTERACT WITH THE NATURE OF THIS SUBSTANCE AND I MUST SAY THAT I FELT QUESTIONED BY THE DUCTILITY, WEIGHT AND COLOR OF THE LEAD.

DURING THAT TIME, AS SOME FRIENDS HAVE EMPHASIZED, I FREQUENTLY USED A WORD: “TO DABBLE” AND IT HAS BEEN THIS APPROACH THAT BROUGHT ME TO IDENTIFY MY SPECIFIC RELATIONSHIP WITH THESE VERY DISTINCTIVE LEAD SHEETS.

I CANNOT EXACTLY DESCRIBE WHY I FOUND MYSELF PRACTICING THE CUTS ... I COULD APPROACH THE ACT OF CUTTING BY BRINGING MYSELF CLOSER TO ARCHITECTURE AND TO THE CUTS THAT ARE WINDOWS, AS IT HAS BEEN SAID.

THE LEAD SHEET IN THE FORM OF A SQUARE, WHEN ROTATED, URGED ME INTO MAKING SYMMETRICAL CUTS AND THE AMAZEMENT OF DISCOVERING MYSELF IN THE "MOMENT" COMPELLED ME TO FIND THE WAY TO NAME THIS ACTION WHICH OVER TIME WOULD BECOME A "CEREMONY".

THE FIRST WORKS COINCIDE WITH THE BEGINNING OF THE 1970s, A CERTAIN NUMBER, A FEW, THAT BECOME SIGNS OF A FRIENDLY EXCHANGE WITHIN AN AREA OF SENSIBILITY RELATED TO ART AND CLOSE TO ME. [Figure 10.2]



**Figure 10.2** Remo Salvadori, *Ordine familiare del tempo*, 1973–74.  
Lead. 11 elements from 5 x 5 x 0.05 cm to 14 x 14 x 0.05 cm. Property of the artist.  
Photo © Carlo Cantini, Florence.

SOME TIME PASSES BEFORE THIS ACTION FINDS A COMPLETE UNDERSTANDING IN ME BUT WHEN ONE OF OUR DAUGHTERS STARTS TO ATTEND THE STEINER SCHOOL KINDERGARTEN I ENCOUNTER THE THINKING OF RUDOLF STEINER THAT CLARIFIES FURTHER THE PRACTICE THAT I WAS DEVELOPING.

I CONTINUE ALTERNATIVELY TO CONFRONT MYSELF WITH THIS SUBSTANCE TO THE SAME DEGREE AS OTHER MORE COMPLEX RECOGNITIONS ABOUT THE “FULL” AND THE “EMPTY”, ABOUT SPACE IN ARCHITECTURE, ABOUT THE BODY MOVING IN SPACE AND RELATIONSHIPS BETWEEN THE ELEMENTS THAT INTERACT WITH EACH OTHER. AND IT IS IN THIS CONTEXT THAT I EXHIBIT FOR THE FIRST TIME IN 1978 ONE OF THESE ELEMENTS IN LEAD.

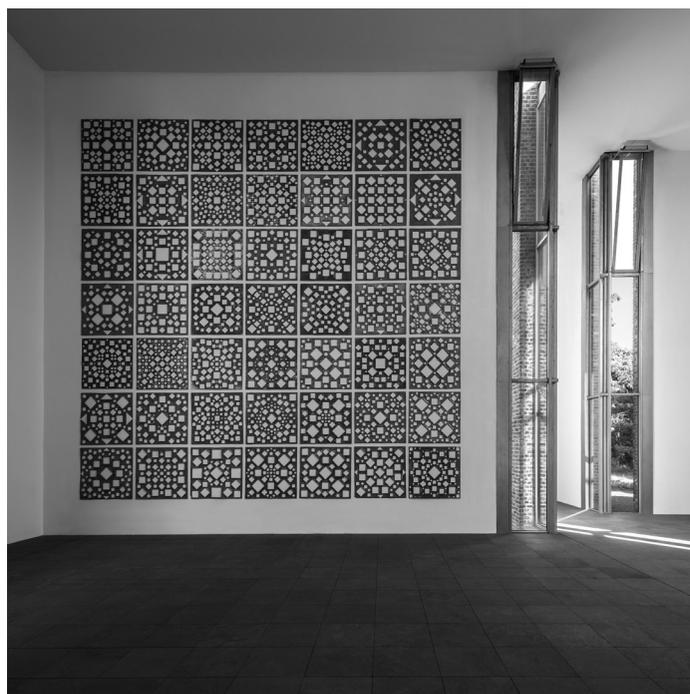
SB/SH. WHAT RELATIONSHIP IS THERE BETWEEN LEAD AND OTHER MATERIALS IN YOUR WORK?

[Figure 10.3]

RS. A GAZE AT THE USE OF LEAD PRACTICED BY OTHER ARTISTS HAS ACCOMPANIED ME AND HAS MADE IT SO THAT MY INITIAL DISCOVERY BECAME A SIGN OF DIFFERENCE. WHEREAS IN THE BEGINNING THE ELEMENTS WERE CONSTITUTED BY SQUARE SHEETS OF SMALL DIMENSIONS I DISCOVERED MYSELF THROUGH THE THEME OF CUTTING AND FOLDING WHILE OPERATING ON LARGE SHEETS. THIS PASSAGE, ITS OWN PERSISTENCE, HAS KEPT ME BUSY AND HAS MADE MY RELATIONSHIP WITH LEAD AND ITS NATURE, COMPARED TO OTHER MATERIALS, CENTRAL, CONSTITUTING A FIXED POINT.

I DISCOVERED THAT WORKING WITH LEAD IMPLIED A PARTICULAR QUALITY OF ENERGY THAT GAVE ME AN AWARENESS OF THE DIFFERENCE IN PRACTICES SINCE EVERY MATERIAL SPEAKS OF ITS OWN NATURE AND THIS GUIDED ME ON THE OCCASION OF EXHIBITIONS, IN THE RHYTHM OF CONVERSATIONS, IN ENCOUNTERS.

AS OPPOSED TO LEAD, IN WATERCOLOR THE RELATIONSHIP BETWEEN WATER AND PIGMENT REVEALS ANOTHER NATURE, AND



**Figure 10.3** Remo Salvadori, *Nel momento*, 1999. Lead. 49 elements 100 x 100 x 3 cm (each). 772 x 772 x 3 cm (overall dimensions). Property of the artist. Photo © Attilio Maranzano.

THUS ALSO WITH OTHER ELEMENTS, OTHER SUBSTANCES, EACH TIME ONE ENCOUNTERS A DIFFERENT QUALITY OF ENERGY.

THE SUM OF THESE OBSERVATIONS LED ME TO INVESTIGATE OTHER MATERIALS, AS WELL AS OTHER METALS, IN A PATH OF KNOWLEDGE OF THE SINGLE ELEMENTS THAT MAKE UP PART OF A WHOLE. I LOOK FOR A DIALOGUE BETWEEN THE PARTS THAT ARE APPARENTLY DISSONANT, THAT OBEY THEIR OWN LAWS, TO FIND A HARMONY OF A WHOLE, A NEW CONSONANCE.

SH/SB. WHAT ASPECTS OF LEAD HAVE OPENED UP AND MARKED YOUR PRACTICE?

RS. LEAD WAS THE FIRST MEETING WITH THE SCIENCE OF THE METALLIC BEING, NOT ISOLATED IN ITS MATERIAL ESSENCE BUT IN

ITS COMPLETE ESSENCE, ENTERING INTO A SPIRITUAL DISCOURSE BETWEEN HUMANS AND THE METALLIC ESSENCE.

AS A SIGN OF PRACTICE I NEED AN INTIMATE RELATIONSHIP WITH THE BEING OF THIS SUBSTANCE, A CONSIDERATION OF THE NATURAL ESSENCE IN A GOETHIAN WAY.<sup>6</sup> I DISCOVER THAT THE EXISTENCE OF METALS IS WISELY IN RELATION WITH ALL FORMS OF TERRESTRIAL LIFE. MY THANKS GO TO WILHEM PELIKAN FOR HIS THINKING THAT HAS BEEN A GUIDE FOR ME.

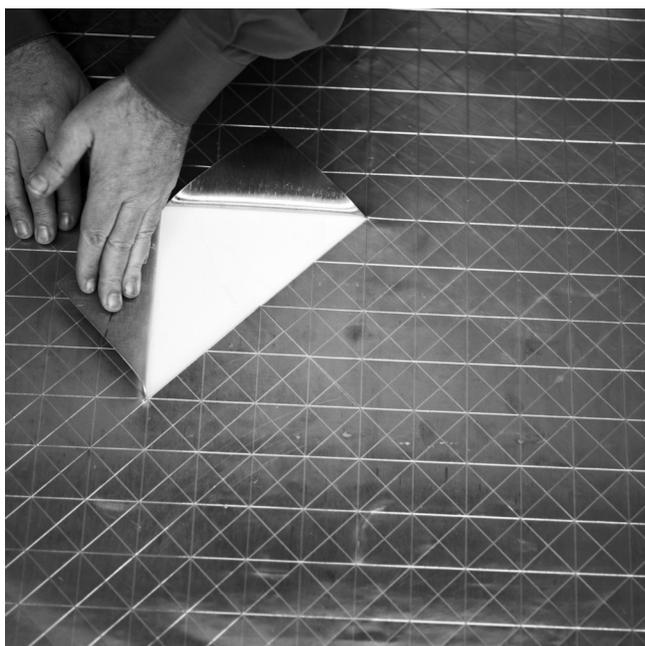
“AWARE OF AN ANCIENT CONCEPTION OF HUMANITY BASED ON AN UNDERSTANDING THAT ALLOWED ONE TO DECLARE THAT IRON WAS THE METAL OF MARS, COPPER OF VENUS, GOLD SOMETHING SOLAR, LEAD WAS ASSIGNED TO SATURN, TIN BELONGS TO JUPITER, THE MOON CARRIES SILVER, MERCURY STILL TODAY BEARS THE ANCIENT NAME OF MERCURY. SINCE THE EXISTENCE OF RUDOLF STEINER’S MODERN SPIRITUAL RESEARCH ONE CAN SPEAK AGAIN ABOUT THE COMPREHENSION OF SUCH ANCIENT KNOWLEDGE.<sup>7</sup>

SB/SH. WHAT IS YOUR WAY OF PROCEEDING? YOUR “PROCESS”?

[Figure 10.4]

R.S. JUST LIKE A SOUND THAT PREDOMINATES, THE METALLIC ESSENCE HAS GUIDED ME IN THE PRACTICE BETWEEN THE FULL AND THE EMPTY, IN THE RHYTHM OF THE CUTTING AND FOLDING PRESENT IN THE HANDS THAT ARE THE MAKERS OF A WORK OF TRANSFORMATION, A PASSAGE FROM DARK TO LIGHT, AN OPENING UP THAT HAS GUIDED ME IN THE HUMAN PASSAGE OF ENCOUNTERS, A MUSICALITY THAT HAS BROUGHT INTENTIONALITY NOT ONLY INTO THE PROCESSES, THAT HAS BROUGHT LIGHT, AN INNER WORK TOWARDS A PERMANENT CONDITION OF WAKEFULNESS, OF BEING, MORE THAN OF CONSUMING, AN OFFERING, A TRIBUTE TO EQUILIBRIUM.

IT IS ALWAYS A BEGINNING EVERY TIME A SHEET OF LEAD INTERROGATES ME WITH ITS DARK SURFACE FROM WHICH



**Figure 10.4** Remo Salvadori, *Taglio e piegatura del piombo*, 2008. Photo © Attilio Maranzano.

NEW FIGURES EMERGE, [MUSICAL] SCORES FOR A CONSCIOUS PATH. IN THE ACTION ON THE MATERIAL, IN THE PROCESS OF ITS TRANSFORMATION FROM THIS UNVIOLATED SURFACE INTO MULTIPLE OPENINGS, THERE IS NO WASTE JUST AS IN OUR INDIVIDUAL EXPERIENCE.

SH/SB. YOU HAVE CHOSEN TO WORK WITH LEAD SHEETS THAT YOU CUT AND FOLD. WHAT INSPIRED SUCH A PRECISE AND CONTROLLED FORM OF INTERACTION WHEN THE MATERIAL OFFERS A RANGE OF POSSIBILITIES (CASTING, POURING, IMPRESSING, AND MORE?)

R.S. THE WORK WITH LEAD IS A CONTINUOUS QUESTION THAT STARTED MANY YEARS AGO AND TO WHICH I HAVE NOT YET FOUND AN ANSWER. PAGES OF AN OPEN BOOK THAT ALWAYS PROVIDES NEW READINGS AND WHICH CAN OFFER TO ATTENTIVE OBSERVERS AN EXPERIENCE OF THEMSELVES. [Figure 10.5]



**Figure 10.5** Remo Salvadori, *Nel momento*, 2017. Lead. 7 elements 100 x 100 x 2 cm (each). h. 450 x 296 x 2 cm (overall dimensions). Courtesy Magazzino Italian Art, Cold Spring. Photo © Marco Anelli, New York.

## Notes

- 1 Rosalind Krauss, *"A Voyage on the North Sea": Art in the Age of the Post-Medium Condition* (London: Thames and Hudson, 1999).
- 2 Achille Bonito Oliva, "Transavanguardia," *Flash Art*, no. 92–93 (October–November 1979): 17–20.
- 3 Rudolf Steiner, *Anthroposophical Leading Thoughts* (London: Rudolf Steiner Press, 1998), 13.
- 4 Wilhelm Pelikan, *Sieben Metalle* (Dornach: Hybernia Verlag, 1952).
- 5 Germano Celant, *Arte Povera* (New York: Praeger, 1969), 225. Germano Celant, "Una Cerimonia di Momento in Momento," in *Remo Salvadori*, ed. Germano Celant (Milan: Electa, 2010), 7–15.
- 6 For Goethe, nature is a lived experience that defies qualitative analysis. He saw nature as a unity of mind and matter. See M. J. Inwood, "Goethe, Johann Wolfgang," in *The Oxford Companion to Philosophy*, ed. Ted Honderich (Oxford University Press, 2005). Available online: <http://www.oxfordreference.com/view/10.1093/acref/9780199264797.001.0001/acref-9780199264797-e-1024> (accessed June 25, 2019).
- 7 Rudolf Hauschka, *The Nature of the Substance* (Milan: Anthroposophical Publishing, 2013).

## Two Views of Anselm Kiefer: In the Studio and in the Museum

Kiefer Speaks about Lead with Karl Ove Knausgård

Just before this volume went to press, an interview with Anselm Kiefer by Norwegian novelist Karl Ove Knausgård appeared in *The New York Times Magazine* (“Into the Black Forest with the Greatest Living Artist,” February 12, 2020).<sup>1</sup> It gives a striking account of the artist’s physical, intellectual, and spiritual encounter with the power of lead during the art-making process in the studio. What follows are excerpts from the interview.

“Let’s pour some lead, then” Kiefer said. He looked at me. “Do you want to see that?”

“I would love to see that,” I said.

“Ah, good, good. It is a big action always. Before, I did it all myself, you know,” he said. “I poured it myself. And it was so dangerous. Once I was covered with lead, it was in summertime, I had only shorts, and then the handle broke. Then the lead was going down and gluing to my skin. I have a lot of hair, and I had to take it away like this. ...”

With his hand he showed me how he had removed the lead from his legs.

“Because it was a shock, you know, you have no pain. Then I put myself in white linen—it was the best thing to do, the doctor told me that—and, heh heh heh, then there was after some days a crust. The problem was that the blood didn’t circulate so well, because the crust was so hard. It was a problem for months. But I survived. I have a brother, you know, and he is a doctor. He said: ‘You should have died. From all the lead...’”

“What is it you like so much about lead?” I said.

“I like it because it was the material of alchemists. And then it’s toxic! I like this. I like this poison thing. Because it has an edge. You know in the Black Forest, there is one mushroom, *Knollenblätterpilz*. If you eat only a little bit, you die.” [...] “Anyway,” Kiefer said. “I like this dangerous stuff.”

[...]

“But it’s so beautiful,” I said. “Why would you pour lead over it?”

“All artists are iconoclasts,” Kiefer said and laughed.

From the other end of the hall, a hydraulic crane with a forklift attachment came rumbling toward us. The assistants had clamped one of the rusty barrels full of now-molten lead to the forks. Kiefer, who seemed to be in constant movement, even when sitting down, reached for the end of a long rope attached to the barrel. As he pulled on it, the barrel tipped and a thick, shiny, cylindrical stream of lead poured across the edge and hit the canvas with a little splash, then began to flow slowly across the painting. The air in front of us was soon filled with smoke. The paint, so thick that in some places it resembled tree bark, bubbled and hissed as the lead spilled into the pits and crevices and filled them, solidifying into various mineral patterns.

Kiefer grabbed a hose and began to spray the picture to cool it down, causing waves of steam to surge up. When he was finished and had turned off the water, the picture remained lying on the floor, smoldering as if in the aftermath of a disaster.

The smell of lead, which was new to me, was overwhelming.

Three of Kiefer’s assistants lowered a wooden plate onto the painting, screwed it down and tilted the entire assemblage upright with the hydraulic crane. The painting was now completely obscured.

Kiefer lit a cigar and walked over to me.

He grinned.

“Are you ready for the next one?”

Kiefer poured lead over three paintings that day, and each of them was completely distinct, although the starting point for all of them had been similar. The third picture, of waves in the sea, he worked on the most. After bending up slivers of lead so it seemed almost as if the sea emerged from the picture, Kiefer got onto a scissor lift. He ascended high up into the air, some 20 feet above the ground, and from there directed the workers beneath him, who lowered the picture to the floor and began to modify it according to his instructions, which he called out in German.

Pouring lead across a painting clearly introduced an element of chance. Kiefer had his own ideas, but the inherent properties of the materials provided the starting point; he had to fight the material, and the fight—idea versus matter—became the art. Many of the resulting works give a wild and agitated impression; there is something violent about them, something chaotic. But

their violence lies outside the human domain, even outside biology; it belongs to the mineral world. It is the violence of stone rubble and metal heaps. He pushes the representation of materiality further toward the material itself, until representation is suspended altogether.

## Note

- 1 Karl Ove Knausgård, “Into the Black Forest With the Greatest Living Artist,” *New York Times Magazine*, February 12, 2020. Available online: <https://www.nytimes.com/2020/02/12/magazine/anselm-kiefer-art.html> (accessed February 17, 2020).

## Loaded Lead: Anselm Kiefer in the Collection of the Israel Museum

Sharon Tager and Adina Kamien

Ranging from prehistory to contemporary art, the Israel Museum's encyclopedic collection contains many artifacts, including leaden ones: fourth-century Early Byzantine coffins, Hellenistic coins, and nineteenth-century Eastern European Hanukkah lamps and spinning tops. Examples of the prominent use of lead in modern and contemporary art in our collection are found in the works of Jannis Kounellis, Antony Gormley, and Anselm Kiefer, among others.

This chapter examines three works by Anselm Kiefer—*Aaron* (1984), *Poppy and Memory* (1989), and *Lilith's Daughters* (1990)—from a collaborative curatorial and conservation approach. Drawing on artist and studio interviews, previous conservation and art historical research, material examination, and museological practice, this study highlights the artist's choices and creative processes and the varied meanings of lead in Kiefer's work. The first part of the chapter will introduce the variety of techniques employed by Kiefer, his use of lead, and how these choices connect to the interpretation of his oeuvre. Following are three short paragraphs describing segments depicting the three works by Kiefer at the Israel Museum, illustrating specific uses of lead and its metaphorical meanings. We will conclude with two sections discussing our experiences, as a curator and conservator working within a museum environment, concerning the challenges of lead's toxicity and the concept of change in Kiefer's works. Monitoring the artworks' present state and potential for change, we consider their physical stability in storage and possibilities for display and loan.

### Lead's Transformative Potential: Process, Materials, and Techniques

Lead was employed in a variety of techniques. When working with lead, the material was poured molten onto canvas; bent and shaped—seen in many works as pages in a book; lead in sculptural forms, making use of the leaves of lead sheeting ... How works are finished is a contentious question. A painting or sculpture may simply be sprayed with water, so it can be observed how the work changes subtly over time. The use of chemicals, leaving the work exposed to

the elements, the use of fire, heat, etc. etc. is sometimes also part of the creative process.<sup>1</sup>

Interested in materials that contain or give off energy when used, Anselm Kiefer first employed lead in 1974. He reveals the evolution of this interest, the meanings the material holds for him, and historical precedents in numerous accounts: “For me, lead is a very important material. It is, of course, a symbolic material, but also the color is very important. You cannot say that it is light or dark. It is a color or non-color that I identify with. I don’t believe in absolutes. The truth is always grey.”<sup>2</sup>

Kiefer highlights lead’s potential to transmute and its centrality to the alchemical process. He describes lead as a “marvelous beautiful material” that “can transform itself in all directions.”<sup>3</sup> While aware of the precedent of Joseph Beuys, who taught Kiefer at the Dusseldorf Academy until 1972, Kiefer clarified to art historian and conservator Albert P. Albano that

while he very much liked Beuys’ work, his own selection and use of lead was not the same as his teacher’s. He had intuitively remembered lead as a material many years after seeing it being turned from one physical state to another. He later started using it in his own associative meanings without thinking of Beuys. In the process of heating and melting lead, he saw many colors in its transformation from solid to liquid to solid again. He saw the color of gold during this process, not that of metallic gold but the symbolic gold sought by the alchemists. He liked the oxidation of white on lead and often tried to induce it artificially with acid in selective areas when he did not want to wait six months or more for the look of the natural lead oxidation. He told me that it is an ancient material, represented the planet Saturn, and was associated with the alchemical concept of magic numbers.<sup>4</sup>

This description of material fluidity highlights the numerous appearances of lead and Kiefer’s ability and intention in exploiting every physical variation this metal has to offer. The change is not only in the plethora of potential effects, but also in the subtle shifts that occur with the passing of time.

The meaning of lead is closely linked to its metaphorical and physical fluidity. In a 2009 interview, Kiefer explained: “They’re the three steps in the alchemical process: on the bottom is Nigredo, that’s the lead age, then it’s Albedo, that’s silver, and finally Rubedo, that’s gold, red-gold. Those are the three steps in the alchemic process of turning lead into gold.”<sup>5</sup> He underlined the personal significance of this unique alloy:

lead affects me more than all other metals ... lead has always been a material for ideas. In alchemy, this metal stood on the lowest rung of the process of extracting gold. On the one hand, lead was bluntly heavy and connected to Saturn ... on the other hand [lead ore often] contains silver and was also already the proof of other spiritual levels.<sup>6</sup>

Kiefer views lead as the only material heavy enough to carry the weight of human history; it is the material most like us. “It is in flux. It’s changeable and has potential to achieve a higher state.”<sup>7</sup> In Kiefer’s mind alchemy symbolizes the artist, who must destroy in order to create. The artist’s use of materials, particularly lead, manifests a high level of manipulation and unplanned effects. Even prior to his creative work, Kiefer transforms his material in intentional and chance ways:

Sheets of lead which Kiefer laid on the floor of his studio or on the ground outside and then simply allowed time, weather and chance to take their toll. Walked on, driven over by the tires of vehicles and exposed to the extremes of weather, the lead acquired an irregular texture and a huge range of colours: ochres, reds, greens, yellows.<sup>8</sup>

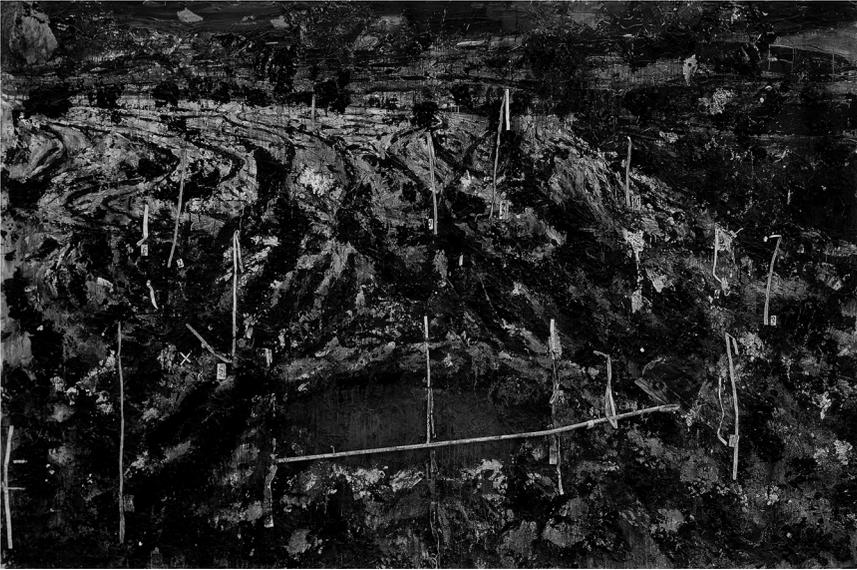
The multitude of uses, states, and manipulations are represented in the three works by Kiefer at the Israel Museum—be it lead piping, thin strips of lead, lead sheeting manipulated into books or sprinkled, molten into a once fluid state.

## Pipe Dreams: Lead through the Desert

Lead piping was being removed from the first studio in Buchen, Germany. After seeing this, further research into lead commenced and it was used throughout his career.<sup>9</sup>

In his 1984 work, *Aaron*, Kiefer uses readymade lead piping, probably removed from the artist’s first studio in Buchen, Germany, to represent Aaron’s staff [Figure 11.1]. He shared the meaning of this element:

One day, I discovered a lead pipe in the house in Germany I used to work in. There was still lead plumbing at the time. This lead fascinated me and it has never lost its grip on me. Through this physical experience of lead, I accessed a spiritual level. I was able to determine that my fascination with lead is not an aesthetic fascination, but a mythological, historical one. Over time, I’ve learned a great deal through lead. In the beginning, it was an immediate confrontation, it spoke to me directly. Lead wasn’t associated with any artistic context. There was no leaden half relief that called to me, since there’s never been such thing in the history of art. It was the fact of a lead pipe that released a spiritual movement within me.<sup>10</sup>



**Figure 11.1** Anselm Kiefer, *Aaron*, 1985. Oil, emulsion, shellac, lead, and straw on canvas. 330 × 500 cm. The Israel Museum, Jerusalem. Gift of Irma and Norman Braman, Miami, Florida, to American Friends of The Israel Museum. B91.0256. © Anselm Kiefer, Courtesy Gagosian Gallery. Photo © The Israel Museum by Yoram Lehmann.

While the use of lead piping is central to *Aaron*, the painting is primarily a landscape. Measuring five by almost three-and-a-half meters, this large-scale work consists of three large strainers, each comprising one vertical and two horizontal crossbars, connected by metal bars screwed into the strainers. The metal bars support the vast weight of the painting on the wooden strainers. Unlike later works by the artist, this strainer structure is not designed for assembly and disassembly for ease of handling and transport. The support itself is constructed from twenty-six pieces of canvas in various sizes, sewn and adhered together to create a patchwork varying in thickness and size, stained by the richness of the mediums employed by the artist. An occasional scribble in charcoal, indicating what is probably a measurement or a shoeprint in black paint, is clearly visible on the verso of the painting. The support itself is not flat as in a traditional painting, but rather relief-like; the artist adhered twenty wooden bars in various sizes and at varied angles to the back of the canvas, in order to modulate the surface or to carry the weight of the medium, consisting of oil, emulsion, shellac, straw, and lead. The overall effect of the painted layer results from the use of different textures and the juxtaposition of matt and glossy areas. Lead strips stapled into the canvas create a metallic sheen, shellac and oil create glossiness,

and emulsion-based dark paint create relatively matt passages. These passages are characterized by a network of thin drying cracks, exposing the rich yellow paint layer underneath.

The vast scale and the rich materiality of the painting's surface endow it with a forceful presence. In 1984, Kiefer made several trips to Israel in conjunction with his solo exhibition at the Israel Museum. These experiences led Kiefer to the story of the Exodus from Egypt, and later to the mystical corpus of the Kabbalah, as prime sources. He envisioned Exodus as a powerful metaphor for the liberation of all people, concentrating not on Moses, but on Aaron, who, as creator of the Golden Calf, may be considered a fellow image-maker artist. Kiefer was particularly attracted to the barrenness and stillness of the Judean Desert, heavy in history and spiritual associations. *Aaron* echoes both the Judean hills and Kiefer's earlier landscapes of the fields neighboring his studio in Buchen, Germany, with dark plowed twisting fields and deep receding sky stretching into the horizon. The palette of browns, grays, and golds create a muted, somber atmosphere.

Aaron's staff, spotted with paint and loosely encircled by lead "ribbons," is suspended in the lower-central segment of the composition. Held at two points by string, inserted through the paint layer and held taut by two wooden bars on the reverse, these strings are barely visible, creating the illusion that the staff floats in front of the composition. Since there are no visible cracks or significant losses in the areas of contact, one may assume that the string reinforcement was inserted while the paint was still drying and malleable, during the painting process.

In this barren field Aaron's lead staff is prominent, stretched horizontally across a murky blue-brown pit. Other linear lead objects varying in length and verticality emerge from the ground, with adjacent numbers. The objects evoke a community or the division of land by tribes that once populated the field. Kiefer's staff recalls Joseph Beuys's *Eurasian staff*, an object with which Beuys hoped to forge a link between Eastern transcendence and Western materialism. When asked by Albert P. Albano why he had changed the lead staff in the painting *Departure from Egypt* (1984), Kiefer explained that "while he wanted to include recognizable images in his work, often they become a problem if they start to dominate the picture. This had occurred with the lead staff, and he altered it."<sup>11</sup>

In Kiefer's work foreign materials accrue associative meanings and act as symbols. Kiefer elevates the status of commonplace lead pipes to create the leader or alchemist's staff, physically embodying the metaphor of liberation. He brings together place, idea, and material to recreate ancient mythologies in modern

form by creating a large-scale ravished landscape with a forceful presence that overwhelms the viewer with its expressive power.

### Dead Weight and the Dream of Flight

Sometimes the material is important to the meaning of the work, sometimes it is not. It is a paradox. The futility of the materiality, alchemy, transformation, the desire to transform from something less important. The works reference the mythical. The malleability of the material is less important, but rather the spiritual and historical meaning of it [*sic*]. The meaning of lead, through its use in different techniques, embodies the same meaning in different works from different periods.<sup>12</sup>

In 1984, following the renovation of the Cologne Cathedral, Kiefer purchased the structure's lead roof, which became the source material for many works, among them *Poppy and Memory* [Figure 11.2].<sup>13</sup> If landscape forms a major part



**Figure 11.2** Anselm Kiefer, *Poppy and Memory*, 1989. Lead, glass, poppies. 200 × 500 × 400 cm. The Israel Museum, Jerusalem. Permanent loan from Friends of the Israel Museum in Germany. L-B94.015. © Anselm Kiefer. Courtesy Gagosian Gallery. Photo © The Israel Museum.

of Kiefer's work, over the years the dream of flight has served him as a metaphor for art. This preoccupation culminated in a series of three-dimensional lead aircrafts, exhibited in 1989 at the Paul Maenz Gallery in Cologne and the Foksal Gallery in Warsaw. The title of the Cologne exhibition, *The Angel of History*, was taken from German and Jewish philosopher and critic Walter Benjamin's *Theses on the Philosophy of History*,<sup>14</sup> and the Warsaw title "Poppy and Memory" on a 1952 volume of poems by Romanian-born German-language poet and translator Paul Celan.

Lead sheets are soldered together to form the skeletal airplane. The aircraft is outlined by its main parts: cabin, cockpit, wings, engines, and rudder. Three stilts, one under each of the two engines and the third under the tail of the plane, raise the aircraft off the ground. Although Kiefer's creative process does not follow a linear trajectory,<sup>15</sup> and according to the artist's studio manager Kiefer seldom uses preparatory drawings or models for his work, the airplane series, among them *Poppy and Memory*, are an exception: "For this sculpture there would have been a drawing for the inner structure of the airplane, that can then be covered with the lead sheets."<sup>16</sup>

The large-scale sculpture measures two meters in height, five meters in length, and a wing span of four meters. This vast lead structure is composed of readymade lead sheets comprising the airplane's outer shell and the lead books positioned on its wings. The inner shell of the aircraft is constructed of pine wooden bars and polyurethane foam. Metal bars and bolts are used to connect the various elements to one another. The malleable sheets of lead are wrapped around the main body of the airplane, and the sheets are soldered to form the desired shape. Some sections of the lead sheeting are lustrous and metallic, while others are dull and whitish in tonality. Some are crumpled like rich velvety fabric while others are smooth.

The surface of the lead sheeting used for *Poppy and Memory* appears to include some of the key elements of Kiefer's concept of "metallic change."<sup>17</sup> Areas of brownish-red and yellowish tonality, indicating rust and oxidation, next to whitish wash-like passages, can be observed. According to Biro, Kiefer used soldered pages of lead which he had previously allowed to oxidize in large sheets before he cut them into book form.<sup>18</sup> Deeply affected by the events of Chernobyl in 1986, Kiefer's use of lead increased and was made more poignant after that date. He observed the use of lead as a protective barrier against radiation, and explicitly references Chernobyl in his lead book pieces, emphasizing the material's protective qualities.<sup>19</sup> Dried poppy stems are inserted between the books' pages like bookmarks. Tiny apertures on the plane's body reveal poppy

seeds, reminders of nature's cyclicity. A poetic inscription in Polish, freely translated as "Silence, as if sown by a poppy," was probably affixed to the plane during its exhibition in Warsaw.

*Poppy and Memory's* opaque construction transmits a sense of tremendous physical weight. The plane's mobility is frustrated by its materiality. Although lead is not the densest metal, it is still denser than steel and classified as a heavy metal. Lead also carries symbolic weight, and the aircraft, a vehicle of flight and hope, but also violence and war, is associated with lead's weighty history. Through the ages, lead was used for funerary and alchemical purposes. Since the nineteenth century, lead has become additionally infamous due to the discovery of its toxicity. This earthbound airplane becomes a gray monument to history and memory, in keeping with Celan's poetry and Benjamin's catastrophic view of the past.<sup>20</sup>

### Lead's Paradox: Toxic yet Protective

Much of the idea behind the work can be found in the titles, which are implicit. If a title references Lilith or a line of poetry, one has to make the connection between the title and the object. Otherwise, the viewer is encouraged to bring their own interpretation to the work. The use of materials is not by chance, but is very specific. For example, with the "women" sculptures, most of the dresses are cloth or linen—when lead is used, this is obviously deliberate and meant to encourage a different reading.<sup>21</sup>

A large cotton chemise sprinkled with molten lead, dirt, and ash dominates Kiefer's *Lilith's Daughters* (1990) [Figure 11.3]. Measuring 230 × 330 centimeters, the surface of the work is composed of wooden panels framed by wooden bars adhered to the support. At least nine black-and-white photographic prints are adhered and stapled to these panels, partially burnt and covered in ash.

With sleeves outstretched and skirt wrinkled and faded, the dominant chemise is as if occupied by Lilith's invisible body. Lilith, a figure from Hebrew folklore to whom Kiefer referred in many of his works of the 1980s and 1990s, has been represented most commonly as the first wife of Adam who refused to join him in the Garden of Eden and instead went to live on the edge of the Red Sea. Lilith has been depicted as a demon and also as a siren-like figure who entices men into danger with her beauty and her long, flowing hair. Formed from the same earth as Adam, Lilith was to be Adam's wife. Preferring not to lie flat beneath Adam in what is called in our times the missionary position, she



**Figure 11.3** Anselm Kiefer, *Lilith's Daughters*, 1990. Chemises, ashes, lead, acrylic, and charcoal on photograph. 230 × 330 cm. The Israel Museum, Jerusalem. Permanent loan from Friends of the Israel Museum in Germany. L-B94.007. © Anselm Kiefer. Courtesy Gagosian Gallery. Photo © The Israel Museum by Oded Antman.

uttered aloud the unutterable name of the creator and flew off to lead a life of her own. In the course of her new life, she gave birth to demon-children in large numbers (six hundred a day, some say). As a seducer of men in their sleep, and as the strangler of newborn children, she was the mother from whom all evil men and women have descended.

Fourteen miniature cotton and lead chemises surround this central element evoke the presence of additional figures, perhaps some of Lilith's mythological multitude of children. The diminutive lead chemises are made of thin malleable sheets, sewn meticulously with a sewing machine using thin white string. Some of them have "torn" edges, an apparently deliberate effect, since the sewing follows the tears and some areas are reinforced using what appear to be hand-sewn stitches. Most of the cotton chemises are adhered to the photographic prints and stapled through them into the wooden support. The lead chemises are stapled or reinforced, using a rigid element attached to the support, and protruding into the chemise. As in *Aaron*, Kiefer uses stapled lead strips across the composition, some overlapping the chemises. Between a cotton and lead

chemise, toward the bottom, Kiefer scrawled the title “Lilith Tochter” (“Lilith’s Daughter”) on the surface in looping, cursive script. Ash, charcoal, and earth are mixed to form a thick brown-gray layer, brushed, stained, and splattered over most of the composition, obscuring the scene.

Above the muddied dominant ground, a clearer horizon line emerges. The top two middle and right photographs reveal a city skyline. *Lilith’s Daughters* is one of several related works from a series begun in 1987 following a visit to the Brazilian city of São Paulo, where Kiefer represented West Germany at the nineteenth São Paulo Biennial. Overwhelmed by the city’s chaotic sprawl, he explained:

The starting point were photos that I took in São Paulo. I spent three days photographing the city out of a helicopter. São Paulo is a metropolis of incredibly rapid growth. There are skyscrapers, and then once more favelas. I painted the city from these photos.

Kiefer has explained Lilith’s association with destruction, stating that as he painted these works he “thought of ... Lilith, who lives in the abandoned ruins. And I asked myself: what does this city say to me? And I thought of the end of the city, its dispersal into ashes, on the circular movement of all time.”<sup>22</sup>

## Fragility and Toxicity: Lead in the Museum

Instructions specific to how a work is displayed are only prepared after the first installation. Usually there is involvement with how the work is displayed in the actual space and this cannot be pre-determined, though sometimes work is done on a 1:1 scale on certain pieces in the studio. The ideal scenario would be for Anselm to have a space dedicated to his work or a specific work, or a space that has been designed in tandem with the creation of the work, so it is presented in the optimum way.<sup>23</sup>

Kiefer’s works, created on a large, confrontational scale, made of fragile and sometimes toxic materials, deal with weighty historical, legendary, or mystical themes. Repeatedly exploring German identity and historical trauma, his work is linked with movements such as New Symbolism and Neo-Expressionism. They are most convincingly displayed independently or in relation to other works of his own and require generous space for display and contemplation. The ideal scenario of a determined permanent space for his works is not realistic for most museums. The issue of display in the gallery must also be considered by museum professionals through the lens of health and safety. Lead is one of the

most hazardous metals. It accumulates in the human body, and its toxic effects are numerous and severe. In 2005, lead and lead compounds were declared to be “reasonably anticipated to be human carcinogens” by the US National Toxicology Program. The physical forms of lead that are most readily absorbed into the body (and hence the most dangerous) are lead-containing dusts, which can form when solid materials are broken down into small particles as a result of handling.<sup>24</sup> The Israel Museum is visited by close to a million visitors per year, among them many schoolchildren and young visitors, who are not always fully aware of the “Please Do Not Touch” rule. Though smaller museum artifacts containing lead are usually displayed in vitrines or behind glazing, Kiefer’s paintings and sculptures should not and cannot be thus displayed. A debate between conservators and curators usually ensues, between a display that prevents access to the artwork and one that simply lists lead on the label, which might carry a warning as to its toxicity. Compromises are found per specific installation. For example, *Lilith’s Daughters* was exhibited in 2018 in one of the galleries, and an additional guard was positioned in the space.

Furthermore, any museum professional working with or around artifacts containing lead is potentially at risk of lead exposure. Museum professionals, particularly conservators and art handlers, are more likely to be exposed to low-level doses of heavy metals over an extended period of time.<sup>25</sup> At the Israel Museum, Health and Safety regulations clearly state that museum objects containing lead will be strictly handled with gloves and dust masks and will not be positioned in storage or display near air conditioning shafts, in order to prevent migration of minute airborne lead particles. While in storage, Kiefer’s paintings and sculptures are covered loosely with Tyvek, a synthetic high-density polyethylene-based material, to prevent dust accumulation on the surface and the subsequent need for surface cleaning, resulting in lead exposure.

Generally speaking, lead is seldom used in modern and contemporary works due to its known harmfulness. Kiefer discusses his use of lead candidly in an SFMOMA interview and relates to its intrinsic potential of danger and toxicity. Recalling his use of lead since the 1970s he says: “They warned me, they said it’s dangerous. I think lead and I are one thing—it cannot be dangerous.”<sup>26</sup>

## Change and Evolution of the Work

If Kiefer chooses lead, electrolysis, straw, mud, he is very aware of the potential of change and is expecting the change. The work is almost never finished. Part of the making and life of the work is knowing that it will quietly change

over time. With regards to the physical appearance of lead, the changes that it may go through and the way it appears in relation to its meaning, it is not important. On the contrary, to see how the material changes over time is a sign of the evolution in the work and its continuing transformation. Change is almost always noticeable, and it is part of the process.<sup>27</sup>

The two paintings and the sculpture by Kiefer at the Israel Museum are generally in a stable condition. *Aaron* is monitored in storage, since along the bottom edge of the painting a certain sagging was noted, most probably due to the sheer weight of the painting. If, in the future, the painting requires conservation treatment, it would most probably be done in storage, since the painting is far too large to fit in the existing conservation facility. This is also true of the other two works by Kiefer and poses a problem for some contemporary art at the Israel Museum in general: the conservation department was built in 1963, at a time when management did not fathom the possibility of art created on such a scale.

With regard to future treatments, if a certain element or material needs to be treated or even replaced—why not? As long as it is with keeping with the original wishes and intentions. This is something that can be discussed with the artist. Kiefer would hope that whoever owns his work takes care of it and does not let it get damaged or destroyed. However if the work is developing and changing in an “organic” way, due to the materials, then Anselm would have to consider the changes on a case by case basis. This is not something that the artist is anticipating or predicting, but something that he is prepared for due to the materials that he is using.<sup>28</sup>

Since lead can corrode, as a result of off gassing, releasing acetic acid and causing the metal to change its appearance to a white film, special care should be taken in keeping the works in suitable environmental conditions (storage materials, relative humidity, airborne contaminants, etc.).<sup>29</sup> One must also consider the long-lasting effect of neighboring works of art to the lead-containing works of Kiefer in storage. Some works in the contemporary art store at the Israel Museum contain chemicals that include combinations of substances such as alcohols, acids, amines, aldehydes, and siloxanes, and are quite literally self-destructive. As such, they are stored separately from lead-containing works in order to minimize changes in the properties of Kiefer’s paintings and sculpture, and to avoid accelerated deterioration.

In an artist interview for SFMOMA, Kiefer discusses the difficulty obtaining loans for exhibitions—referring to obstacles placed by conservators in particular, who consider his work too fragile to travel. Kiefer mentions the different aims of conservators, and perhaps indeed museum professionals in general, who

are interested in keeping his art “alive” for the longest duration possible and in conditions that facilitate the slowest rate of change. Kiefer’s interests, on the other hand, lay in the realm of change and fluidity.<sup>30</sup> We can even go as far as to be reminded of a long standing debate taken from the medical world: can we museum professionals, curators, and conservators alike keep the balance between the artwork’s “quality of life” (its spirit, original intentions and the factor of change that is intrinsic to Kiefer’s work) and its “longevity” (keeping the physical object as stable and unchanged as possible for future generations)? It is most likely that *Lilith’s Daughters*, with its fragile surface of ash and dirt, and *Aaron* with its thick paint layers, straw, and suspended lead staff, will not sustain the potential risk of damage incurred by vibration during transit.

It is current practice today to prefer a minimal and holistic approach toward the preservation and conservation of works of art in general, and even more so in the realm of contemporary art. While this appears a logical approach, we cannot predict future trends in the processes of creating, collecting, and preserving art. We do not yet know how these objects will age in centuries to come. We are entrusted with the care for works of art lacking established practices of display, in an ever-changing and fast-moving world of international loans and acquisitions, scientific research, and standards of documentation. In the face of frequent shifts in trends and approaches in the museum sphere, we are sometimes “dammed if we do, and dammed if we don’t.” All we can strive for is careful and thoughtful decision making, taking into account the effects of our actions on present and future museum audiences, curators, and conservators.

## Notes

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Great appreciation to WhiteCube Gallery Director Daniela Gareh, Susanna Greeves (Director, Museum Liaison), and Adina Koorlander (Assistant to the Director), for facilitating contact with Kiefer and his studio manager Waltraud Forellia.

- 1 Anselm Kiefer, interview with authors facilitated by Susanna Greeves and Waltraud Forellia, November 12, 2018.
- 2 Tom Hale and Rachel Dani Witkin, “Sow’s Ears and Silk Purses: Maintaining the Artworks of Anselm Kiefer,” (paper presentation, Courtauld Institute of Art, London, 2012), 10. Available online: <https://www.yumpu.com/en/document/read/10583530/sows-ears-and-silk-purses-the-courtauld-institute-of-art> (accessed May 17, 2019).

- 3 Hale and Witkin, "Sow's Ears and Silk Purses."
- 4 Albert P. Albano, "Reflections on Painting, Alchemy, Nazism: Visiting with Anselm Kiefer," *JAIC* 37, no. 3, art. 8 (1998): 348–61.
- 5 Anselm Kiefer and Klaus Dermutz, *Art Just Barely Survives: Anselm Kiefer in conversation with Klaus Dermutz*, trans. Tess Lewis (Chicago: University of Chicago Press, 2018), 58.
- 6 Kathleen Soriano, "Building, Dwelling, Thinking," in *Anselm Kiefer*, ed. Soriano and Sarah Lea (London: Royal Academy, 2014), 27–9.
- 7 Soriano, "Building, Dwelling, Thinking."
- 8 Hale and Witkin, "Sow's Ears and Silk Purses," 10.
- 9 Anselm Kiefer, interview with authors.
- 10 Kiefer and Dermutz, *Art Just Barely Survives*, 132.
- 11 Albano, "Reflections on Painting," 348–61.
- 12 Anselm Kiefer, interview with authors.
- 13 Marina Pugliese and Barbara Ferriani, eds., *Ephemeral Monuments: History and Conservation of Installation Art* (Los Angeles: Getty Publications, 2013), 219.
- 14 Benjamin's text relates to Paul Klee's drawing *Angelus Novus* (1920, in the Israel Museum collection), which Benjamin acquired in 1921 and bequeathed to his close friend, philosopher Gershom Scholem. *Angelus Novus* depicts an angel seemingly about to move away from something he is contemplating fixedly: "His eyes are staring, his mouth is open, and his wings are spread. This is how one pictures the angel of history, with his face turned toward the past." Hannah Arendt, ed., *Illuminations*, trans. Harry Zohn (London: Fontana, 1973), 259.
- 15 Hale and Witkin, "Sow's Ears and Silk Purses," 1.
- 16 Kiefer, interview with authors. This kind of information is important for future reference should conservation work be needed.
- 17 Matthew Biro, *Anselm Kiefer* (London: Phaidon, 2013), 48.
- 18 Biro, *Anselm Kiefer*, 49.
- 19 Hale and Witkin, "Sow's Ears and Silk Purses," 10.
- 20 See *Beauty and Sanctity: The Israel Museum at 40. A Series of Exhibitions Celebrating the 40th Anniversary of the Israel Museum*, ed. Yigal Zalmona (Jerusalem: The Israel Museum, 2006). Suzanne Landau, ed., *Contemporary Art in the Israel Museum* (Jerusalem: The Israel Museum, 2010). Suzanne Landau and Anna Barber, eds., *Artists' Choices* (Jerusalem: The Israel Museum, 2010). Kiefer's recent *Uraeus* (2018), installed at the top of Rockefeller Center's Channel Gardens, consists of a gigantic open book with eagle's wings 30 feet in span, both made of lead, on top of a 20-foot-tall lead-clad stainless-steel column. Clustered around the base of the column are further outside lead books, while a large snake coils up the column. *Uraeus* extends Kiefer's vocabulary of striking mythic forms, exploring longtime motifs, such as books, allegorical figures, wings, and technologies of flight.

- 21 Kiefer, interview with authors.
- 22 Lucy Watling, "Anselm Kiefer. Lilith. 1987–89," Tate. Available online: <http://www.tate.org.uk/art/artworks/kiefer-lilith-t05742> (accessed May 17, 2019).
- 23 Kiefer, interview with authors.
- 24 "Hazards in Collections Care," National Museums Scotland. Available online: <http://www.nms.ac.uk/media/175600/hazards-in-museum-collections-nms.pdf> (accessed May 17, 2019).
- 25 Cheryl Podsiki, "Heavy Metals, their Salts, and their Compounds," Cultural Heritage. Available online: <http://www.conservation-us.org/docs/default-source/resource-guides/heavy-metals-their-salts-and-other-compounds.pdf?sfvrsn=1> (accessed May 17, 2019).
- 26 "Anselm Kiefer. My Paintings Change," San Francisco MoMA, video 4: 43. Available online: <https://www.sfmoma.org/watch/anselm-kiefer-my-paintings-change/> (accessed May 17, 2019).
- 27 Kiefer, interview with authors.
- 28 Ibid.
- 29 "The Oddy Test," Klug Conservation. Available online: <https://www.klug-conservation.com/The-Oddy-Test-What-Works-and-What-Doesn-t> (accessed May 17, 2019).
- 30 Tate, "Anselm Kiefer. My Paintings Change."

## Anthony Caro: Lead and Wood Sculptures (1980–89)

Karen Wilkin

I first visited Anthony Caro's London studio in 1972, as a novice curator at the Edmonton Art Gallery (now Art Gallery of Alberta), Canada, preparing an exhibition titled "Sculpture in Steel."<sup>1</sup> A friendship and studio relationship developed. Over the next forty-one years, until Caro's death in 2013, I was privileged to visit his studio and that of his wife, the painter Sheila Girling, regularly, watching his sculpture evolve, as I worked on exhibitions, interviews, articles, exhibition catalogue texts, and monographs on Caro's work. I was a frequent resident and visiting critic at Triangle Arts Association, an international artists' program that Caro founded in 1982 and participated in, took part in panel discussions with him, and lectured on his work internationally. "Anthony Caro: Stainless Steel" was published in 2019, the sixth volume of a series on his work that I contributed to and edited.<sup>2</sup>

Over the seven decades of his long and productive working life, Caro (1924–2013) explored a remarkable range of materials. In his on-going effort "to make sculpture *real*," as he frequently put it,<sup>3</sup> or more precisely, "to give my sculpture the sort of immediacy you get when you're talking to another person,"<sup>4</sup> he worked at various times (and on occasion simultaneously) with plaster, clay, bronze, steel, stainless steel, cast iron, brass, wood, ceramic, paper, Plexiglas, stone, glass, and lead, as well as with a range of found objects—and that's not to mention investigating the possibilities of color and of making structures that had to be entered to be experienced fully. When he taught at St. Martin's School of Art, in London, he encouraged his students to experiment with materials such as glass, fiberglass, Perspex, and aluminum tubing—all, at the time, surprising for their lack of associations with traditional sculpture.<sup>5</sup> Caro frequently said that he didn't like repeating himself—"It's too boring"—and changing materials was a way of opening up new directions.

In 1959, for example, the young sculptor, back in his London studio soon after his first trip to the United States, found himself increasingly dissatisfied with the expressionist figure sculptures, modeled in clay or plaster and cast in bronze, that had won him early acclaim. “The figure got in my way,” he later said. “I didn’t want to make imitation human beings.”<sup>6</sup> He recalled that at the end of his New York visit, the critic Clement Greenberg had said, “If you want to change your art, change your habits,”<sup>7</sup> an observation that Caro interpreted as a suggestion to abandon working with any of the means and techniques that he had mastered and routinely employed. Perhaps inspired by his meeting David Smith and seeing one of the innovative American master’s welded steel sculptures during his recent visit to New York, Caro acquired a load of scrap I-beams and girders, materials that he had never previously thought of using, and began for the first time to construct with industrial metal. He gradually discovered, in part because of what his new material encouraged or demanded, how to make the first of the unprecedented abstract works that would establish and sustain his reputation. He essentially fell in love with steel. It allowed him to make athletic, open structures, more place than object, and to work directly at full size, without making maquettes or preliminary drawings. For the rest of his working life, steel was Caro’s primary material. He remains best known for the unpredictable, large abstract constructions he built with this ubiquitous, commonplace metal.

Yet while Caro was obviously stimulated and energized by the responsiveness and flexibility of steel, even a casual survey of his evolution reveals that he was often equally stimulated and energized by the challenges of other, often unfamiliar, materials. In 1975, for example, he eagerly accepted an invitation to make sculpture at the clay workshop of Syracuse University. He had not used clay for more than fifteen years, since he stopped modeling “imitation human beings” and began to construct in steel. During that time, his formal vocabulary had changed dramatically in response to properties of his new material, so it is not surprising that when he returned to using clay, he treated it completely differently than he had in the past, using it not to model solid forms, but rather to make thick slabs and sheets, with which he assembled small abstract configurations. The project provoked an enriching new interest in small, fluid forms in Caro, but the limitations of what could be done with relatively fragile clay components led him to consider other supple, sturdier materials that would respond to the hand the way clay did but could be treated as directly as steel. Lead seemed to fulfill both of these requirements. In addition, it was a seductive, rich, light-absorbing color. Lead strips couldn’t stretch across space the way steel bars could, but if it was thick enough, lead, unlike clay, was fairly self-supporting,

at least over short distances, which would permit the kind of open, drawing-like structures, both linear and planar that preoccupied him. And he was interested in the notion that the intrinsic properties of lead might suggest changes in his habits—new ways of making things meet, new types of shapes and forms, and new approaches to describing space—just as constructing with steel had, two decades earlier.

Caro had used many lead years earlier, when he was still working figuratively and modeling in clay and plaster. In the mid-1950s, he had had two figurative works, *Cockerel* (1954) and *Woman Waking Up* (1955), cast in lead before having them cast in bronze. But now he began to think about lead not as a material for casting, but in unprecedented ways, just as he had thought about clay in Syracuse. From a mill, he obtained fairly substantial slabs of the soft, deep gray metal, intended to be rolled into much thinner units, and began to employ them as freely and audaciously as he did steel. He was clearly fascinated by the unexpected possibilities his newly adopted material presented. Lead permitted—or insisted upon—a fresh lexicon of complex forms, edges, and shapes, and a kind of cursive drawing quite different from that provoked by welding steel or even by the way he had worked with clay at Syracuse University. Caro found this so interesting that between 1980 and 1989, while he continued to construct large and small sculptures in steel, as well as works of various sizes in other materials, he made more than seventy small sculptures with lead, usually combining the soft metal with wood and even—very occasionally—adding elements in bronze and paper. Caro habitually worked in radically different sizes at the same time. An unstoppable worker, he made small pieces in his Dorset cottage, on weekends, and when his Camden Town studio was filled with large sculptures in final stages, he would retreat to an adjacent room to make small works. Like many of the small constructions in steel, known as *Table Pieces*, that he began making in the mid-1960s and continued to make for the rest of his life, the lead and wood sculptures are very modest in size—no more than two feet in their largest dimension. But as is typical of the work of this master of scale, none seems miniaturized or as if it were intended to be any other size. All of the lead and wood sculptures, even the most diminutive, possess the authority and presence of Caro's much larger works.

Caro plainly reveled in the simultaneous malleability and resistance of lead. Under the pressure of the hand or with minimal equipment, it could be draped, folded, compressed, twisted, or rolled, but its thickness and weight imposed certain qualities on the resulting forms and configurations—constraints that the sculptor seemed to find provocative. To both acknowledge and counteract

these characteristics, as well to deal with the practical need of supporting the lead components, Caro combined the lead sheets with rigid wooden elements of various lengths and thicknesses, from long narrow slats to hefty chunks. This seemingly expedient pairing allowed him to exploit the softness of lead while challenging the way it responded to gravity. It also permitted him to contrast the suave curves, rolls, and swags of the lead with the crisp edges, flat planes, and clear geometry of lumber. Michael Fried has written perceptively about what he calls Caro's "syntax"—the way he spaced like and unlike elements in his work and adjusted the different ways they touch one another. In the lead and wood sculptures, Caro's syntax was in some ways unchanged by his use of lead. Individual parts of the sculptures remained distinct, while placement and intersection remained crucial, but at the same time, in many of the lead and wood constructions, a new kind of unity announced itself through the play of light on undulating surfaces. It's as if Caro were a geometric painter who had begun to employ a broad, loaded brush and to conjure up form with ample, spreading tonal washes rather than with clean edges and clearly defined planes; even the most spatially articulate structures in lead seem to be subsumed and modified by light.

Whether open or dense, Caro's lead and wood sculptures are as spontaneous, improvisatory, and intimate as drawing—and as lively. In some, lead and wood jockey for dominance, while in others, they are equal partners and, in still others, the curvaceous lead elements clearly are the main protagonists. As is true of the steel Table Pieces, the relatively small size of the lead and wood sculptures suggests that they are related to domestic objects; even though they resemble nothing but themselves, their size and scale imply a connection to with familiar things intended to be picked up. This association is strengthened by the way the sensuous, often sinuous, configurations of the lead elements appear to be evidence of the action of the hand, no matter how the forms were actually achieved. In works such as *Ragtime* (1980), undulating ribbons and scoops of lead play against a pared-down open framework constructed of narrow wood strips of varying thickness. [Figure 12.1]

The lead components are so animated that they seem to flutter against the minimal wood supports, so much so that they can prompt us to read the title *Ragtime* as a *double entendre*, not just an allusion to syncopated music but perhaps also to discarded textiles. Caro is even more straightforward in works such as *On the Double* (1981) or *On the Up* (1981), in which he drapes strips of lead over elevated horizontal wooden bars, treating the soft metal as if it were cloth, seeming to allow it to find a configuration by virtue of its own response to gravity. [Figure 12.2]



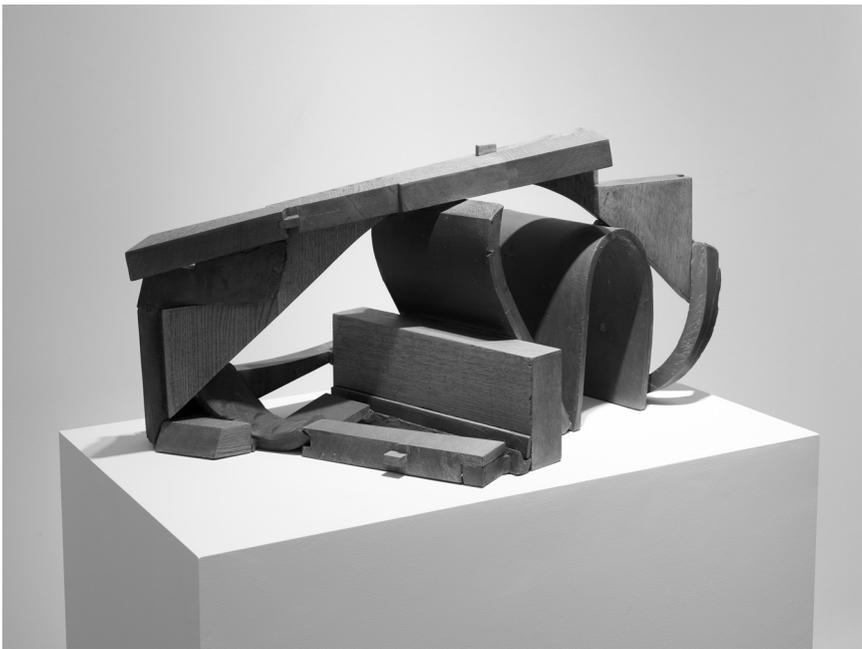
**Figure 12.1** Anthony Caro, *Ragtime*, 1980. Lead and wood, painted. 15.5 × 14 × 13.5 in. (39.5 × 35.5 × 33.5 cm). B1300. © Barford Sculptures Ltd. Photo: © John Goldblatt.



**Figure 12.2** Anthony Caro, *On the Double*, 1981. Lead and wood, painted. 25 × 26 × 12.5 in. (63.5 × 66 × 32 cm). B1304. © Barford Sculptures Ltd. Photo: © John Goldblatt.

In works such as *Bridger* (1986/1989), the wood elements seem to compress the folded lead elements, as if the pressure of the wood had shaped the soft metal. [Figure 12.3]. By contrast, the voluptuous, scooped central lead element in *Arcady* (1982/1984) reads as embraced by the sculpture's slender wood elements. [Figure 12.4] *Border Cut* (1984/86) or *On Court* (1986/1989), very differently, appear simply to present a flourish of lead for our admiration, the former holding it vertically, the latter unscrolling a plane across the composition. [Figure 12.5] And more.

Each sculpture, no matter how small in size, bears witness to Caro's ability to improvise at the same time that it reveals the many capabilities of its materials. Seeing a group of his lead and wood sculptures is rather like watching an innovative choreographer work with a troupe of gifted dancers, adjusting his impulses to the specific strengths and weaknesses of each performer. The comparison seems apt because we usually experience the structure of Caro's sculptures of any size in terms of our experience of our own bodies—of reaching, leaning, bending, reclining, and so on. Caro's small lead and wood sculptures are, essentially, scaled to the hand, yet their structural "syntax" often seems related to more generous,



**Figure 12.3** Anthony Caro, *Bridger*, 1986/1989. Lead and oakwood. 16.5 × 35 × 18 in. (42 × 89 × 45.5 cm). B1980. © Barford Sculptures Ltd and Galerie Templon, Paris. Photo: © Bertrand Huet/Tutti.



**Figure 12.4** Anthony Caro, *Arcady*, 1982/1984. Lead and wood. 12.5 × 18.5 × 12.5 in. (31.5 × 47 × 31.5 cm). B1713. © Barford Sculptures Ltd and Galerie Templon, Paris. Photo: © Bertrand Huet/Tutti.



**Figure 12.5** Anthony Caro, *On Court*, 1986/1989. Lead and wood. 18.5 × 26.5 × 14 in. (47 × 67.5 × 35.5 cm). B1982. © Barford Sculptures Ltd and Galerie Templon, Paris. Photo: © Bertrand Huet/Tutti.

ample, full-body gestures that we wordlessly recapitulate internally. We may not articulate the bodily feelings these small sculptures suggest—in the same way that Caro's sculptures of any size do—but his lead and wood constructions are enlivened by our perception, however subtle, of the way they move through and across space, loosely defining volumes and voids, and by our associations, on some level, of that movement with our own gestures and actions.

The play of unexpected, fluid lead shapes and sheets against the apparently casually shaped, utilitarian wooden elements is enriched, reinforced, and sometimes challenged by Caro's use of color. In contrast to the way he once deployed clear, bright hues to his early constructions in steel, to unify their disparate parts and subvert the vernacular, industrial associations, he now used color (both existing and imposed) in the small lead and wood pieces to dramatize the distinct visual qualities of each of their materials, underscoring nuances of surface, texture, and character. The lead elements vary most obviously in shape, length, and in how they signal both deliberate positioning and apparent "artless-ness"; the wood elements are more diverse in material properties. The difference between the wood and the lead is sometimes inherent, as it is when Caro incorporated irregular pieces of oak with a particularly pronounced grain and warm color into the lead sculptures, thriftily using off-cuts from the construction of one of his enterable Tower sculptures. But true to his usual intuitive, undogmatic approach to making sculpture, in each work he arrived at different solutions to the expressive relationship of the dull, matte metal and the wooden elements, marrying or separating forms, by various means, to create rhythms and counter-rhythms within each structure. Caro sometimes painted the wooden components, which usually retained the memory of their original designation as lumber, to intensify their warmth and unlikeness from the lead or, conversely, grayed them down, to make them appear as closely related to the lead as possible. Emphasizing the wooden elements with contrasting color heightened the tension between the mainly curvilinear, inward-turning lead inclusions and the unbending, thrusting lengths of wood, while unifying the disparate materials with closely related color, forced viewers to pay more attention to the subtleties that punctuate the sculptures.

Can we designate these oppositions as embodying Apollonian and Dionysian conceptions? Perhaps. But it might be more accurate to see them as manifestations of Caro's continuous questioning of the very nature of sculpture—abstract sculpture in particular—and his pondering of what sculpture could or should address. The association of the malleable, draped, folded, or otherwise manipulated lead elements with the hand (a notion built into the

word “manipulated”) may be crucial. “Up until abstraction became feasible for sculpture, I believe sculpture’s nature rested on its being ‘the art of the body’..” Caro wrote to a sculptor friend in 1996,

... not only because it reflected the look of bodies, but it reflected the sculptor’s own body as felt. Even now sculpture probably aspires to reflect our uprightness (the upright human body’s stance). Indeed granting ourselves the liberty to discard reference to the human body in sculpture, the body as subject matter, was, as I see it, more radical than leaving figuration out of painting.<sup>8</sup>

On many occasions, Caro described his early expressionist figure sculptures as being about what it felt like to inhabit a body and, it could be argued, he never seemed to have fully abandoned that idea, no matter how abstract or architectural his work became or how much he developed his structures horizontally, as if resisting the allure of “the upright human body’s stance.” His sculptures are always human in scale and implicate the body in many different, sometimes elusive ways. We measure his large constructions against our own bodies, and vice versa, as we move around them, experiencing them kinetically in our imagination. Some of his late, very large constructions—a row of linked, stepped steel “gateways” or a string of mysterious towers made of stacked wood, for example—required that we move through and even into them, in order to perceive them fully, while other works, dependent on still other ideas about enclosure and concealment, refused literal penetration but insisted that we enter them imaginatively. Caro’s small sculptures, such as the lead and wood series, appeal to our memory of handling the ordinary objects of our daily lives, but detach that experience from utility and deny us the possibility of touch. It may not be an overstatement to say that the coexistence of what we may call “soft” and “hard” elements—both literally and visually—in the lead and wood sculptures may serve as an oblique, surrogate reference to the body, its soft flesh and rigid bones. Or not.

There is no doubt, however, that some of Caro’s most ambitious large sculptures made during the period that he worked on the lead and wood sculptures are informed by the body, sometimes with the intermediary of figure sculpture of the past. *After Olympia* (1986/87) and *Xanadu* (1986/88), both extremely large, horizontally extended structures, are constructed incrementally, assembled out of closely related but individual units of curving, swelling steel, contrasted with vertical, geometric planes, and arranged like a row of figures. As we move along these long, extended structures, we tend to read these units simultaneously as inventive, self-sufficient configurations and as personages, an association

strengthened when we learn that *After Olympia*, as its title suggests, was Caro's response to the great fifth century BCE pediment sculptures of the temple of Zeus at Olympia, Greece (*Xanadu*, notwithstanding its literary reference, is a rethinking of some of the spatial ideas in *After Olympia*). It's significant that both of these works deal with the human body at one remove, since both were provoked not by studying the model but by seeing eloquent figure sculptures—that is, they are meditations, however oblique, on the body already translated into a work of art. Caro often drew from the model, in intense campaigns, especially after the early 1980s, but never as preparation for abstract sculptures. Treating other art as intermediary, however, was important to his working methods. At intervals, he used paintings he was particularly interested in or moved by as the starting points for sculptures, departing from works by artists as diverse as Duccio, Edouard Manet, Mantegna, Henri Matisse, Rembrandt, Peter Paul Rubens, and Vincent van Gogh and relying, for the most part, on his memory of the things that most fascinated him as a source. Most of the resulting sculptures depend upon curvilinear forms, compressed or swelling, played against geometric planes, just as the lead and wood sculptures do.

It's worth noting that despite his passionate, lifelong commitment to abstraction, Caro never stopped thinking about the role of allusion to experience, especially to the figure, in sculpture. In the mid-1990s, he wrote to a sculptor friend

I am torn between the blankness, minimalness available to sculpture on the one hand and the reference to our lives lived ... I find this is an area of dilemma for me and I find myself excited and nervous about it going first one way and then another in my thinking. And I don't want it solved; I want to struggle with the possibilities in the sculpture that I make ... I'm not sure that we may define "what sculpture is;" at least, if we do it's only very temporary ... It does hover uncertainly between architecture and painting. It was much easier when it was firmly tied to the human figure. Now it's less certain, less clear.<sup>9</sup>

It could be argued that working with malleable, responsive lead, which both asserted its own intrinsic qualities and seemed to remind us of the action of the hand, allowed Caro to make reference to the human figure metaphorically, without compromising abstractness, at an intimate scale. The material seems to have furthered "the struggle with the possibilities" that he said he wanted to engage with in his work. That may account for his dedication to making lead and wood sculptures for nearly a decade, adding a fascinating body of work to his wide-ranging, inventive legacy, a series at once new, self-contained, and informed by his unchanging concerns.

## Notes

- 1 Karen Wilkin, *Sculpture in Steel* (Edmonton: Edmonton Art Gallery, 1974).
- 2 Karen Wilkin, *Anthony Caro: Stainless Steel* (London: Lund Humphries, 2019).
- 3 Anthony Caro, conversation with author. This and all other otherwise uncited quotations from Caro from the author's conversations, studio visits, and interviews, in preparation for articles, catalogue and book texts, participation on panels exhibition projects, etc. various dates, 1972–2013.
- 4 Anthony Caro, *Bennington Years* (lecture, Hartford School of Art, University of Hartford, Hartford, CT, *Caro, Noland, Olitski* symposium, April 26–28, 1994).
- 5 Caro's students at St. Martin's included David Annesley, Michael Bolus, Gilbert and George, Philip King, Tim Scott, William Tucker, and Isaac Witkin, among others, all represented in the collection of Tate Britain, all recognized for their unconventional use of unconventional materials; with Caro, they essentially revitalized British sculpture in the early 1960s.
- 6 Caro, conversation with author, fall 1997 and winter 2006.
- 7 Clement Greenberg, quoted by Caro, lecture at Hartford School, 1994.
- 8 Anthony Caro to sculptor Tim Scott, unpublished letter, February 24, 1996. Private Caro Archive, Barford Sculptures, London.
- 9 Caro to Scott, unpublished letter, private archive.



## The New British Sculpture and the Poetics and Pragmatics of Lead

Jon Wood

In 2004, British sculptors Richard Deacon (b. 1949) and Bill Woodrow (b. 1948) staged an exhibition of their jointly made lead and wood sculptures called *Lead Astray*.<sup>1</sup> This was their second exhibition of what they called their “shared sculptures,” an ongoing exhibition that started over ten years earlier with *Only the Lonely* in 1993.<sup>2</sup> The exhibition was held at the New Art Centre Sculpture Park and Gallery at Roche Court near Salisbury and at the National Palace of Queluz in Portugal, where there already was a large group of lead sculptures made by the eighteenth-century British sculptor John Cheere, which was about to undergo restoration with the support of the World Monuments Fund.

The exhibition, which was seen as an example of sculptural exchange between two countries, Britain and Portugal, was itself structured on the idea of the island. Each of the eleven freestanding sculptures, all made in 2003, was named after real islands within the UK and included *Black Isle*, *Bait Island*, *Rough Island*, *Sheep Island*, *Rabbit Island*, and *Puffin Island*.<sup>3</sup> Working between and across lead and different types of wood, Deacon and Woodrow’s sculpture (which included the occasional section of glass) each subtly explored the sculptural dialogues between these two materials within a miniature landscape, island context. Lead was used for the sculptural representation of trees, stags, horses (and horsemen), eels, worms, and skulls: cast and manipulated into shape. [Figure 13.1] At moments these metal objects recalled enlarged versions of small lead toys—casts of animals, soldiers, “Cowboys and Indians,” military vehicles, and so on—popular in the first half of the last century in Britain and still enjoyed by children in the postwar years. At other moments their tubular forms recalled the lead plumbing that was ubiquitous in Britain until 1969 when it was banned from use, and after which it soon became a familiar feature in skips and salvage



**Figure 13.1** Lead toy planes.

yards around the country.<sup>4</sup> Lead was thus cast in these sculptures as part of the material culture of Britain while also being connotative of elsewhere, of other places.

In their *Lead Astray* sculptures, lead also alternated with wood as the material of base support (for their tripod or cylindrical plinths) and was used as a connective material, helping to bolt and bind the wooden components of their multipartite sculptures together. This was most notably the case in their *Cardigan Island*, which (the most abstract of the group) was a freestanding, stock-like wall of sections of wood and lead held carefully in tandem and in place. [Figure 13.2] Across their eleven works, lead demonstrated both flexibility and amenability, enabling both artists to work with it in different ways, while enjoying its character-full impersonality: an ability to communicate human touch and impressionability, but in ways that did not reveal specific hands or authorships. The title *Lead Astray* highlighted this aspect: that viewers might not be able to grasp which artist's hands had made which elements of these deliberately misleading, jointly made works. The conceit of lead leading viewers astray was further explored through the creation of a smaller twelfth island, called *Ash Island*, which was made in the form of an ashtray and with it a pun on "astray."<sup>5</sup>



**Figure 13.2** Bill Woodrow and Richard Deacon, *Cardigan Island*, 2003. Wood and lead, with small glass detail. 127 × 112 × 35 cm. Unique. Courtesy of Bill Woodrow.

Although this was the first time that Deacon and Woodrow has used lead to make joint work, this was not the first time that they had used it (or in the case of Deacon collected it for future use) as artists.<sup>6</sup> Nor indeed was this a material that was new to their generation of sculptors, artists who, born during or soon after the Second World War, all came into prominence in Britain in the late 1970s and 1980s, many of whose work became associated with the so-called New British Sculpture. This chapter takes up this generation's interest, looking at the range of ways in which lead was used by these British sculptors, reconsidering works by artists including Tony Carter (1943–2016), John Gibbons (b. 1949), Antony Gormley (b. 1950), Cornelia Parker (b. 1956), Carl Plackman (1943–2004), Nicholas Pope (b. 1949), Michael Sandle (b. 1936), Richard Wentworth (b. 1947), Alison Wilding (b. 1948), and Bill Woodrow (b. 1948). The sculpture associated with this larger artistic movement was both made in the face of the austere geometries of American Minimalism and inspired by the work of Italian artists associated with Arte Povera and by the work of Joseph Beuys in Germany,

while employing narrative, simile, figuration, and an interest in a diverse range of materials and objects, both found and made.<sup>7</sup>

For this new generation of sculptors emerging in Britain in the mid- to late 1970s lead was a promising material with which to work. A good sense of the material, sculptural imagination of the time can be found in Ben Jones's *Artscribe* review of sculpture in 1977, "A New Wave in Sculpture: A Survey of Recent Work by Ten Younger Sculptors." In this insightful article, Jones considered the work of Roger Bates, Tony Cragg, John Gibbons, Charles Hewlings, Dave King, Jeff Lowe, David Nash, Colin Nicholas, Nicholas Pope, and Shelagh Wakeley.<sup>8</sup> Jones introduced these artists by stating that they were an "acutely historically aware" generation that "have been trained entirely in art schools."<sup>9</sup> For Jones they represented a generation who had learned both from the "prosperous sixties" and from the "minimal, conceptual and process ideologies" of the seventies, and who were then turning to sculpture in a more expanded sense and to object-making through recycling man-made and natural materials, with renewed imaginative energy as well as through economic necessity.<sup>10</sup> In doing so they were turning away from "the appearance of newness" while having "a mistrust of smoothness, cleanliness and ostentatious novelty."<sup>11</sup> These young sculptors, across their disparate activities and interests, were all involved in a quest for "an aesthetic and an emotional content most purely and intensely the prerogative of sculpture."<sup>12</sup>

Jones highlighted five key characteristics of contemporary British sculpture at this mid- to late 1970s moment: the preference for monolithic, enclosed forms; an informal approach to organization and a preference for self-supporting configurations; a tendency to work with single ideas; the use of recycled materials; and the widespread deployment of modular units. Although the concerns Jones singles out reveal an interest in abstraction over figuration and narrative content, these would also be some of the core characteristics of sculpture to come in the next few years, as other sculptors from this generation explored the expanding practice of sculpture within an increasingly international context. The examples of Arte Povera, Fluxus, and Nouveau Réalisme haunt some of the work under discussion. This broader outlook and sensibility would become an important issue in the 1980s for sculptors who were also looking beyond this country's sculpture traditions, for examples of what sculpture could be. Lead as a sculptural material occupies an intriguing place across these practices, and this short chapter will explore some of the key instances of its deployment, using artistic testimony provided directly by several of the artists themselves as a way of further understanding the scope and subtlety of issues at stake and the

simultaneous poetics and pragmatics of lead as a particular sculptural material for these artists at this time.

Prior to *Lead Astray* one of the earliest instances of the use of lead in Woodrow's sculpture is *Untitled* (1978). The work comprises two wooden bowling balls that have been sliced to create four demi-spheres which, placed in a row on the ground, are each inlaid with a strip of curved lead, which create a line of linkage across the four parts.<sup>13</sup> Lead here is deployed in a traditional inlaid manner, but it is also a work that relates to the artist's interest in dry-stone walls curving over the hillsides as well as to his childhood leisure pursuits, particularly creating fishing weights and pellets. As he has recently recalled:

As a child, lead was a material that was valuable and much sought after because of its somewhat magical properties. It was soft and heavy and could be easily beaten into new forms and even more wonderful was the fact it could be melted over a small open fire and poured into simple dried mud moulds, usually to make fishing weights or catapult ammunition. Alchemy from a box of matches that would make a morning pass by very quickly. The lead was mainly sourced by scouring building sites for small scraps that roofers and plumbers had dropped from the scaffolding. This ease of transformation and its immediacy still holds very strongly for its use sixty years on.<sup>14</sup>

Woodrow's lines powerfully highlight the creative and spontaneous thrill of working with lead as a found material: it could be quickly sourced and small objects made within minutes. Skills learned as a child find themselves interestingly translated in the later *Untitled* (1978), a work that combines ready-made objects and materials making a new ensemble which is tied together by using lead as an inlay material and as a material for drawing with. It is striking too to read his use of the term "alchemy." This reflects not only the deployment of lead as a material of and for transformation, but also the repurposing of two wooden bowling balls, from objects of sport to objects of art. His mention of alchemy is also a reminder of the deep connection between Woodrow's work and that of many Arte Povera artists, who were similarly interested in rediscovering the latent poetics of familiar material objects. Lead, for example, occupies an important place in the work of Pier Paolo Calzolari (b. 1943), who highlighted his long-standing fascination with it in a recent conversation:

I am fascinated by lead because it is very heavy and yet very malleable. Another reason why I often use it is that it is present in one of my long-standing interests: that of alchemy. Take mercury, for example: if put in contact with gold, gold crystallizes, explodes; if put close to lead, it slides into lead and disappears. There is what I call a marriage, a chemical marriage between lead and mercury. Finally,

as you know, I grew up in Venice. Here, any building, any piece of marble in the city is connected to another by a thin piece of lead, which is placed in between. Marble expands due to the heat and the cold. For this reason, lead is used as an elastic cushion to protect these connecting pieces of marble. For someone like me, who for years walked around Venice, loving every part of the city, lead became an important presence: it is everywhere.<sup>15</sup>

For both Calzolari and Woodrow, the magic of lead as a sculptural material lies in part in its everydayness and its ubiquity, coupled with its inherent transformative flexibility. Alongside its temperatures, the weightiness of lead is part of this too. How lead can function in combination with other materials, such as wood and stone, working with and against gravity to create subtle balancing acts, is something that preoccupied other contemporaries of Woodrow's, including Alison Wilding, John Gibbons, and Nicholas Pope.

Wilding has used lead many times in her work. Like Woodrow and Deacon, she has combined it with wood, but she also introduced other materials to lead and wood too. In the early 1980s, for example, we find them combined with wax, aluminum, and silk in works such as *April* (1982), with pine, lime wood, and wax in both *Dark Perch* (1982) and *Red* (1982), and with wax and copper in *Locust* (1983) in the Tate's collection. Lead was used for smaller works and then later leaded steel for sculptures (often on a larger scale for which the feel of lead is required), including works such as *All Night Through* (1986), *Mantle* (1989), *Dismantle* (1990), *Fuse* (1990), and the smaller *Ammo* (1990). Exploratory games between hard and soft, light and weighty abound in her work as we find an ongoing interest in the deceptive "lead balloon." And, as is often the case with Wilding's sculpture, a haunting, menacing, or sinister mood is suggested by the materials, forms, and titles. Lead's dangerousness and its connection to death—to weaponry and warfare—are often never far away. But nor also are the visceral pleasures and challenges of making and composing, and this is something that comes through on reading Wilding powerfully reflect on pouring lead for one of her sculptures in 1984. She writes:

I had a piece of lime wood, a beautiful wood to carve. I carved a shallow bowl roughly 30 by 20 by 10 centimeters, and had an idea to balance it on a curved wooden base which tapered to a small flat top. I wanted the bowl to balance precariously on the flat surface of the base and there was only one way to do this: by using lead as ballast. With a pair of snips I cut up some sheet lead and dropped them into a heavy crucible balanced on the tripod which my father-in-law had made and which stood over the lit propane gas ring. The small scraps of lead at the base of the crucible soon flexed and melted, lead fumes filled the air,

and before long the impurities in the crucible gathered in a thick crust, which I scraped to the edge with a bent strip of metal. Filling a robust ladle that was heating up in the pool of lead I poured the molten lead into the wooden bowl which was wedged into a pile of sand. As the stream of lead hit the wood, the wood smoked and charred without catching fire. The pour must be fast, the surface of the lead wrinkles and rapidly solidifies and changes colour—electric blue, yellow—soon to be dull. The wooden bowl with its puddle of lead freight is now so heavy that it will balance on the smallest flat surface. Asymmetry achieved.<sup>16</sup>

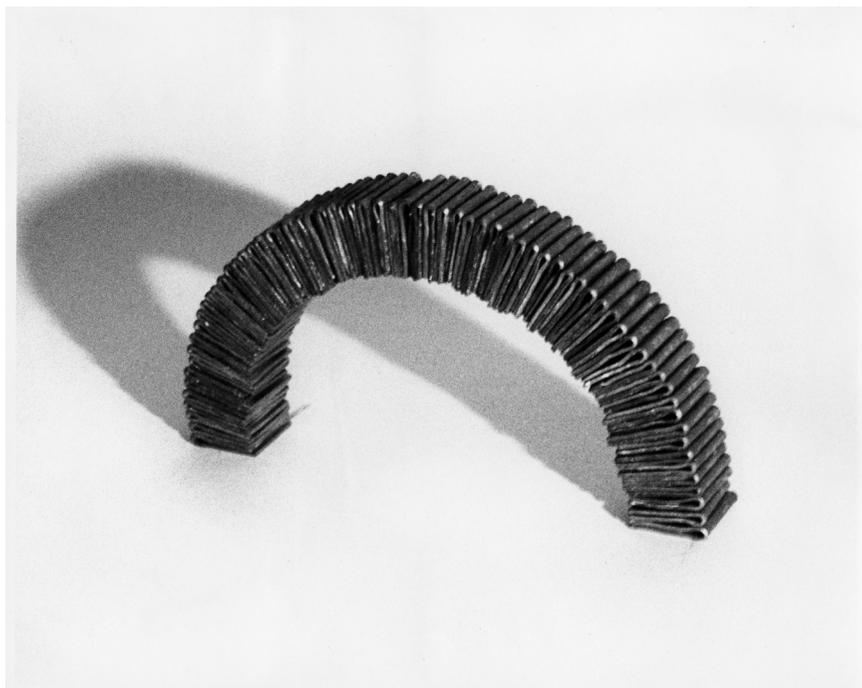
Like Woodrow, Wilding relishes the sculptural pyrotechnics that lead involves and the almost ritualistic way of working it requires. Sculpting with lead is a physical activity with dramatic results and the challenges of working with it and the happy accidents that it can engender is something that John Gibbons has remarked upon looking back at his work in the late 1970s, when making small, folded lead sculptures such as *Punjab* (1979) now in the Arts Council collection. He writes:

I found lead a very different material and struggled to come to terms with it until I had an accident when casting shapes. The mould broke and I ended up with a flat sheet as opposed to a solid. I was furious as it took so much time setting it all up. When I picked up the sheet to re-cast it I was fascinated to find how it bent so easily. I immediately started casting more sheets and that's how the series, of which "Punjab" is a part, started. It was like working with pastry—wrapping something up—although not as easy! It has no structural abilities, as it were, so the wrapping was more natural to its materiality. The wrapping did require a lot of force to form—and you had to understand that your force would leave an imprint.<sup>17</sup>

If Gibbons's lead works are examples of hands folding lead, rather than catching it (as Richard Serra had done earlier), Pope's use of lead in the mid- to late 1970s also involved a direct engagement with the material that had a bodily, performed quality.<sup>18</sup> Lead could be folded to make works evocative of frailty, instability, and precariousness. His lead sculptures were also made in dialogue with other materials. *Two Stacks* (1976), for example, presents two columns of lead on top of two columns of Bath Stone, both leaning in tandem. And *Stacked Lead* (1976), which is just under a meter in height, comprises a thin cubic tower of lead placed precariously on top of two blocks of Bath Stone. The leaning tower of lead is propped up by two thin birch sticks. Pope's sculptural balancing acts with lead bring to mind Serra's *Corner Prop* (1969) and *One Ton Prop (House of Cards)* (1969), but Pope's works are more poised, subtle and delicate, less dangerous

perhaps, and more engaging with the subtle human values (rather than dramatic, gravity-generated effects) that such a material might evoke: human frailty rather than bombast. Pope's *Small Lead Arch* (1976) is another good example of this and the kind of sensibility at work. [Figure 13.3] Looking back on this small lead sculpture, Pope recalls:

Cutting and folding lead (a material which pretends to be strong and hard but is neither), then stacking the folded leaves to produce an arch that has no structural stability apart from its own weight, creates the conditions for a performance. It can be free-standing—just until it collapses. *Drooping Column*, another work I made at this time, tries to free itself another way—by using its own weight to withstand gravity. A rope passes through the centre of the topmost two wooden blocks and emerges to follow the line of the outer curve, stabilising the vertical section. At the time I thought it impure. But now, especially on re-reading William Tucker's inspirational 1975 catalogue essay [*The Condition of Sculpture*], I see it rather differently: more about necessary transitoriness and physical fragility than a weakness of the original performance or making.<sup>19</sup>



**Figure 13.3** Nicholas Pope, *Small Lead Arch*, 1976. Folded lead. h. 7 cm. Edition 5. Courtesy of the artist.

For Woodrow, Wilding, Gibbons, and Pope, much of the charm of lead is to be found in its material properties and what it is like to work with across physical states, from liquid to solid. In this respect lead shares some of the magic for artists that plaster has done and can do. Like plaster, lead has a sculptural versatility and amenability: useful for making replications and reproductions of objects but also able to be used in other ways. For other artists working at this time, notably Michael Sandle, Carl Plackman, Richard Wentworth, and Tony Carter, it was lead's figural and symbolic potential that captured their imaginations: a curiosity both with the metaphorical lives led by lead and as found existing in its vast array of cast objects. These artists' works also show a preoccupation with lead's metallic palette, its shades of gray, and its close relationship to black-and-white photography.

Sandle's use of lead connects to his long-standing interest in the imagery of war and warfare. As early as 1961, when teaching at Leicester, he made an enlarged version of an air-gun pellet in lead (about 10 cm. in height) and this projectile imagery was folded into an image of the moon, fashioned in lead, which he placed at the center of his large *Second Black Construction* (1961–62). He also used strips of lead laid over the eyes and mouth of a dead soldier in his three-meter-long bronze sculpture *Caput Mortuum* (1983).

The deathliness of lead and its melancholy aspect also figures in many of the works that Plackman made: an artist much inspired by Joseph Beuys. Like Sandle, he was interested in the gun metal gray life of lead and we find it throughout his works, and especially in his works on paper and in his later still life and ensemble paintings, such as *Diplomacy Closing the Circle* (1984), *What I Say, Not What I do, Not What I am* (1986) and *More or Less* (1986). In these works, Plackman's tongue-and-groove sculptural imagination comes to the fore, reminding us that he has an eye and mind for pairings and juxtapositions, for fits and misfits, as well as for surrogates and substitutes. Telephones and crania, handsets, and jawbones find themselves poised in everyday/very un-everyday equivalence and analogous relation. Cobblers' lasts, that outmoded favorite of many a British sculptor in these years, echo their three-dimensional, figurative thoughts, rotating feet impossibly on and off the ground, while asking us to ruminate on the simultaneous asymmetry and stability of the tripod. The constant use of gray and the many shades of gray between black and white that Plackman employs might point to his interest in photography, film and the silver screen, and the capacity of such a color scheme to create at once dreamscapes and diagrammatic visions is remarkable indeed.

Drained of color and roughly bordered by the unpainted blank paper itself, Plackman's works on paper are glimpses into places in which fact and fantasy, objectivity and irrationality coincide. They have a fictional/non-fictional quality to them and this neutrality in turn supports the authorial mood of level-headedness, balance, impartiality, and indifference, because of (as much as despite) the oddness of their subject matter. Plackman's gray works on paper might also remind us of grisaille monochrome painting, executed usually in shades of gray, popular in the eighteenth and nineteenth centuries, which was often used in large, wall-bound decorative schemes in imitation of relief sculpture. Again, the interior—real and metaphorical—is where Plackman's imagination ruminates and takes its bearings.

Plackman's *Decoy* (2000) is a later sculpture that draws upon decades of ruminations on lead not only as a material and as a color, but also on mystery. [Figure 13.4] The work comprises two tables placed side by side. On top of the table are a number of small cast lead objects, including a large lead cast pestle and mortar, overseen by a large plastic model of a crow. Underneath one of the tables hang a number of lead objects, including lead casts of a cow's tongue, lemon, carrot, snail, cabbage, all suspended by metal chains. Many of these objects are edible, evoking both taste and the suspended fruit and vegetable still lives of the Spanish painter Juan Sanchez Cotan (1560–1627). Object suspension and reference to lead as plumb line is a feature of a number of sculptures by Wentworth too, including *Place* (1984) and *Siege* (1983–84), now in the Tate's collection.

Like Plackman and Wentworth, Carter was making enigmatic still-life sculptures that raised questions about the relationship not only between object, image, and viewer, but also between sculpture and painting. This reflects the moment of its making, since the late 1970s was a period of transition in Carter's practice. As he has recalled: "I was moving away from the conventions of painting and towards a way of making sculpture which prioritized the image." Initially inspired by Marcel Duchamp and later Joseph Beuys, his meticulously and highly worked pieces usually began with found objects, which became catalysts, opening up possibilities for poetic and visual analogies. Carter's work occupied a fascinating place within the emerging "New British Sculpture" in the early 1980s. The work was reproduced at the end of the catalogue for the Whitechapel Art Gallery's *British Sculpture in the Twentieth Century* (1981) survey exhibition, curated by Nicholas Serota and Sandy Nairne. Then a year later it concluded the art critic Michael Newman's championing of the "New British Sculpture" in his *Art in America* article.<sup>20</sup> Newman's article launched a generation of artists—



**Figure 13.4** Carl Plackman with *Decoy*, 2000. Courtesy of Jane Plackman.

including Tony Cragg, Richard Deacon, Bill Woodrow, Anish Kapoor, Jean-Luc Vilmouth, Kate Blacker, Alison Wilding, Anthony Gormley, and Shirazeh Houshiary—onto the North American art scene. Yorkshire-born Carter is seen by Newman as offering an alternative to the “bricolage” sculpture and “art made out of rubbish” of that time, seeing in Carter’s work a call for a more metaphysical consideration of the symbolic and immaterial poetics of material objects and what they might tell us about our everyday lives and how we see ourselves.

Carter’s *Pietà* (1982) was shown widely in the early 1980s.<sup>21</sup> Lead is employed in the wings, which are cast, again like other artists working against the grain of lead’s weight by using it for an image of flight or aerial suspension. The postcard image of Jacopo Sansovino’s *Mother and Child* was given to Carter by the artist Wendy Smith, who had seen it at Castle Howard a few years earlier and sent it to him. Carter’s deployment of it, tipping it onto its side, shows the ways in which an image of the Madonna and Child, in which the mother cradles her newborn, can become an image of the Pietà, in which she bears the weight of her dead son. Smith has commented on the lead wings in relation to this:

Birds’ wings can be spread or folded, in flight or at rest. They can be protective, as when incubating eggs or safeguarding young. They can be threatening, as when a hawk hovers over its prey. Angels are winged messengers bringing news of great joy, on the one hand, they are also harbingers of foreboding, on the other.

Smith concludes:

Tony was not a “religious artist” any more than he was a “war artist.” He speculated intensely on the “intricacies of subject/object relationship,” the interconnectedness of art and life, of seeing and thinking, and what he referred to as the first order nature of tactile/visual language. *Pietà* is not an ironic and/or ingenious narrative distillation of the life of Christ, say. It is, rather, the representation of an abstraction: namely, the inextricability of life and death, joy and sorrow in human experience and the hope of creative transcendence.<sup>22</sup>

Carter’s *Pietà* demonstrates the extraordinary power of small cast lead object to articulate a range of complex ideas within a single composition. The relationship between the small-scale and the monumental—in the form of lead as a sculptural material—is something that emerges compellingly within the work of Cornelia Parker and Antony Gormley in the 1980s. Like Carter, both Parker and Gormley are interested in the symbolic power of smaller-scale lead objects, though in different ways. Parker’s *Fleeting Monument* (1985) is perhaps her best-known work in this context. It is an all-metal ensemble, comprising wire, brass, and hundreds of small lead casts of an image of Big Ben in Westminster. In this work, the single lead image and object have been multiplied to create a sculptural landscape. Writing about the sculpture in 1986 at the time it was being acquired by the Arts Council, she stated:

This sculpture is part of a body of work using, as a main element, lead casts of architectural souvenirs. Souvenirs are bought as monuments, relics of something extraordinary. Through miniaturisation and reproduction, a famous cathedral becomes a crude abstraction, a useless ruin of the original. The Big Ben in the sculpture was the handle of an ornamental bell, sold in thousands around London. By the process of casting hundreds myself, from only one mould, the clock towers become gradually faceless. The work went through various stages in development. The initial idea was to make a cloak of clock towers to hang over the “mantle” piece (on which a timepiece or trinket would usually sit). Later the piece moved/spilled on to the floor allowing it to become circular. Looking down on it reminded me of aerial photographs of ships at sea, so the word “fleeting” has a duality for me. I like using lead as a material: as well as being easy to cast without a foundry, it has many associations and uses (poison, heaviness, gravity, baseness, roofing/shelter, plumb lines, etc.) which in combination with an image, can allow an infinite number of interpretations.<sup>23</sup>

Like Woodrow, Parker cherishes the charm of the small-scale cast lead object, whether from the toy box or whether one of any number of miniaturized buildings or micro-architectures that can be found in tourist shops all over the world.

Consideration of the small-scale life of lead objects also captured the sculptural imagination of Gormley and he became in the 1970s, the 1980s, and into the 1990s the sculptor who used lead as a sculptural material most frequently. This interest soon developed into figurative lead sculpture, using his own body, but it started in the late 1970s with an interest in sculptural still-lives and with works that shared many correspondences with the lead object works of Woodrow, Carter, Plackman, and Wentworth. *Five Fishes* (1981), also in the Arts Council collection, is a good example of this early work. It relates to a small group of object sculptures that include *Fruits of the Earth* (1978–79), *Land, Sea and Air I* (1979), *Natural Selection* (1981), and *Three Bodies* (1981). The lead of these works both protects and hides the original object, concealing it from sight but presenting a new version of it, creating a kind of new sculptural object togetherness. Writing about the work in 1988, Gormley stated: “The invitation of this piece, as in the work from my body, is to allow consciousness to work anew on matter and by denying the creative in its traditional artistic sense, to place the viewer in the same position as the artist in reinventing the world.”<sup>24</sup>

Looking back today at Gormley’s sculpture of the last two decades of the last century is to look back at an oeuvre than not only focused on his own body but that also extended to the production of large-scale, monumental figurative sculptures most notably in the form of the 20-meter-tall and 54-meter-wide *Angel of the North* made in steel and erected in Gateshead in 1998. *Angel of the North*, however, was a work in a sense, however, that started its journey in lead twenty years earlier with this sculptural still-live body of work and in the context of the material poetics of lead resonant at the time, many of which I have drawn attention to in this chapter.

Lead, not just for Gormley but for so many sculptors coming into view in Britain in the 1970s and the 1980s, was the metal of choice before more fine art established alternatives such as bronze. It was a material with a wide metaphorical and associative field of reference, embracing war and peace, strength and weakness, alchemy and the everyday. It evoked a national material and sculptural cultures, while also pointing to European currents, particularly in Italy and Germany. At once hot and cold, soft and hard, it was capable of holding many other transformation-orientated ideas, often in tandem. Alongside this, it had a physical versatility that meant that sculptors could work with it directly in many ways, often in dialogue with other materials (such as wood and stone) and often learning with it, as they went along. It was a material of the small-scale and good for making objects that could be held in the hand, cherished, coveted, played with, and collected. It was a material with which sculptors could make both reproductions and unique objects, manipulating this responsive substance

in all kinds of ways. And as gravity took its toll, it was able to communicate its famous weight at the same time as pointing to its imagined weightlessness and suspending its possibilities in ways that, once again, as the twentieth century drew to a close, highlighted the powerful poetics and pragmatics of this age-old, sculptural material.

## Notes

- 1 *Lead Astray: New Shared Sculptures: Bill Woodrow and Richard Deacon* (Queluz: New Art Centre and National Palace of Queluz, 2004).
- 2 *Only the Lonely*, started at the Chisenhale Gallery in London in 1993, and then traveled to Aspex Gallery in Portsmouth and then in 1994 to Galerie Sabine Wachtters in Brussels. These exhibitions were followed by: *On the Rocks* (2008), Bloomberg SPACE in London, *On the Rocks. Again* (2014) at the New Art Centre, *From the Rocks* (2016) at Sabine Wachtters Fine Arts in Knokke and *Don't Start* (2016) at Ocean Studios in Plymouth.
- 3 For a useful essay on these works, see Stacy Boldrick, "Castaway," *Lead Astray: New Shared Sculptures*, 5–17.
- 4 Lead was also banned as a solder material a few years later in 1987.
- 5 *Lead Island* was made after the other works in 2004, as a multiple of ten with three artists' proofs.
- 6 On Richard Deacon's use of lead: "Once upon a time, I'd occasionally find lead pipe in skips and I always collected it, but never used it until *Lead Astray*. Shortly afterward I did use lead strip to make some models for sculpture project that never happened." Richard Deacon, letter to author, May 27, 2019.
- 7 For a useful exhibition catalogue on lead as a sculptural material, see *Lead*, New York: Hirschl & Adler, 1988, with introductory essay, "An Umbrella of Lead," by Klaus Kertess. This exhibition included works by: Carl Andre, Joseph Amar, Robert Morris, Joseph Beuys, Richard Serra, Antony Gormley, Ronu Horn, Jasper Johns, Jannis Kounellis, Sherrie Levine, Markus Lupertz, Anselm Kiefer, Ross Bleckner, Joel Shapiro, Claes Oldenburg, Bruce Nauman, Chris Wilmarth, Giovanni Anselmo and Georg Baselitz.
- 8 Ben Jones, "A New Wave in Sculpture: A Survey of Recent Work by Ten Younger Sculptors," *Artscribe*, no. 8 (September 1977): 14–19.
- 9 Jones, "A New Wave in Sculpture," 14.
- 10 *Ibid.*
- 11 *Ibid.*
- 12 *Ibid.*

- 13 See Julia Kelly and Jon Wood, *The Sculpture of Bill Woodrow* (London: Lund Humphries, 2013), 49.
- 14 Bill Woodrow, letter to author, March 23, 2019.
- 15 Pier Paolo Calzolari in conversation with Jon Wood, *Pier Paolo Calzolari* (London: White Cube, 2018). See also the entry “Lead” in Massimiliano Gioni, “Pier Paolo Calzolari,” in *Pier Paolo Calzolari* (New York: Marianne Boesky and The Pace Gallery, 2012). “Lead and copper are two of Calzolari’s favorite materials. Calzolari’s sculptures seem based on an ancient, alchemical science, yet precious materials such as gold are scarce in his works, which seem pervaded by an indigent simplicity. And so the challenge becomes even greater: how does one reach enlightenment by way of dull, heavy materials such as lead?”
- 16 Alison Wilding, letter to author, April 25, 2019.
- 17 John Gibbons, letter to author, May 20, 2019.
- 18 See n.a., *Nicholas Pope* (London: Ridinghouse, 2013), 24–37.
- 19 Nicholas Pope, “Statement,” in *United Enemies: The Problem of Sculpture in Britain in the 1960s and 1970s* (Leeds: Henry Moore Institute, 2011), 21.
- 20 Michael Newman, “New Sculpture in Britain,” *Art in America*, 70, no. 7 (September 1982): 104–14, 177–8. This essay was reproduced in Henry Moore, *Essays on Sculpture Series*, no. 79 (Leeds: Henry Moore Institute, 2018).
- 21 It was first shown at *John Moores Liverpool Exhibition 13*, Walker Art Gallery, November 25, 1982–February 20, 1983. It was subsequently exhibited in the *British Art Show*, Arts Council touring exhibition, 1984–85.
- 22 Wendy Smith, letter to author, April 3, 2019.
- 23 Cornelia Parker, August 15, 1986, Arts Council collections file. See its recent inclusion in: *Making It: Sculpture in Britain 1977–1986* (Longside: Arts Council Collection, 2015), 98–9.
- 24 Antony Gormley, statement, Arts Council collections files, 1988.



## Organizing against an Invisible Threat: Lead According to Futurefarmers and Mel Chin

Silvia Bottinelli

“What if we told you that there is an invisible element wreaking havoc on our society, poisoning children and causing elevated crime levels, decreased performance in schools, and increased health costs?”<sup>1</sup> This question lingers on the website of the Fundred Project, initiated by Asian American artist Mel Chin. The element in question is lead. Chin depicts lead as an invisible and pervasive threat that should cause serious alarm.

In the context of the United States, lead is omnipresent in the built environment. We can find it in old house paints and pipes, in ceramics and children’s toys, and, ultimately, in backyard soils and water supplies. In recent years the metal has been exclusively presented by institutions and administrations as a public health hazard because of the increasing awareness of lead’s toxicity.

In the United States, such public portrayal of lead as dangerous and poisonous is reflected in contemporary social practice, meaning public artworks that aim to affect social change through projects that involve collaborators and participants.<sup>2</sup> My chapter examines two such projects as main case studies. I will analyze *Soil Kitchen* (2011) by the interdisciplinary collective Futurefarmers, led by artist Amy Franceschini in collaboration with Dan Allen and Ian Cox, among others; and the interrelated works *Operation Paydirt*, *Safehouse*, and *Fundred Dollar Bill* (2006–ongoing; here comprehensively referred to as *Fundred*) orchestrated by artist Mel Chin. These interventions enjoyed widespread coverage in the media and have been the subject of critical and curatorial texts, which are cited throughout this chapter. The availability of primary and secondary sources allows an in-depth evaluation of the projects, making them feasible subjects of scholarly investigation. My chapter is the first in-depth study of *Soil Kitchen* and *Fundred* to explore the role of lead in the economy of the artworks from an art historical perspective.<sup>3</sup>

I argue that Futurefarmers and Mel Chin seek to educate about lead's harmfulness and, contemporaneously, aim to remediate urban environments to improve the lives of communities in Philadelphia, New Orleans, and throughout the United States. The artists interpret lead in ways that reflect regulatory and scientific shifts in the past decades. In line with select eco-art practices since the 1990s, they use art as a creative form of problem-solving.<sup>4</sup> They notice that one of the most worrisome aspects of lead pollution is its invisibility: not being able to spot lead in the build environment, including urban soil and water, jeopardizes the chances to stop poisoning, as unaware users do not question the safety of their surroundings. For this reason, Chin and Futurefarmers emphasize the theme of invisibility in their lead-related works, in which lead itself remains invisible. In *Soil Kitchen* and the *Fundred* series, lead is not present in its material appearance. It is rather removed from the visual imagery associated with the projects, being represented in abstract ways through test result numbers, mapping, or concerned words of advice. At the same time, I will suggest that by amplifying lead's invisibility, the artworks may inadvertently amplify the fear associated with lead. Emphasizing invisibility might instill a sense of lack of control and anxiety that reduces the public's active response against a supposedly unpredictable and ultimately unknown enemy.

### Fighting against a Giant Monster. Futurefarmers' *Soil Kitchen* (2011)

Through *Soil Kitchen*, Futurefarmers promoted soil testing for lead and other contaminants to foster safe urban agriculture practices in Philadelphia [Figure 14.1]. For a week in April 2011, the public was invited to bring soil samples, receiving in exchange vegetarian soup and a plethora of community education classes. Futurefarmer Amy Franceschini mentioned to me that soup was "made with vegetables grown on a former brownfield that had been remediated."<sup>5</sup> This helped the viewers develop confidence in the idea of growing food in formerly contaminated land. By ingesting food, the participants listened through their whole bodies and learned to trust urban agriculture experientially. Physiologically, consuming fruits and vegetables that are rich in vitamins helps reduce lead absorption.<sup>6</sup> Thus, offering vegetarian soup modeled lifestyle habits that are aligned with *Soil Kitchen's* mission. Soil testing was conducted by the staff of the Environmental Protection Agency. Testing was offered for free to the first 357 participants, while soup and educational programming were available



**Figure 14.1** Futurefarmers, *Interior of Soil Kitchen*, April 2011. Courtesy Amy Franceschini.

to all. Curated by Theresa Rose, the project was mostly sponsored by the EPA and the City of Philadelphia's Office of Arts, Culture and Creative Economy as part of an effort to promote temporary public art.

*Soil Kitchen* took place in a pop-up location on Girard Street, inside a vacant building that was renovated by Futurefarmers in collaboration with architect Lode Vranken for the occasion. One of the most eye-catching as well as functional features of their design was a wind turbine made out of reused items and located on the roof, which made *Soil Kitchen* visible from a distance. Making invisible processes visible is one of the principles of eco-art,<sup>7</sup> and along similar lines Franceschini maintains that an important strength of urban agriculture is to make food production more evident and accessible to consumers.<sup>8</sup> Futurefarmers had already employed urban agriculture in projects like *Victory Gardens* (2007), where they promoted the cultivation of edible plants throughout the city of San Francisco.<sup>9</sup>

In *Soil Kitchen*, the wind turbine was functional, as it provided energy to operate the kitchen and soil-testing labs, making the project sustainable. In addition, it worked at a metaphorical level by responding to a permanent statue of Cervantes' Don Quixote located in front of the building. The turbine visually evoked Don Quixote's windmills' scene:

As they were discoursing, they perceived some thirty windmills that are in that plain; and as soon as Don Quixote espied them, he said to his squire: [...] look yonder, friend Sancho Panza, where you may discover somewhat more than thirty monstrous giants, with whom I intend to fight.<sup>10</sup>

The aspiring knight sees windmills as undefeatable monsters. In *Soil Kitchen*, the turbine is rather turned into a friendly tool of positive change. As stated by Futurefarmer Dan Allende,

We started to build a bit of a narrative around the Don Quixote sculpture. Something that basically acted as a bookend to the way that Cervantes wrote about windmills. It was right before the Industrial Revolution ... I always think of them as harvesting free energy ... but then it was seen as disruption. And we wanted to play with that.<sup>11</sup>

The duality of the wind turbine's sociocultural reception across time appears reversed by lead's reception: a metal that was extensively used and overall positively seen during the Industrial Revolution is now considered as monstrous. Perhaps the windmill becomes an unintended symbol of the fight against lead contamination in *Soil Kitchen*. Lead is seen as overwhelmingly frightening and dangerous, even though the scale of its impact varies and the problem can be less daunting than some would expect at specific sites. According to Franceschini,

Lead was perceived as potentially the most "dangerous" element that we would have to deal with in the project. The EPA was a bit nervous at first to participate ... Will this open a can of worms? [...] Most of the participants in the program were very nervous about the potential of lead being present in their soil. Most did not have any precise information on why lead could be potentially dangerous, so their nervousness was speculative. What came forth through the soil testing is that 90% of the soil samples had VERY low lead content. This came as a surprise. But the EPA scientists on site distributed information about ways to avoid contact, especially for young children.<sup>12</sup>

Differently from the wind turbine, lead and other heavy metals are not easily visible in the context of Futurefarmers' project, as well as in the soil and in human bodies. In *Soil Kitchen*, lead was addressed exclusively as a public health hazard, with no mention of the material's formal qualities, symbolism, and historical employment in craft and engineering. Amy Franceschini wrote to me: "I wish we had played with lead more conceptually, but we chose to excite the project through actions, workshops and performative events, and bodily by ingesting soup."<sup>13</sup>

The hypothesis of heavy metal contamination in Philadelphia was linked to the city's past as a productive industrial site. The neighborhood where *Soil Kitchen* was based, Kensington, is a brownfield area where factories punctuated the urban landscape in the 1800s. As clarified by John Bowie and the Oliver Evans Chapter of the Society for Industrial Archeology,

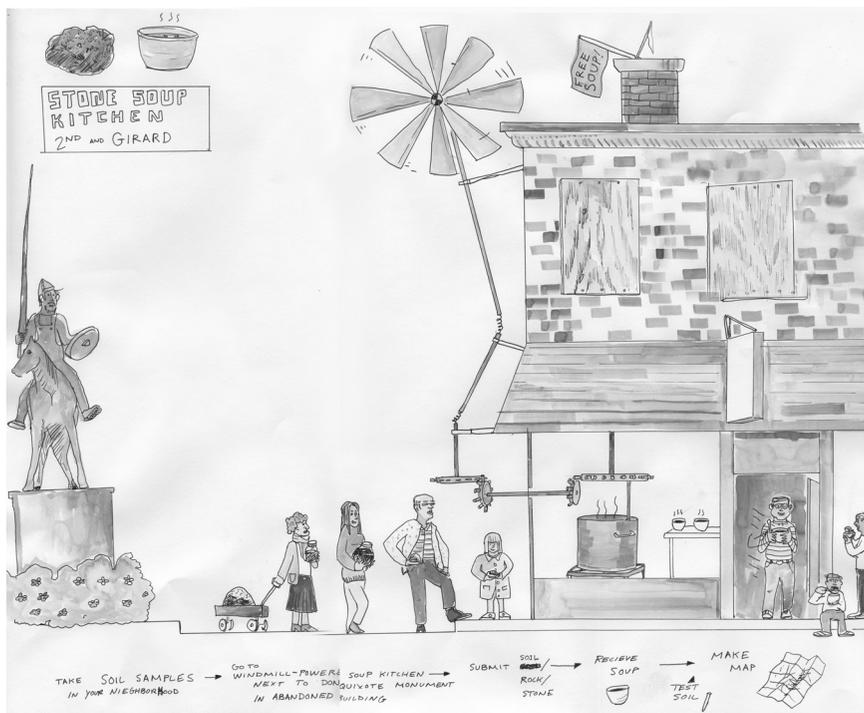
Traditionally, Kensington was known as the original hub of working-class Philadelphia, with both native and immigrant workers living close to their work sites or working at home. Early nineteenth century industry in the area was diverse; it included glass factories and potteries, wagon and machine works, and a chemical factory.<sup>14</sup>

Such production fostered the use of heavy metals such as lead, traces of which could remain in the soil as a difficult legacy of the city's past. Philadelphia hosted the EPA's National Brownfield conference in 2011, and *Soil Kitchen* took place the same days as the conference to reach non-local and specialized publics in addition to local residents. The EPA gave away grants to those who intended to remediate their soil when dangerous levels of lead and other contaminants were found.<sup>15</sup> In addition, class offerings helped the viewers to decode the test results and take action accordingly. Some of the workshop titles included "Low tech/Low cost Remediation of Contaminated Urban Soil," "Composting and You," "Soil: A Living Thing," and "Soil Sampling Workshop."<sup>16</sup> Lead, along with other heavy metals, was an implicit protagonist of the programming and the soil testing process; however, it was never visible and tangible. This also applies to another work by Futurefarmers, where lead gains centrality through its absence: in *Forging a Nail* (2014) the artists forged nails out of the Second World War pennies, which did not incorporate lead due to this metal's exclusive employment in weapon and bullet production at that time.<sup>17</sup> Similarly, in *Soil Kitchen*, lead was addressed as part of broader conversations on overcoming the risk of soil contamination in urban agriculture, but the actual metal was not part of the picture as a tangible material. The physical structure of *Soil Kitchen* reinforced lead's invisibility, yet such invisibility may generate anxieties and become cause of inaction, as the unknown is understandably a source of fear.

The main goal of *Soil Kitchen* was to make the residents aware of safe food production, yet the public that was more readily involved with the project might have already been prepared to face such challenge. The available test results allowed the creation of a collaborative map of soil contamination in the area, showing that the interested lots were not alarmingly polluted. This might be partly explained by the fact that several participants in the project were already

practicing urban agriculture, and had likely replaced part of the original soil with compost and new topsoil.<sup>18</sup>

Soil samples were received on a first come, first serve basis, rather than based on location and need. This logistical decision compromised the possibility to gather thoroughly diverse and representative data about soil contamination in Kensington. There was a thought-out outreach plan to advertise and promote *Soil Kitchen* across Philadelphia neighborhoods, but the majority of the public that is represented in preparatory drawings and documented in photos and videos of the event is Caucasian [Figure 14.2].<sup>19</sup> In an interview with me, Theresa Rose analyzed this unintentional outcome by hypothesizing that the most enthusiastic and frequent visitors were directly connected with the artists and organizers, most of whom were white.<sup>20</sup> A few days after the opening, all testing kits had been finished and new visitors could no longer enjoy free soil testing, thus the outreach scope of the project remained limited.<sup>21</sup> The building of *Soil Kitchen* was located in a mostly white neighborhood; yet it was only a few streets away from



**Figure 14.2** Futurefarmers, *Soup for Soil Kitchen*, drawing included in the project's proposal, 2011. Courtesy of the City of Philadelphia's Office of Arts, Culture and the Creative Economy and Amy Franceschini.

a more diverse area with a high presence of black residents, who nevertheless did not participate in the project in big numbers. Kensington had already started to experience patterns of gentrification in 2011 and this phenomenon is growing rapidly. Tellingly, the vacant building where *Soil Kitchen* took place was demolished in September 2018 and will be replaced by expensive condominiums.

Some internal contradictions of *Soil Kitchen* mirror more generally problematic aspects of urban agriculture (referred to as UA in the following quote), which are highlighted by Arianna Hall-Rainhart in a study about Kensington:

Often led by white people within the alternative food movement who lack an explicit awareness of UA's racial legacy, many modern UA projects “create white spaces in otherwise black or Latino places.”<sup>22</sup>

Despite such limits that were acknowledged by the organizers,<sup>23</sup> *Soil Kitchen* was perceived as a positive and energizing experience by collaborators and participants, to the point that scientists in the Department of the Earth and Environmental Science at the University of Pennsylvania iterated a version of the project yearly until 2014, perhaps being able to reach a broader and more diverse public.<sup>24</sup>

### Educating about Lead: Mel Chin's *Fundred Dollar Project* (2006–ongoing)

In the discourse of contemporary social practice that addresses lead contamination, Mel Chin has shown particular concern for racial and social inequality. The artist grew up in a Chinese immigrant family and lived in an underprivileged neighborhood—Kashmere Gardens, Houston—with a predominantly black community.<sup>25</sup> Throughout his career, he has addressed issues of systemic violence and its effects in minority urban areas. For example, in *HOME y SEW 9* (1994), the artist re-engineered a GLOCK-17 gun to replace the contents, including leaden bullets, with anti-shock substances [Figure 14.3].<sup>26</sup> Visually identical to the death-inducing model, Chin's version of the GLOCK-17 could help a victim of gunshot cope with pain and trauma.<sup>27</sup> The association of gun and violence is reversed to turn the gun into a tool for recovery. To achieve such reversal, the artist removes the dangerous heart of the pistol, including lead components. Lead is framed as a harmful metal that is even more terrifying because it remains invisible, concealed inside the gun or inside a victim's body. It is such invisibility and unpredictability that generates assumptions and triggers

questions for the viewer. In *HOME y SEW 9*, the artist deconstructs the handgun and its reference to lead, unveiling a multiplicity of cultural associations with the object and the materials it is made of. According to Lucy Lippard, Chin has an ability to emphasize

the physical within the metaphysical. [...] He often evokes a kind of materialist spirituality (almost animist) that goes back to the earliest days of religion, which, of course, are the earliest days of art, too, although his forms are neither primitivist nor nostalgic, but entirely contemporary. [...] He painstakingly forges his own substances from an incredible span of symbolic raw materials delicately balanced to facilitate the release of their magical/communicative properties. It is in this sensuous comprehension of the alchemical process that Chin diverges from one of his major influences, the cerebral Marcel Duchamp.<sup>28</sup>

Lippard refers to alchemy, which involves lead, in her analysis of Chin's work. Despite being deeply familiar with lead's complex histories, the artist has chosen to focus on specific aspects of the metal—unilaterally negative ones like toxicity and association with violence—in his most iconic works. Chin's renowned project *Revival Field* (1991–ongoing)—commissioned by the Walker Art Center and realized in collaboration with USDA scientist Rufus Chaney—was a long-term effort to use hyperaccumulator plants to withdraw heavy metals, including lead, from contaminated soil near Saint Paul, Minnesota.<sup>29</sup> The field was divided into plots that, from aerial view, formed the shape of a gun's target. Chin



**Figure 14.3** Mel Chin, *HOME y SEW*, 1994. External: GLOCK 9 mm handgun: steel, polycarbide plastic, Optional tag in two patterns: silver, enamel; Internal: 2-inch Ace bandage, microelectronic locator, normal saline (100 ml of 0.9% sodium chloride) with IV needle and polyethylene tubing, narcotic analgesic (5 mg oxycodone hydrochloride, 500 acetaminophen), intramuscular epinephrine (0.3 mg), angiocatheter (14 gauge). 5 7/16 × 7 5/16 × 1 3/16 in. <http://melchin.org/oeuvre/homeyew9>

describes *Revival Field* as an effort to remove pollution from the soil, almost in a sculptural way. “I think there is a profound aesthetic in there and it’s really simple. But we have to create the chisels and we have to create the tools and we have to isolate the problem: identify where the block of pollution is, so we can carve it away.”<sup>30</sup> *Revival Field*—like *HOME y SEW*—revolves around an aesthetic of removal; lead is one of the elements that needs to be removed, being identified as a source of harm.

In more conceptual ways and at a larger scale, remediation through removal and the threat posed by invisibility continue to appear in Chin’s ever-evolving work, most recently in *Fundred*. The concept for the project emerged when Chin visited New Orleans after Hurricane Katrina in 2005. The devastation of the built environment was evident, but what caught the artist’s attention even more was what could not be seen. He learned that 30–50 percent of inner-city children, mostly black, suffered from lead poisoning even before the hurricane, and realized that the natural disaster likely increased the issue by disseminating lead from old paint into soil and water systems.<sup>31</sup>

The systematic isolation and lack of support to black communities is also underlined by queer artist Ti-Rock Moore, a native of New Orleans, who identifies links between her city’s racialization and the scenario of Flint, Michigan.<sup>32</sup> While being white, Moore believes in her responsibility to learn more about discrimination and speak up against it through her work.<sup>33</sup> In 2014–15, lead contamination caused a water crisis that gravely affected Flint’s predominantly black community, state and local officials downplaying the health consequences endured by the local population.<sup>34</sup> At the 2017 Art Price in Grand Rapids, Moore displayed the sculpture *Flint*, a white (and whitewashed, as stated by the artist in the gallery text) water fountain that frames a foul jet of water. The dirty liquid turns the white sink brown, making it look almost rusty and corroded. Over the sculpture, a label states: “colored,” ambiguously referring to the coloring of the water and sink as well as the Jim Crow-era practice of separating facilities for black and white people. Moore shows how the legacy of segregation laws is still determining the institutionalized unequal treatment of racial minorities. Moore allows visual parallelisms between her work and the experience of Flint residents in their homes, where dark water flowed from domestic faucets filling tubs and sinks. While not showing lead in its solid state, the artist shows the ways that industrial pollution transforms the appearance of water, triggering empathy through visceral reaction. Flint’s case of lead contamination was so critical that it became visible to users, yet in most situations dangerous levels of lead in the environment remain invisible and unnoticed without testing. As a consequence,

lead pollution does not often earn much mediatic attention and remains under-addressed, while its effects are catastrophic.

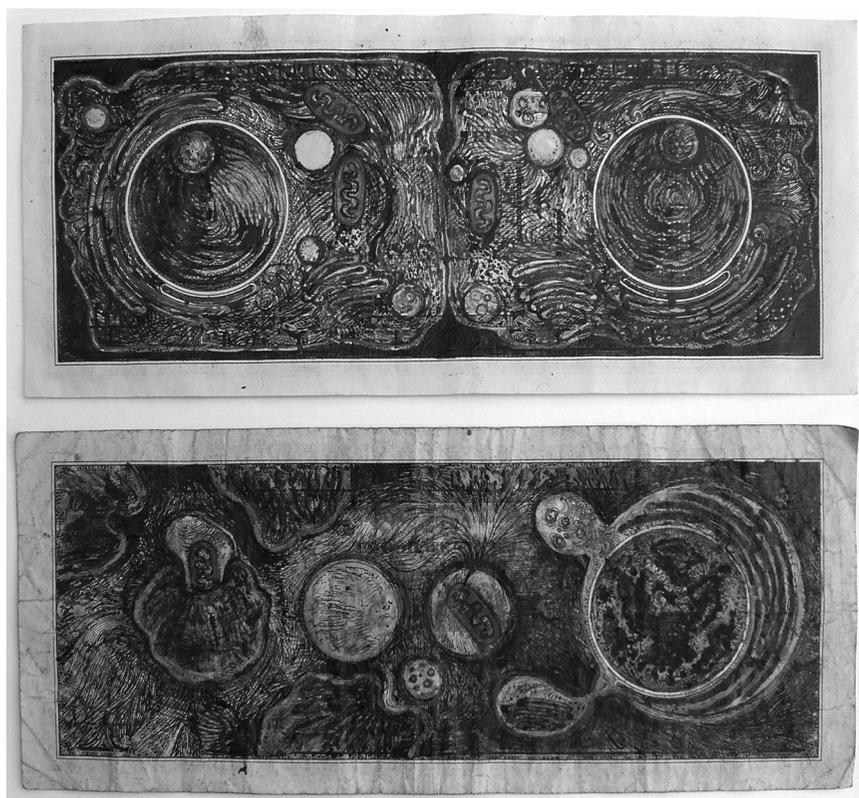
It is such invisibility that Mel Chin intends to address, hoping to show that lead is related to a chain of social issues, the responsibility of which has historically been assigned to individuals rather than structural problems. After conversations with Tulane University scientist Howard Mielke, Chin observed that there is a likely connection between overexposure to lead and high crime rates in inner cities, which is one of the artist's perpetual preoccupations. Lead causes the increase of aggressive impulses in humans, and less wealthy residents are more exposed to lead for a number of complex reasons: in part because de-leading can be an expensive and logistically complex process, in part because some municipalities cannot afford necessary services and checks, and finally because the needs of under-resourced communities are sometimes forgotten by their political representatives. In sum, Chin's argument is that inner cities, often populated by less wealthy minority residents living in less maintained houses, are more exposed to lead poisoning, which causes aggressive behavior. Thus, one of the major causes of high crime rates in inner cities can be linked to lead.

The artist's long-term creative response to such observation changed through time to adapt to his increasing understanding of lead contamination and its effects in the United States. His project started with the name *Operation Paydirt* in 2006, and initially focused on New Orleans. It later expanded from the local to the national level, as Chin traveled across the country on a 1977 armored Brinks truck to raise awareness about lead's threat in November 2009 and throughout 2010. The bullet-proof glass, which usually includes lead, was yet another reminder of the connection between lead and guns, as well as lead poisoning and violence. In 2008, Chin's complex project incorporated *Safehouse*, a small building in the New Orleans St. Roch neighborhood. The door was protected by an intentionally oversized lock, indicating that the house's contents are kept safe inside the building, where Chin stores a collection of several thousands of *fundreds*. Composed by the words "fun," "fund," and "hundred," the neologism "fundred" defines mock hundred-dollar bills, whose creative designs have been drawn by a multitude of children and adults since the beginning of *Operation Paydirt*. The *fundreds* were created during events, workshops, and exhibitions in collaboration with organizations and schools that contributed to spread information about lead poisoning and its physiological effects.<sup>35</sup> [Figure 14.4] The idea of redesigning currency echoes other artworks by Chin, such as the *Erased Currency Series* (1996) and the *Drawn Currency Series* (2006–07). In the former, the artist erases select images from dollar bills to prompt attention toward what is left, such as Washington's left eye on a one-dollar bill or green



**Figure 14.4** Mel Chin, *The Fundred Pallet*, with over 450,000 Fundreds on view in the rotunda of the Fundred Reserve. Courtesy of the Fundred Project. Photo: © Ben Tankersley.

bushes on a twenty-dollar bill.<sup>36</sup> Chin's edits personalize the message embedded in US money and its iconography, reclaiming the right to be critical of issues like government surveillance and the overlapping of political and economic interests in DC. The latter series reverses the process of *Erased Currency* by almost entirely covering dollar bills with original ink drawings, with an action that continues to provide political commentary. For example, in *Apoptosis-Cell Death* Chin illustrates the process by which the body destroys unneeded cells,<sup>37</sup> a metaphor for a government's possible attitude toward constituents that are perceived as unproductive [Figure 14.5]. With the *fundreds*, authorship is shared with the participants, who are asked to add drawings to templates that include questions like: "instead of Benjamin draw yourself or anything you want," and "money has cool symbols and sayings: make up your own."<sup>38</sup> The public takes ownership of such symbols and the values for which they stand, in a process that hopes to foster trust in creativity's social potential. Chin's *Fundred* puts into practice Joseph Beuys's philosophy that "Kunst = Kapital," that is that the real wealth that humans can rely upon is not money, but art and inventiveness.<sup>39</sup> Initially, Chin had planned to accumulate *fundreds* to bring them to the White House, asking that they be exchanged for actual hundred-dollar bills to be destined to lead remediation projects. However, this is no longer *Fundred's* objective. In an email conversation with me, Chin stated:



**Figure 14.5** Mel Chin, *Apoptosis-Cell Death*. Front and Back. From the *Drawn Currency Series*, 2006. Ink on US currency (\$1) dollar denomination, 2 5/8 × 6 1/8 in. Private Collection. Courtesy of Mel Chin.

The *Funded* project has evolved; it began with a focus on lead in soil in New Orleans and grew into a nationwide engagement dedicated to catalyzing an end to childhood lead poisoning throughout the United States. I foresaw the limits of an “even exchange” and also how an “art event” on the steps of Congress would not be enough. The current plan seeks to introduce the constituent artists of *Funded* to their congressional leadership in DC and to simultaneously introduce pragmatic policy options to the lawmakers that can solve the lead problem. This policymaker education enables the elected leaders to consider and propose appropriations and actions to eradicate lead poisoning forever. Congressional leaders can be the heroes of this and claim rightful ownership for the solutions they implement.<sup>40</sup>

Presently, *Funded* is a nonprofit that involves a number of partners, collaborators, and sponsors. Chin argues:

There is room in art to expand on lead's meaning and uses. There is also room to expand from the singular artist to the collaborative association it takes to create a piece dedicated to public engagement. While I take responsibility for the initiation of the project, its process embodies the effort of urban planners, social workers, educators and other artists. It is a work where I consider myself "among others." For *Fundred* the element means a persistent physiological danger and the lack of abatement or acknowledging its capacity to do harm, emblematic of deceitful, criminal capitalist enterprise. *Fundred* embodies the value of a collective voice from a population that lead threatens. To use an alchemic term, it strives to transmute the collective voices into action, to end lead's threat once and for all.<sup>41</sup>

Chin's reference to alchemical processes evokes Lucy Lippard's words in an aforementioned quote. It also finds an echo in the very title *Operation Paydirt*, which according to Linda Weintraub incorporates the phrase "Pay dirt," used by nineteenth-century American gold seekers when gold was actually found.<sup>42</sup> In Chin's project, lead can become gold—at least figuratively—as finding it fosters safety measures that will save money (and lives) in the long term. In addition, the artist's project helps conveying information about possible solutions that involve chemical—if not alchemical—reactions. Lead can be transformed into a much less harmful substance, and neutralized by mixing lead-polluted soil with fish bones that are high in calcium phosphate.<sup>43</sup>

The artist applies the alchemical lens to the whole structure of the complex project, which seeks to shape society rather than sculpting a specific material. In this sense, as mentioned before, his approach has become closer to Beuys's idea of social sculpture. He maintains:

I once submitted (in a published lecture) that my relationship to Joseph Beuys is overrated, indicating that the way I entered the field of ecological art was through a different conceptual portal; I was less focused on the idea of social sculpture and more focused on the realization of a scientific technology through a work of art (in *Revival Field*). I even thought of it like a conventional sculpture, carving away toxins with plants and reviving a toxic landscape. Since then, in certain works, such as *Fundred Project*, my position can be seen to fall in with Beuys' vision of social sculpture, but one point of difference might be that I reserve the option for the ownership or figurehead status of specific works to be passed on, shared, or dissolved, if needed, for the success of the social action.<sup>44</sup>

To Chin, the transformative power of collective responses and creative approaches are equally as uplifting as the process of transforming lead into gold. To obtain the goal of improving public health and affecting social change, the

artist believes that it is necessary to focus on the danger posed by lead, rather than shifting the target of public attention toward the complexities of lead's symbolism and cultural meanings. Lead is tactically presented as the enemy, as for the artist this motivates authorities and private residents to remove it from the built environment.

### Final Reflections: A Mirror of Contemporaneous Cultures

*Soil Kitchen* and *Fundred* show several important differences. The former was designed to be temporary while the latter is an ongoing project. *Soil Kitchen* is site-specific, while *Fundred* constructs general theses that apply to a whole nation. Futurefarmers focus on urban agriculture, while Mel Chin puts stress on inner-city violence. Nevertheless, the two projects have one important commonality. They both choose to address lead almost exclusively as a social issue and public health threat, despite the artists' sophisticated understanding of the multivalent meanings of images and materials in general, and lead in particular. I argue that *Soil Kitchen* and *Fundred* mirror the approach of American activists, administrators, and scientists, who have become more guarded about lead contamination since the 1970s. As other chapters in this volume have shown in greater detail, regulations around lead have become increasingly tightened, and rightly so.<sup>45</sup> According to Gerald Markovitz and David Rosner, public health activists embraced the example of 1960s protesters to put pressure on American administrations and foster legal measures against lead exposure.<sup>46</sup> For example, phasing out of leaded gasoline began in 1976 and lead-based paints became prohibited by federal laws in 1978, responding to research findings of lead's neurotoxic and physiological effects. Despite laws and scientific knowledge, implementation remains a hurdle, sometimes resulting in environmental disasters that often affect lower-income and minority communities. In some cases, such disasters could be easily avoided and are caused by ill-intentioned political choices, as in the case of the aforementioned water crisis in Flint in 2015.

Solutions are not easy, but art can help provide relief. For example, Chicago-based black artist Pope L. responded to the Flint crisis by orchestrating a fundraising effort that pumped solidarity into the residents of Flint's neighboring city, Detroit, in 2017.<sup>47</sup> In the artist-run space What Pipeline, Pope L. organized *Flint Water Project* that is the sale of bottled water sourced from a Flint home and embellished with the photographs of local artist Eric Dutro. As art items,

each signed bottle cost \$250, though non-signed ones cost only \$20. Proceeds were donated to United Way of Genesee County and Hydrate Detroit. Rather than victimizing the city, Pope L. demonstrated productive ways of organizing and resisting. At the same time, he showed the status of art as a commodity, the value of which is inflated by the art market and is still rooted in the aura of the artist, who in this case turned lead-contaminated water—rather than lead itself as in past alchemical traditions—into gold.

The artists analyzed in this chapter mean to arm residents across the United States with the tools to protect themselves from a threat, which is acknowledged to be ever more insidious and dangerous due to its invisibility. Some show lead-contaminated soil (Futurefarmers) and water (TiRock Moore and Pope L.), others show mounds of children's drawings that refer to lead pollution (Mel Chin), but none of them chooses to show lead as a metal in its solid state. Their artworks avoid making lead visible and present in its physicality, also avoiding to communicate the complexity of the material's cultural meanings, which are thoroughly discussed by this volume. Such amplified invisibility and targeted representation of lead may unintentionally contribute to the perception of this material as an abstract and ungraspable enemy. Yet, the artists reviewed by this chapter are concerned with making the consequences of lead contamination visible, more than lead itself. Their efforts are focused on empowering the public with the tools to mitigate and remediate, affecting change through art.

## Notes

- 1 "What's Up with Lead?" Fundred. Available online: <https://fundred.org/lead/> (accessed December 20, 2018). I would like to thank Abigail Satinsky, Theresa Rose, Jacques Liu, Amy Franceschini, Mel Chin, and Audrey Liu for sharing seminal images and information related to this chapter with me.
- 2 See "Socially Engaged Art Practice," Tate Art Term. Available online: <https://www.tate.org.uk/art/art-terms/s/socially-engaged-practice> (accessed December 19, 2018).
- 3 On *Soil Kitchen*, see also Wood Roberdeau, "After Baruchello: Agricultural Encounters in Contemporary Art," in *Rurality Reimagined. Villagers, Farmers, Wanderers, Wild Things*, ed. Ben Stringer (Novato, CA: Applied Research + Design Publishing: 2018), 90–101. On *Fundred*, see also *Public Servants. Art and the Crisis of the Common Good*, ed. Johanna Burton, Shannon Jackson and Dominic Willson (Cambridge: MIT Press, 2016), 251–6.

- 4 Andrew Brown, *Art and Ecology Now* (New York: Thames and Hudson, 2014), 182–3.
- 5 Amy Franceschini, email message to author, December 17, 2018. Brownfields are formerly industrial and presently urban or rural areas that are abandoned or rarely used by humans because of fear of contamination.
- 6 “Fight Lead Poisoning with a Healthy Diet,” EPA Office of Pollution Prevention and Toxics. Available online: [https://www.epa.gov/sites/production/files/2014-02/documents/fight\\_lead\\_poisoning\\_with\\_a\\_healthy\\_diet.pdf](https://www.epa.gov/sites/production/files/2014-02/documents/fight_lead_poisoning_with_a_healthy_diet.pdf) (accessed December 21, 2018)
- 7 Brown, *Art and Ecology ...*, 18–19.
- 8 Amy Franceschini, “Our Land. Soil Kitchen Documentary,” filmed April 2011 in Philadelphia, PA, video, 6.26 min. Available online: <http://www.futurefarmers.com/soilkitchen/soilkitchendocumentary.html>
- 9 Frances Richard, “Futurefarmers,” *Artforum International*, February 2014, 225.
- 10 Miguel de Cervantes Saavedra, *Don Quixote de la Mancha*, vol. 1, trans. Charles Jarvis (London: Stockdale, 1891), 73.
- 11 Lee Stabert, “Quixotic Youth,” *Philadelphia City Paper*, March 11–April 8, 2011, 31.
- 12 Amy Franceschini, email message to author, December 17, 2018.
- 13 Ibid.
- 14 “Kensington,” Workshop of the World. Philadelphia. Available online: <http://www.workshopoftheworld.com/kensington/kensington.html> (accessed December 11, 2018). The website is inspired by *Workshop of the World: A Selective Guide to the Industrial Archeology of Philadelphia*, ed. John Bowie and the Oliver Evans Chapter of the Society for Industrial Archeology (Wallingford, PA: Oliver Evans Press, 1990).
- 15 Amy Franceschini, “Our Land. Soil Kitchen Documentary.”
- 16 Futurefarmers, *Soil Testing. Workshop Descriptions*, Soil Kitchen Flyer, 2011. Courtesy of the City of Philadelphia’s Office of Arts, Culture and the Creative Economy. Many thanks to Jacque Liu for allowing me to view archival documents related to *Soil Kitchen*.
- 17 Amy Franceschini and Michael Swaine, eds., *For Want of a Nail* (Cambridge, MA: MIT and no place press, 2019), 53.
- 18 Jacque Liu, phone interview with author, October 30, 2018.
- 19 “Soil Kitchen Outreach,” unpublished archival document, City of Philadelphia’s Office of Arts, Culture and the Creative Economy.
- 20 Theresa Rose, phone interview with author, October 18, 2018.
- 21 Soil Kitchen, “We Are Simultaneously Sad and Excited...,” Facebook. April 5, 2011. [https://www.facebook.com/pg/soilkitchen/posts/?ref=page\\_internal](https://www.facebook.com/pg/soilkitchen/posts/?ref=page_internal)
- 22 Arianna Hall-Reinhard, “Squeezed between the Gunshots and the Gentrifiers’: Urban Agriculture in Philadelphia’s Kensington Neighborhood,” (MA diss., West Virginia University, 2018), 6.

- 23 Rose and Liu, phone interviews with author.
- 24 “About Soil Kitchen 2014,” Soil Kitchen 2014. Available online: [https://www.sas.upenn.edu/~erosion/Soil\\_Kitchen.html](https://www.sas.upenn.edu/~erosion/Soil_Kitchen.html) (accessed December 20, 2018).
- 25 James Harithas, “The Conditions for Memory,” in *Don’t Ask Me. Mel Chin*, eds. James Harithas, Marcia Brennan, Paul Farmer, James Metcalf, exhibition catalogue (Houston: Ineri Publishing and Station Museum of Contemporary Art, 2011), 11–23; 11.
- 26 Mel Chin, email message to author, January 9, 2019.
- 27 Miranda Lash, Andrei Codrescu, Lisa Crossman et al. *Mel Chin. Rematch* (New Orleans and Ostfildern: New Orleans Museum of Art and Hatje Cantz, 2014), 136.
- 28 Lucy Lippard, “The Edge That Cuts,” in *Mel Chin. Inescapable Histories*, ed. Benito Huerta (Kansas City: Mid-America Arts Alliance, 1996), 1–15; On Duchamp and alchemy, see Claudia Mesch’s chapter in this volume.
- 29 John Beardsley, *Earthworks and Beyond: Contemporary Art in the Landscape* (New York: Abbeville, 2006), 170–1.
- 30 Mel Chin, quoted in Linda Weintraub, *To Life! Eco-Art in Pursuit of a Sustainable Planet* (Berkeley: University of California Press, 2012), 135–41; 136.
- 31 Weintraub, *To Life*, 136.
- 32 Cole Waterman, “ArtPrize Sculpture Highlights Flint Water Crisis, Racism,” MLive Michigan, September 27, 2017. Available online: [https://www.mlive.com/news/flint/index.ssf/2017/09/flint\\_water\\_crisis\\_sculpture\\_h.html](https://www.mlive.com/news/flint/index.ssf/2017/09/flint_water_crisis_sculpture_h.html) (accessed January 9, 2019).
- 33 “ArtPrize artist ‘Flint’ Piece Sparks Conversation of Racial Injustice,” *UWIRE Text*, September 25, 2017, 1. *Academic OneFile*. Available online: [http://link.galegroup.com/apps/doc/A524931466/AONE?u=mclin\\_m\\_tufts&sid=AONE&xid=feac778a](http://link.galegroup.com/apps/doc/A524931466/AONE?u=mclin_m_tufts&sid=AONE&xid=feac778a) (accessed January 10, 2019). Discussions about Ti-Rock Moore’s work often critique the artist’s choice of addressing racial inequality while being white.
- 34 CNN Library, “Flint Water Crisis Fast Facts,” *CNN*. Available online: <https://www.cnn.com/2016/03/04/us/flint-water-crisis-fast-facts/index.html> (accessed January 9, 2019).
- 35 For a list of the participating organizations and schools, see <https://funded.org/map/>
- 36 Lash, *Rematch*, 144.
- 37 *Ibid.*, 182.
- 38 “Funded Template,” Fundred. Kids Are Worth It. Available online: <https://funded.org/wp-content/uploads/2016/07/FundedTemplate2013.pdf> (accessed December 19, 2018).
- 39 Andrea Gyorody, “The Medium and the Message: Art and Politics in the Work of Joseph Beuys,” *The Sixties* 7, no. 2 (2014): 117–37.
- 40 Mel Chin, email message to author, December 17, 2018.
- 41 *Ibid.*

- 42 Weintraub, *To Life*, 138.
- 43 Sean Callebs, “Kids Draw on Imagination in Bid to Clean Up Lead-tainted Dirt,” *CNN*, April 22, 2009. Available online: <http://www.cnn.com/2009/TECH/04/20/gsf.fundred.dollar.bills/> (accessed December 19, 2018)
- 44 Mel Chin, email message to author, December 17, 2018.
- 45 See Christian Warren and Spike Bucklow’s contributions in this volume.
- 46 Gerald Markovitz and David Rosner, *Lead Wars: The Politics of Science and the Fate of America’s Children* (Berkeley: University of California Press, 2013), 13–14.
- 47 Natalie Haddad, “The Politics of Adversity in Pope.L’s Flint Water Project,” *Hyperallergic*, October 28, 2017. Available online: <https://hyperallergic.com/408167/pope-l-flint-water-project-what-pipeline-michigan-2017/> (accessed January 10, 2019).

## Interview with Daniela Rivera: The Weight of Lead and Painting beyond the Surface

Silvia Bottinelli and Sharon Hecker

In the interview that follows, we had the opportunity to discuss Daniela Rivera's work with the artist. Our conversation mainly revolves around an exhibition titled *Shooting Skies* (LaMontagne Gallery, Boston, 2014), which displays four large-scale paintings of dark skies that the artist created and then shot over with lead bullets prior to installing them. In front of the paintings, the viewer finds a curtain made of used lead bullets that the artist threaded by hand. The curtain partially shields the paintings. During the course of our conversation, Rivera made connections between *Shooting Skies* and another show titled *Andes Inverted* (Museum of Fine Arts, Boston, 2017–18), which includes a copper-point wall drawing, a series of paintings of the Chuquicamata mines in Chile, and video-interviews with the displaced residents of Chuquicamata.

Rivera is among several contemporary women artists who engage with lead. In addition to Lynda Benglis, Marisa Merz, and Cornelia Parker—whose practice is analyzed in other chapters of this volume—it is worth mentioning Susan kae Grant, Janine von Thungen, and Maria Elisabetta Novello, who, like Rivera, work independently from groups and movements. Their works reflect new and unorthodox uses of lead, which resonate with Rivera's approach and therefore can enrich and amplify her words in the interview that follows.

Susan kae Grant's 1995 *Radio Active Substances* is an artist book with leaden pages encased in a leaden box. The piece revisits Marie Curie's archival documents that, having been exposed to radium during her scientific experiments, remain radioactive and must be preserved in lead containers to limit health risks. In this case, lead functions as a means to protect, while being a possible hazard itself. About the work Grant writes, "while illustrating [Curie's] scientific research, it

provides a personal look into her life as both mother and wife, the dangerous conditions she worked in, and consequently the physiological effects she and her husband suffered.”<sup>1</sup> The artist’s point of view is inspired by feminist theory and is concerned with the challenges faced by women professionals in their efforts to juggle work and personal life.

Marie Curie’s story is also referred to by Janine von Thungen in the case of her series titled *DURCHDRINGUNG Blau/Blei* (2017–19), where lead is used in combination with Murano glass. These sculptures incorporate lead from used bullets, in a way that echoes Rivera’s material choices to be discussed at length in our interview. For von Thungen, lead embodies darkness because its density does not let rays of light (or radium) travel through the metal. By contrast, glass lets light pass through. Von Thungen’s sculptures show the coexistence of lightness and weight, light and darkness, which penetrate one another in a still dance.

Lead’s ability to block rays is contemplated by Maria Elisabetta Novello’s exhibition *FRAGILE, earth, sky, handle with care*: among other works, Novello presents lead sheets with maps of constellations, proposing a contrast between the material’s weight and the elevation of the sky. The artist hand-punctured the sheets to form openings. Lead—with its impenetrability—ironically becomes the support for imagined stars that are made of light.<sup>2</sup> The result are wounded surfaces, whose holes remind the ones that punctuate a work by Rivera titled *Shooting Skies* (2014), which the artist describes in the conversation below. For Novello, lead is the blanket that is pierced by holes; for Rivera, lead—in the form of bullets—is rather what generates the holes by flying across her own canvases. In both cases there is a reference to the fragility of our environment: Novello sees our skies as lead-gray, filled with emissions; and Rivera makes us reconsider the polluting impact of shooting ranges.

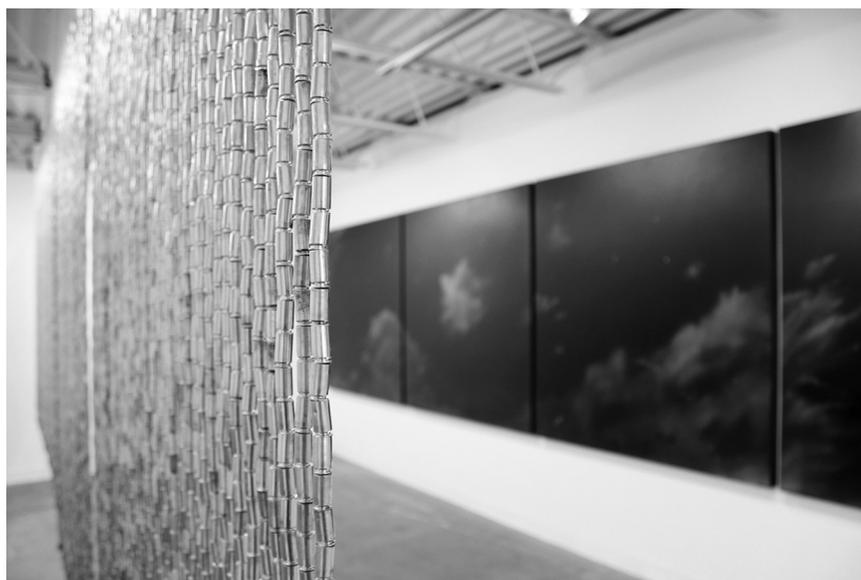
Boston, 13 February, 2018

Silvia Bottinelli (SB). The first question is really broad: what is lead’s appeal to you as an artist?

[Figure 15.1]

Daniela Rivera (DR). When I went into the project (*Shooting Skies*, 2014),

I didn’t know anything, when I went into the project I was not expecting lead to have a genealogy in terms of artmaking ... I just stumbled upon the material. The first encounter was at the shooting range. People started telling me: “Oh, you should be wearing gloves” ... because I was picking up casings ... “they are covered in lead” ... and I thought ... “oh that’s right, bullets have lead!”



**Figure 15.1** Daniela Rivera, *Shooting Skies*, lateral view, 2014. Four paintings 5 × 5 ft. each. Oil on board and 44-caliber bullet holes. The paintings are located behind a 10 × 25 ft. screen made of 35,000 used 44-caliber bullet cases. Courtesy of the artist.

So, I was not thinking about lead *per se* as a material, I was thinking more about the guns, the bullets, and the violence, and the impossibility of conversation, but in the end lead became a big part of the project because it is extremely present. There are so many regulations and legal issues around the use of the material, but at the same time there is still little regulation when it comes to fire, guns, and bullets. There is more regulation now that the military has developed bullets that are lead-free (starting in 2013); they seem to work as well but they're way more expensive, it's a different kind of production process, so the black market of bullets is still operating based on lead.

Sharon Hecker (SH). Is that the first and only time in which you used some things that had to do with lead in your work?

DR. That is the first and only time, except for paints that are lead-based. As an artist I sometimes find myself at a border line, where you know that you are working with dangerous materials, whether it's lead, whether it's acid, but those are the best materials for the type of work that you are trying to produce—the material that's going to give you the right color, the right weight ... this is not only in terms of a formal thing, but it's also about the conceptual weight of the work. There are risks that you take in order to push those conceptual issues.

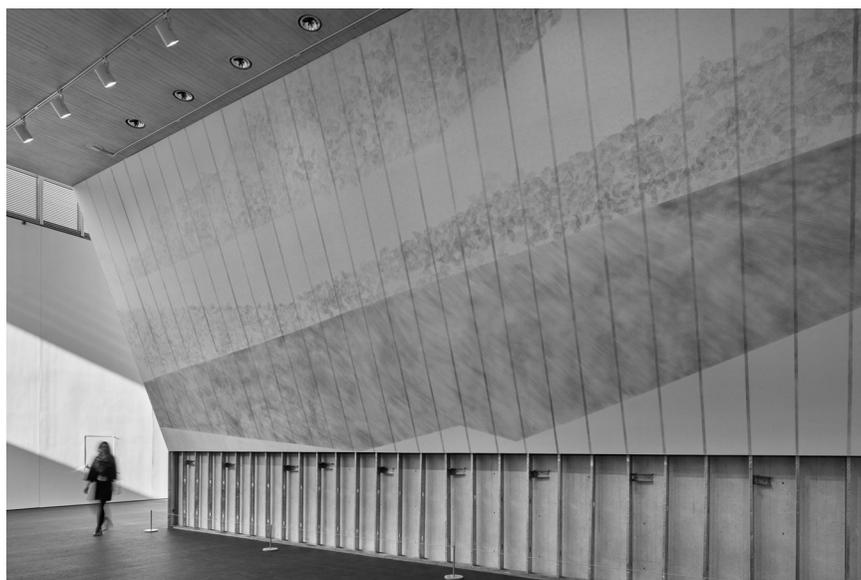
SH. So the risk factor is something that you are willing to override ...

DR. Yes, but being well aware ... I was recently talking with a student and she was asking about an exhibition that uses these very toxic materials, like foams, plastics, and she asked "How can this person claim to be an environmentally aware person and then produce all the work with these crazy materials?" I responded that that's exactly why the work is produced, it's putting into question all of these things ... but how do you do that ethically? I think that you can do it ethically if you understand where you are speaking from. There's no black and white, there's no right or wrong, the only possibility is to ask the question from an informed position, and also being transparent about it.

So ... I don't think I can give you a particular genealogy in terms of the use of lead, but I want to point out particular artists who have used weapons that are carriers of lead, so we could talk about Chris Burden or Niki de Saint Phalle. Just like with my project on copper at the Museum of Fine Arts in Boston,<sup>3</sup> I was not thinking about the metal itself but about the industries behind it, about the politics, about the impossibility of talking ... these are two metals that are being used for fabrication of different things, are completely ubiquitous, and they exist in this invisible way but their production and their fabrication are scarring everything, from history to the environment, the landscape itself, generating new topographies [Figure 15.2]. Yet the copper is mined at 3000 meters of altitude in the Andes, so you don't see it [Figure 15.3]. Similarly, you don't see it in the infrastructure: when you switch on the light, you don't see the copper wires, either. It is this kind of invisibility that art can actually make visible.

With the lead piece, for instance ... if you think about the politics of gun violence in the United States, the idea of freedom is linked to being able to have guns. We are living in an inverted world. When you think about the toxicity of lead, health standards have changed dramatically, and lead levels in the blood are regulated. But then all the people who work in shooting ranges are completely exposed to lead: when you shoot the gun, there is pulverized lead that goes in the environment, gets attached to clothes and is absorbed by the skin; it is also left in the soil, and goes into groundwater.

When I put lead in the gallery it is almost beautifying violence, but when the viewers go through the screen of bullets they have to make the decision to get in contact with the used cases that still have the presence of lead [Figure 15.4]. The viewer makes the connection between guns and lead at that point, and might question the presence of lead in the environment in general. You also realize the political and economic weight of guns in



**Figure 15.2** Daniela Rivera, *Grey Copper, Andes Inverted*, 2017. Copper point drawing on tilted wall. SoundScape composed of 150 files of 11 interviews of previous residents of Chuquicamata, sounds of the Chuquicamata mine and the desert. The drawing was made tracing with copper rods and copper points, rocks brought from the mine itself. 37 ft l × 25 ft h × 6 ft w. Courtesy of the artist.



**Figure 15.3** *Chuquicamata*. Digital color print. 18 × 2 in. Courtesy of the artist.

the United States We have regulated lead paint in strict ways, but the use of lead in firearms has not been as regulated. We cleaned one aspect, but the other keeps being invisible. So thinking about the ethics of using these materials, like copper and lead, in art, I think that this is exactly the place to have difficult conversations. I am not feeding the industry, I am taking the leftovers of the industry to create art and show things that otherwise remain unseen.

SB. Invisibility is what makes lead contamination more problematic, as people have a hard time protecting themselves from something that cannot be easily located. In your work, instead, you are very transparent. You can show the sources of lead, and let the viewer make a choice. Differently, in the realm of gun regulations and in the real world, that choice is not available to the public.

DR. In the artwork, the viewer is put in a critical position and has agency. The process of purchasing lead bullets is again about inversions. In some States you can purchase recovered bullet cases, and in other ones you cannot. Since much of the trading happens online, these limits are often crossed. Products travel above ground, yet the market remains underground. The connections of what stays on the surface and what is kept under interests me very much.



**Figure 15.4** Daniela Rivera, *Shooting Skies*, bullet screen (detail), 2014. A total of 35,000 used 44-caliber bullet cases linked and weighed with lead weights. Courtesy of the artist.

For *Andes Inverted*, I brought rocks and soil from the mines, putting the materials in my suitcase trip after trip. I mixed the soil with the pigment that I used to paint, and the rocks are tracing devices for the drawings. The title of the exhibition is both literal and metaphorical: the Andes are inverted because the height of the mountain is reversed in the depth of the mine; but there is also an inversion of ethics and values ... there's an inversion of reality happening in front of us. The ways that we look at restrictions is so weird and absurd. My work points to the inversion in our system and our priorities, including the boundaries of legality. We are constantly inducing self-harm ... we are so in the habit of doing dangerous things that we cannot break away from them even though we know that they are killing us. How do you talk about that as an artist without putting yourself in some position of danger, transpassing a border, and putting the viewer in a position of responsibility in relationship to the work? From an ethical perspective, I don't think you can divide things clearly right now. I wish we could, but there's complexity and messiness that one has to acknowledge.

SB. In the dynamic that underlies *Shooting Skies*, you very much activate the role of the viewers, who complete what you initiated through their critical choices and their own movement across the curtain. Their mind and body complete the piece.

DR. Right, the viewer becomes responsible for completing the piece at the intellectual and experiential level. For example, in *Andes Inverted*, the wall drawing is made with copper.

I am a painter but I don't work as a painter, but rather as an architect and a sculptor in many ways. The surfaces are not considered necessarily as images, instead they build a particular materiality. Sometimes I call my work material realism, because it is about the material that constructs the image. The art is more about the "how" than about the "what." This becomes extremely transparent with the wall drawing, where we cut the wall of the museum 5 feet across, we tilted the wall 6 feet, then we covered the wall with a 40 by 27 feet copper point drawing, which is crazy, but it is all about the amount of labor that it takes to create that particular topography, and in completely transforming the architecture of the space. This labor is linked to the labor involved in the extraction of the material and the massive transformation of the landscape ...

SH. ... and the research you put into finding all these materials, that is labor as well ...

DR. Yes, it's all there in the materialization of the work, but it remains almost invisible because it is camouflaged in the architecture of the space and in the

color: the copper point is grey and the whole architecture of the museum is a kind of concrete grey, so the work becomes part of the environment. The work is immersive, not in a phenomenological way, but because you go around the space and you don't notice where you are ... and then all of a sudden you realize that you are underneath this 40-foot wall of copper. I am interested in this kind of response, that shows that the work is not fast to digest.

SB. So you are also asking the viewer to expand the experience through time, to engage with time ...

DR. It becomes extremely performative. This applies to all of my pieces.

SB/SH. We would like to go back to your previous point, regarding painting as an embodiment of a process. You use many different materials in your work, such as copper, rocks, lead, and more. How does the specificity of each material affect your thought process, if at all?

DR. It does affect my work. It's a struggle, in fact. When you're just focusing on the image and the surface, your thought stops there, the directions are easier in a way. But once the material becomes the way that meaning is being elaborated, you lose the image. That's the struggle I have with all my pieces, where the "what" of the image is in the background, and everything becomes about the materiality, and the industry behind that materiality.

SB. So the specific material is an index of a whole history, of the production and impact of that material?

DR. Completely. And that is also what makes the pieces continue to grow over time. This is the case of both *Shooting Skies* and *Andes Inverted*, which I cannot put to rest, because the research does not end, and I can keep digging. For example, with *Shooting Skies* I started with considering the impossibility of talking about gun violence, which triggered my research into lead regulation, that is so strongly associated with the market, the economy, politics, society, history ... it becomes this whole ordeal ... the whole thing with the copper mine had started in a very formal way. I was actually trying to get away from my focus on materiality, and wanted to deal with landscape painting, and make my brain rest and enjoy the process of making work. I thought I could connect my labor as a painter with the labor of those who worked within the landscape of the mine. But ironically I think I do not relate to painters in my practice, and more so with land artists or post-studio artists, and Arte Povera. So, I went to Chuquicamata, which was the largest open-pit mine in the world, and of course the moment I get there I encounter the social issues.

The mine got the population relocated in 2008 ... a whole town that was built there at the end of the 1800s ... all the people are moved from their home and place of identity, so it's a big social crisis. You start looking back at the history, and realize that the mine was started by the Anaconda

Company, which was owned by the Guggenheim brothers. So we have the Americans coming in, digging and finding the copper, and starting the whole mine ... for that reason I decided to apply for a Guggenheim fellowship, as I thought that the Guggenheim could close the circle by funding my piece ...

SB/SH. It sounds like a *déjà vu* of Hans Haacke's institutional critique! Did you end up getting the Guggenheim fellowship?

DR. No, of course! Yet at a certain point I thought it could be possible, as the foundation was trying to clean their name and be critical of their past histories. Anyway, what I started dealing with was that not only the transformation of the landscape left this massive scar, but it also affected the population. There is a whole section of the cemetery of the mine that is called "neighborhood of the *gringos*," the people that came over with their families in the late 1800s to start the mine, and left their home in Boston, for example, and were put in the middle of a hostile environment to generate something out of nothing. So they immediately tried to reconstruct a sense of place and identity attached to the mine. How can you be critical of yourself if you spend your whole life generating this? In the 1970s all copper mining gets nationalized by the socialist government in Chile. So copper is a national industry now. And even before you have Pablo Neruda and Gabriela Mistral writing about Chilean identity as rooted in the core of the earth, more than the vegetation. Then we are the mining, in terms of national identity; that particular figure of the stoic, quiet person is connected to the Andes and surviving in that place. That's where the inversion starts. This destruction of your soil, and of the native cultures that flourished in the site of the mines, is now framed as heroic. It is for the national good, it becomes a part of your identity. So, how do you untangle this now? Faced with this complexity, as an artist, how can you manage to just do landscape painting? You can't.

SB. It's interesting to think about the ways in which materials are connected to particular histories. Just like copper is linked to Chilean identity, perhaps lead is associated, in a hidden way, with the United States' national identity. It is in the form of bullets, which is the form that you chose to employ.

DR. Yes, in fact at some point I was conflicted about finishing the works, as I thought they would seem irrelevant to the public, as viewers are so used to having copper and bullets as part of their life, almost as inevitable.

SH. What kind of response did you get for your lead work? Anything unexpected?

DR. The muddy place is the aestheticization of violence and of the material, but I also think that that's the place I want to be, as that's what generates the dialogue and the conversation. Trying to find the right balance is tricky. The

main reaction was uncertainty. The viewers have asked me: are you not in conflict with the aestheticization of violence, of a material, and of an industry?

Yet, this ambiguity is the productive place to be, for me.

SB/SH. And it is also the place where lead has been positioned throughout history. It is ambiguous: it shields you and protects you and at the same time it can harm you; it is very malleable but also extremely strong ... and it's been used by artists throughout history because of this ambiguity, of its pointing to something and at the same time denying it.

DR. Considering the jewel-like aesthetics of the curtain of bullets in *Shooting Skies* [Figure 15.5], there's the whole other side of bullets being used for making valuable adornments and performative objects, which in some cases embrace the lead as part of the piece. For my work, I was worried about the beauty of the curtain, and how it could end up advocating for the bullets and what they signify. But there is a redeeming factor, that is the weight of the curtain. It is extremely heavy, and it's made of used casings ... you don't know where they come from ... the case is presented as a trace of the usage ... and because of the weight of the object, when you transpass the curtain you have a physical experience. You don't get it with any other material. The reason why they keep on using lead is because of the density of the material. It's malleable yet dense, and for this reason it's hard to replace it. Then, you are lost.

SB. Your mention of jewelry makes me connect your work with a genealogy of works made by women: crafts, including jewelry-making and beading, were among the few creative spaces that women could occupy in the past. Also, concerning your act of shooting your own meticulously painted canvases, my mind goes again to Niki de Saint Phalle's *Shooting Paintings*. In her work, she plays with the idea of violence as the realm of masculinity, and turns that around by appropriating violence as a woman. She questions the boundaries of expected feminine behavior by shooting. Are these feminine and feminist traditions important to you?

DR. Yes, Niki de Saint Phalle is somebody I am very aware of and was thinking of specifically with *Shooting Skies*. Also, I wanted to go beyond the surface of the pristinely painted canvas. Lucio Fontana is another point of reference. Going beyond the surface is what creates meaning.

With the bullets, the only way to make them more than an accessory is to make the body feel the weight of the work. Lead is the embodiment of the piece.

SB. As a woman artist, you often take on roles and explore discourses that are typically associated with masculinity, like shooting, or mining. Can you say something more about this?



**Figure 15.5** Daniela Rivera, *Shooting Skies*, bullet screen (detail before installation), 2014. A total of 35,000 used 44-caliber bullet cases linked and weighed with lead weights. Courtesy of the artist.

DR. Maybe I am a bad feminist! My choice is actually about the fact that women end up being supportive of those industries, they have a role but are less protected. For example, in the mines in Chile, women run the town by covering administrative jobs. They were exposed to health risks living close to the mine, but they did not wear protective gear like the miners themselves, who were mostly men. With the gun industry, pregnant women and children are those that are mostly affected by exposure to lead, which shooting contributes to. Women remain invisible. It's again about the ambiguous dynamic of invisibility and visibility.

## Notes

- 1 “Radio Active Substances. Susan kae Grant,” artist statement. Available online: <http://www.susankaegrant.com/radioactivestatement.pdf> (accessed May 23, 2019).
- 2 Giorgia Gastaldon, *Fragile*, unpublished exhibition pamphlet (Rome: Anna Marra Contemporanea, March 2019), 3.
- 3 Daniela Rivera, *Andes Inverted*, curated by Jen Mergel (Boston: Museum of Fine Arts, March 4, 2017–February 25, 2018).

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