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The Choreography of Everyday Life: Rudolf Laban and the Making of Modern Movement

Abstract

“The Choreography of Everyday Life: Rudolf Laban and the Making of Modern Movement,” explores how an inscription technology developed in German expressionist dance found unlikely application in some of the key institutions of twentieth-century modernity. Called “Labanotation,” it used a complicated symbology to record human bodily movement on paper. Initially used to coordinate mass-dance spectacles in Weimar Germany, the system was quickly adopted in the United States and the United Kingdom in fields ranging from management theory to psychiatry to anthropology. My research analyzes the widespread appeal of this seemingly quixotic tool and to situate it within broader literatures on modern technology, art, media, and politics. Ultimately, I argue that Labanotation succeeded so spectacularly because it promised to reconcile the invented and the authentic, the individual and the group, and the body and the machine at moments threatened by massive social upheaval. Laban’s work thus not only served to preserve a fading past, but opened up new possibilities for the literal choreographing of modern life.

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THE CHOREOGRAPHY OF EVERYDAY LIFE: RUDOLF LABAN AND THE
MAKING OF MODERN MOVEMENT

Whitney Elaine Laemmler

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History and Sociology of Science

Presented to the Faculties of the University of Pennsylvania

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THE CHOREOGRAPHY OF EVERYDAY LIFE: RUDOLF LABAN AND THE
MAKING OF MODERN MOVEMENT

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Whitney Elaine Laemmler

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ABSTRACT

THE CHOREOGRAPHY OF EVERYDAY LIFE: RUDOLF LABAN AND THE
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Whitney Elaine Laemmli

John Tresch

“The Choreography of Everyday Life: Rudolf Laban and the Making of Modern Movement,” explores how an inscription technology developed in German expressionist dance found unlikely application in some of the key institutions of twentieth-century modernity. Called “Labanotation,” it used a complicated symbology to record human bodily movement on paper. Initially used to coordinate mass-dance spectacles in Weimar Germany, the system was quickly adopted in the United States and the United Kingdom in fields ranging from management theory to psychiatry to anthropology. My research analyzes the widespread appeal of this seemingly quixotic tool and situates it within broader literatures on modern technology, art, media, and politics. Ultimately, I argue that Labanotation succeeded so spectacularly because it promised to reconcile the invented and the authentic, the individual and the group, and the body and the machine at moments threatened by massive social upheaval. Laban’s work thus not only served to preserve a fading past, but opened up new possibilities for the literal choreographing of modern life.

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INTRODUCTION

In 1973, IBM announced an unexpected addition to its line of Selectric typewriters, the promotional materials for which featured an unusual juxtaposition: alongside the iconic piece of office machinery, bunned and be-ribboned ballerinas leapt and lounged. The product, developed in collaboration with a New York City organization known as the Dance Notation Bureau (DNB), was a typing element which contained “88 different symbols which can be arranged to form a complete vocabulary for recording movement of any kind.”¹

Since the 1940s, the DNB had been promoting a system known as “Labanotation,” a “universal” technique for recording human bodily movement on paper. Previously, the work of notation had proceeded by hand, but Bureau leaders believed that the new Selectric would streamline the process, further facilitating Labanotation’s diffusion. IBM was similarly optimistic: in a press release, the company praised Labanotation’s “scientific approach to recording movement,” touted its diverse uses—from dance to medicine to industrial operations—and situated the Labanotation Ball as part of “a growing collection of special-purpose typing fonts which IBM has designed for the technical disciplines.”² The company expected sales of at least 2,000 units at a price of \$18 each.³

¹ “Press Release: New IBM ‘Selectric’ Typewriter Element Permits Recording of Dance and Movement” (International Business Machines Corporation, December 20, 1973), Courtesy of Dance Notation Bureau.

² Ibid.

³ Herbert Kummel, “Letter to Dance Notation Bureau Members,” October 26, 1971, Courtesy of Dance Notation Bureau.

In fact, both IBM and the DNB had good reason to be confident. For a technology that earned relatively little public attention, Labanotation was everywhere in the postwar world. It was crucial to efforts to copyright movement in the 1950s United States (the Labanotated dance for *Kiss Me, Kate* was the first copyrighted choreographic score) and underpinned gendered changes in staffing at mid-century corporate behemoths including IBM, Monsanto, and British Petroleum. American folklorist Alan Lomax used Labanotation as part of an effort to comprehensively chart ethnic difference, and a new cadre of psychiatrists believed that movement analysis represented a revolutionary method for accessing and altering the inner lives of their patients. What was once a technique for recording dance became a crucial tool for anthropologists and ethologists, therapists and robotics designers, NASA engineers and IBM human resource professionals.

Many of these mid-century users of Labanotation, however, were likely unaware of its origins. The technique, which involved translating three-dimensional bodily movement into a series of triangles, dots, and boxes on the flat surface of paper, was originally developed by the Hungarian-born choreographer Rudolf Laban in the ferment of Weimar Germany. First published in 1928 under the name “Kinetographie Laban,” the system was designed to preserve on paper performances that otherwise seemed impossibly ephemeral. With a symbology evoking complicated Art Deco metalwork, Laban claimed to make dance—previously the epitome of ephemerality—permanent, standardized, and replicable.

In truth, however, Labanotation was far from a neutral technique for preserving great works of art. Inspired by new work in physics and physiology, Laban was certain

that bodily movement held the power to alter both the individual psyche and the world that surrounded it. Notation was a tool for managing embodied expression, and Laban employed it accordingly: to stimulate spiritual growth, to organize massive, geographically-dispersed “movement choirs,” and, eventually, while serving as the German Minister of Dance under Josef Goebbels. Labanotation was as much a tool for shaping the present as it was for conserving the past.

Laban’s obsessive efforts to harmonize expression and control, romanticism and modernity, the individual and the nation, might seem worlds away from the mid-century engineering offices of IBM. Labanotation, however, bound these and many other sites of movement analysis together. Rather than concentrating on Laban as an individual, therefore, this dissertation explores the surprising staying power of his notation system and the worldview it concretized. Each chapter explores a new episode in Labanotation’s history—from dance to management to psychiatry—and examines the corresponding shifts in its social and political meaning.

The project also, however, seeks to illuminate what Labanotation carried with it across time and space: a vision in which human movement would reveal important truths about the world and create more efficient, harmonious, and manipulable societies. Ultimately, I argue that Labanotation succeeded so spectacularly because it promised to reconcile the invented and the authentic, the individual and the group, and the body and the machine at moments threatened by massive social upheaval. Laban’s work thus not only served to preserve a fading past, but seemed to open up new possibilities for the literal choreographing of modern life.

Science, Technology, and the History of the Body

Within the community of dance scholars, Laban's notation work is well-known, though rarely seriously analyzed. Most historical treatments—whether of Laban's life or his work on notation—have been written by friends, protégés, or admirers.⁴ As such, these texts present a useful starting point for analysis, though they tend to lack the methodological and critical apparatus of historical scholarship. The few critical works which do exist focus on the question of Laban's Nazi sympathies. Again, such work has great value, but its narrow focus does not do justice to the complex contours of Laban's intellectual, political, and social life and legacy.⁵

Moreover, because the full story of Labanotation's impact travels far beyond the boundaries of the dance studio, it has tended to elude the notice of those who see such endeavors as peripheral to dance scholarship. In recent years, however, scholars in dance studies have argued that the field should expand to encompass the study of all forms of “socially structured movement,” from sports to work to everyday gesture.⁶ In illuminating one case in which widely divergent forms of movement practice are clearly in dialogue, I see this project as a contribution to that important effort.

⁴ See, for example: Valerie Preston-Dunlop, *Rudolf Laban: An Extraordinary Life* (London: Dance Books Ltd, 1998); Karen K. Bradley, *Rudolf Laban* (London: Routledge, 2009); Evelyn Doerr, *Rudolf Laban: The Dancer of the Crystal* (Lanham, Maryland: The Scarecrow Press, Inc., 2008); Isa Partsch-Bergsohn and Harold Bergsohn; *The Makers of Modern Dance in Germany: Rudolf Laban, Mary Wigman, Kurt Jooss* (Princeton: Princeton Book Company, 2002).

⁵ Marion Kant's *Hitler's Dancers* has been particularly important to my work, both because of its unusually unflinching treatment of Laban's politics and because of Kant's decision to translate and publish the archival documents she used in preparing the manuscript. Marion Kant and Lilian Karina, *Hitler's Dancers: German Modern Dance and the Third Reich*, trans. Jonathan Steinberg (New York: Berghen Books, 2003).

⁶ Norman Bryson, “Cultural Studies and Dance,” in *Meaning in Motion: New Cultural Studies of Dance*, ed. Jane C. Desmond (Durham, NC: Duke University Press, 1997); Susan Manning and Lucia Ruprecht, eds., *New German Dance Studies* (Urbana, IL: University of Illinois Press, 2012).

In a similar way, historians of science and technology have not always paid sufficient attention to the arts; dance, perhaps, has been particularly neglected because of its long association with women, the body, and the Romantic tradition.⁷ Nevertheless, in recent years, much progress has been made. In particular, studies by scholars including Robert Brain, Jimena Canales, Linda Henderson, Stephen Kern, Marta Braun, and Francois Dagonet have revealed that—especially at the fin-de-siècle—artists, scientists, and engineers frequently shared both material tools and ideological preoccupations.⁸ Their work, along with new scholarship on art and science more generally, has demonstrated the ways in which the study of these intersections can be transformative for our understanding of both realms of practice.⁹

⁷ For a work in dance studies that demonstrates the dialogue between dance and technological enthusiasm in the early twentieth-century, see: Felicia McCarren, *Dancing Machines: Choreographies of the Age of Mechanical Reproduction* (Stanford, CA: Stanford University Press, 2003).

⁸ Robert Michael Brain, *The Pulse of Modernism: Physiological Aesthetics in Fin-de-Siècle Europe* (Seattle, WA: University of Washington Press, 2015); Jimena Canales, *A Tenth of a Second: A History* (Chicago: University of Chicago Press, 2009); Marta Braun, *Picturing Time: The Work of Etienne-Jules Marey (1830-1904)* (Chicago: University of Chicago Press, 1995); Francois Dagonet, *Etienne-Jules Marey: A Passion for the Trace* (New York: Zone Books, 1992). Stephen Kern, *The Culture of Time and Space, 1880-1918* (Cambridge, MA: Harvard University Press, 1983); Linda Dalrymple Henderson, “Vibratory Modernism: Boccioni, Kupka, and the Ether of Space,” in *From Energy to Information: Representation in Science and Technology, Art, and Literature*, ed. Bruce Clarke and Linda Dalrymple Henderson (Stanford, CA: Stanford University Press, 2002). These works also fulfill Peter Galison and Caroline Jones’ early call to focus not solely on the *products* of scientific or artistic efforts, but on the “commonalities in the *practices* that produce them.” Caroline A. Jones and Peter Galison, eds., *Picturing Science, Producing Art* (New York: Routledge, 1998).

⁹ Caroline A. Jones and Peter Galison, *Picturing Science, Producing Art*; Thompson, Emily, *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900-1933* (Cambridge, MA: The MIT Press, 2004); John Tresch, *The Romantic Machine: Utopian Science and Technology After Napoleon* (Chicago: University of Chicago Press, 2012); Svetlana Alpers, *The Art of Describing: Dutch Art in the Seventeenth Century* (Chicago: University of Chicago Press, 1983); Lorraine Daston, “Fear and Loathing of the Imagination in Science,” *Daedalus* 127, no. 1 (1998): 73–95; Pamela Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004); Linda Henderson, *The Fourth Dimension and Non-Euclidian Geometry in Modern Art* (Princeton, NJ: Princeton

Additionally, over the past few decades, a variety of otherwise dissimilar scholars have become convinced that the physical body plays a crucial role in knowledge-making. In their studies of tacit knowledge, for example, Michael Polanyi, Harry Collins, and Donald MacKenzie have illuminated how the transmission of information and practices has frequently depended upon local—and often somatic—interpersonal interactions.¹⁰ Historians of technology have sung a similar refrain, seeking to elevate the “hand work” of engineers and technicians beyond mere tinkering and into the realm of epistemology. Feminist accounts of the undue degradation of bodily labor echo that theme as does, for example, Steven Shapin’s work on Robert Boyle’s “invisible technicians.”¹¹ Taking an even stronger stance, Pamela Smith has contended that the Scientific Revolution itself owes a deep, unacknowledged debt to artisanal epistemologies, seeing the artisanal “bodily encounter with nature” as a necessary precursor to the experimental practice of the Royal Society. Smith’s ongoing efforts to unite historical and laboratory practice also speak to her continued belief in the scholarly importance of preserving—and resurrecting—embodied knowledge.¹²

University Press, 1983); David Nye, *American Technological Sublime* (Cambridge, MA: MIT Press, 1994).

¹⁰ Michael Polanyi, *The Tacit Dimension* (Chicago: University of Chicago Press, 2009); Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago: University of Chicago Press, 2015). Harry M. Collins, “Tacit Knowledge, Trust and the Q of Sapphire,” *Social Studies of Science* 31(1): 71-85, 2001; Donald MacKenzie and Graham Spinardi, “Tacit Knowledge, Weapons Design, and the Uninvention of Nuclear Weapons,” *American Journal of Sociology* 101 (July 1995): 44-99.

¹¹ Sandra Harding, ed., *The Feminist Standpoint Theory Reader: Intellectual and Political Controversies* (New York: Routledge, 2003); Steven Shapin, “The Invisible Technician,” *American Scientist* 77: 6 (November-December 1989): 554-563; Lissa Roberts, Simon Schaffer, and Peter Dear, eds., *The Mindful Hand: Inquiry and Invention from the Late Renaissance to Early Industrialisation* (Chicago: University of Chicago Press, 2008).

¹² Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution*. See also: Tim Ingold, *Making: Anthropology, Archeology, Art and Architecture* (Oxon, UK: Routledge, 2013).

Therein lies another asset of this study. Whatever their faults, long before the current historiographical and theoretical interest in tacit knowledge, Labanotators grappled with the question of how to account for—and, eventually, to analyze, codify and preserve—the evanescent movements of the human body. As historians interested in embodiment begin to do the same, the story of Labanotation may provide both fruitful models and cautionary tales. At the same time, paying attention to the explosion of interest in the body Labanotation catalyzed may help us begin, as anthropologist Richard Handler suggested in 2009, to “historicize the trend to see ‘bodily practices’ as an important topic for cultural and historical studies.”¹³

As a unique inscription technology, the study of Labanotation also contributes to the burgeoning interest in the political and epistemological dimensions of science’s paper tools: diagrams, graphs, figures, and notation systems. Works by David Kaiser, Bruno Latour, Geoffrey Bowker, Susan Leigh Star, Lorraine Daston, and Peter Galison have drawn attention to these inscription technologies in practice, demonstrating the ways in which they shape ways of seeing, create communities, and embed particular values and structures of power.¹⁴ In exploring the history of Labanotation, I illuminate both the pragmatic and the symbolic value of written inscriptions as well as their role the emergence of new fields of inquiry. Moreover, I pay particular attention to questions—

¹³ Richard Handler, “Erving Goffman and the Gestural Dynamics of Modern Selfhood,” *Past and Present* 203 (2009): 280–300.

¹⁴ David Kaiser, *Drawing Theories Apart: The Dispersion of Feynman Diagrams in Postwar Physics* (Chicago: University of Chicago Press, 2005); Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2010); Bruno Latour, “Drawing Things Together,” *Knowledge and Society* 6 (1986): 1–40; Geoffrey C. Bowker and Susan Leigh Star, *Sorting Things Out: Classification and Its Consequences* (Cambridge, MA: MIT Press, 1999); Geoffrey C. Bowker, *Memory Practices in the Sciences* (Cambridge: MIT Press, 2005).

raised, for example, by Bruno Latour and David Kaiser—about whether systems of recording inevitably retain their theoretical and political baggage when they move into new contexts.¹⁵ Such questions are particularly important given contemporary discussions about archival practice, “big data,” and information storage, and the issues they raise about power, surveillance, and autonomy.

Many existing histories have emphasized the ways in which human bodies in the twentieth century were increasingly analyzed, broken down into their constituent parts, and subjected to regimes of mechanical discipline. This is the story of Taylorism, of the modern medical gaze, of the commodification of cell lines, blood, and tissues.¹⁶ These narratives are powerful for a reason; they reflect clear historical patterns. Some scholars, however, have begun to suggest that characterizing the twentieth century as a wholesale slide toward reductionism may be too simple. In work like David Cantor’s discussion of twentieth-century holistic medicine, Hillel Schwartz’s powerful discussion of “torque” as a fundamental kinesthetic category, or analyses of how doctors’ jokes work as a subversive discourse that challenge ideals of rationalized order, the body emerges as an

¹⁵ Kaiser’s investigation of Feynman diagrams in post-WWII physics has been a useful theoretical model for my own exploration of the varied work inscription systems do in scientific practice. Kaiser, *Drawing Theories Apart*.

¹⁶ Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity* (New York: Basic Books, 1990); Jennifer Karns Alexander, “Efficiency and Pathology: Mechanical Discipline and Efficient Worker Seating in Germany, 1929-1932,” *Technology and Culture* 47 (April 2006): 286–310; Richard Gillespie, “Industrial Fatigue and the Discipline of Physiology,” in *Physiology in the American Context, 1850-1940* (Bethesda, MD: American Physiological Society, 1987); Lisa Cartwright, *Screening the Body: Tracing Medicine’s Visual Culture* (Minneapolis: University of Minnesota Press, 1995); Hannah Landecker, *Culturing Life: How Cells Became Technologies* (Cambridge, MA: Harvard University Press, 2007); Lori Andrews and Dorothy Nelkin, “Whose Body Is It Anyway? Disputes over Body Tissues in an Biotechnology Age,” *Lancet* 351 (January 3, 1998): 53–60.

entity that retained some of the slipperiness, mystery, and ineffable power with which it has long been associated.¹⁷

Schwartz in particular seeks to illuminate the ways in which rhythm, wholeness, fluidity, and the cultivation of direct body-mind connections remained influential ideals throughout the twentieth century. Responding to the preponderance of literature emphasizing bodily control, he concedes that many of the changes scholars have chronicled were indeed pervasive. Schwartz argues, however, that the ability to recognize and criticize this “mechanization of the body” is itself a result of the power of the opposing kinesthetic he reveals: “The ideals of movement embedded within the assumptions of that critique are precisely the ideals of the new kinesthetic.”¹⁸ Thus, “torque” can be seen as a powerful evidence for the existence of an ongoing alternative to the trend toward mechanization.

Like many of his contemporaries—artistic and otherwise—Laban believed in the power of the expressive body to change the world. In organizing massive dance spectacles, Laban hoped to catalyze emotional and metaphysical awakenings: dancers, he wrote, “experience a complete spiritual reversal which elevates them above everyday

¹⁷ The belief that the is inherently elusive is, of course, itself a historical construct. David Cantor, “The Diseased Body,” in *Companion to Medicine in the Twentieth Century*, ed. Roger Cooter and John Pickstone (London: Routledge, 2000); Hillel Schwartz, “Torque: The New Kinaesthetic of the Twentieth Century,” in *Incorporations*, ed. Jonathan Crary and Sanford Kwinter (New York: Zone Books, 1992); Lisa Gabbert, Antonio Salud II, and Elizabeth Klaver, “On Slandorous Words and Bodies-Out-Of-Control: Hospital Humor and the Medical Carnavalesque” (Albany, NY: SUNY Press, 2009). See also: Annemarie Mol, *The Body Multiple: Ontology in Medical Practice* (Durham, NC: Duke University Press, 2003).

¹⁸ Schwartz, “Torque: The New Kinaesthetic of the Twentieth Century,” 105. See also: Michael Cowan, *Technology’s Pulse: Essays on Rhythm in German Modernism* (London: IGRS Books, 2011).

attitudes of life and harmonises [sic] their mind.”¹⁹ He railed against the strictures of the factory, and believed that integrating dance-like movements into industrial work would mean that “work shall not torture, kill, and exhaust, but invigorate and exalt.”²⁰

At the same time, much of Laban’s career was devoted to anatomizing and controlling the body. His seemingly spontaneous movement choirs were tightly controlled via notation scores, with little to no improvisation permitted, and his later work in industrial contexts was similarly characterized by top-down control. Most troubling, in 1933 Laban was appointed Minister of Dance by Nazi Propaganda Minister Joseph Goebbels. From 1933 until his departure from Germany in 1936, Laban worked for the National Socialist State, standardizing national curricula and purifying German dance of “alien gesticulations.”

These contradictory tendencies can found throughout Labanotation’s history, whether in the dance studio, the corporate board room, or the hospital. In all these cases, at the same time rhythmic bodily movement was touted as a way of circumventing modernity’s too-tight grasp, it was also being monitored, broken down into its constituent parts, and stripped of its messy, changeable, idiosyncratic nature. At its heart, the dissertation is an exploration of this seeming paradox. What does it mean that the analysis, standardization, and control of liberating, expressive movement was crucial to the functioning of some of the key economic political, economic, and social institutions of twentieth-century life?

¹⁹ As quoted in: Dick McCaw, *The Laban Sourcebook* (London: Routledge, 2011), 89.

²⁰ *Ibid*, 64.

As such, I hope this work will shift our understanding of how the body—and, in particular, the moving body—was understood and manipulated in the modern age.²¹ In particular, I aim to illuminate the ways in which the body served as a site where agency was both enacted and constrained as well as a crucial arena for negotiating the individual's relationship to a larger society.²² Contests about how human beings could and should move were also arguments about who belonged to the body politic—and who did not.

Dissertation Structure

The first chapter of the project, “Science, Politics, and the Body in Motion” describes Labanotation's genesis. It asks how and why Laban became interested in translating the four-dimensional fleshiness of the moving body into something relatively simple, written, replicable, and universally valid. Following Laban from his childhood in the Austro-Hungarian empire to the publication of *Kinetographie* in 1928, it outlines Laban's development of a unique theory of movement and the ways in which his thinking was shaped by influences as diverse as German romanticism, nineteenth-century physiology, and contemporary physics.

²¹ My dissertation will also shed light on the complex ways in which such beliefs are constructed: not merely the product of medical science, the twentieth-century moving body was fashioned out of the ongoing interplay between artistic credos, technical practice, scientific theory, and industrial necessities

²² This question has been explored by scholars in a variety of fields, and my dissertation will contribute to the growing body of literature on the subject. See, in particular: Tim Cresswell, *On the Move: Mobility in the Modern Western World* (New York: Routledge, 2006); Marcel Mauss, “Techniques of the Body,” *Economy and Society* 2 (February 1973): 70-88; Jan Bremmer and Herman Roodenburg, eds., *A Cultural History of Gesture* (Ithaca: Cornell University Press, 1991); Norman Bryson, “Cultural Studies and Dance History,” in *Meaning in Motion: New Cultural Studies of Dance*, Jane C. Desmond, ed. (Durham: Duke University Press, 1997).

The chapter then moves to an analysis of Labanotation in practice, focusing first on Laban's use of notation in coordinating massive movement choirs in the 1920s before turning to his three-year tenure as the Nazi Dance Minister. Most scholars have taken for granted Laban's contention that his notation represented a neutral method for preserving important works of art. In this chapter, however, I argue that Labanotation was fundamentally a technology for preserving and solidifying national identity. For Laban, notation was intended to facilitate the creation of an embodied community—of a collective past, a vibrant present, and a unified future—for a dispersed and anxious people.

Chapter Two, "Paper Dances: The Dance Notation Bureau's Rational Repository" focuses on the efforts of the Dance Notation Bureau (DNB), an organization founded in New York City in 1940 by several of Laban's disciples. Using the DNB's institutional archives as a starting point, this chapter chronicles how Labanotation was altered, expanded upon, and used in the America of the 1940s and 1950s. The Bureau's stated aim was simply to popularize Laban's system, but this overarching goal translated into a variety of discrete tasks, from working with IBM to creating an "international notation standard" to drawing attention to the need for cultural preservation in the age of the atomic bomb.

Relatively quickly, the Bureau experienced notable success. Its leaders preserved the work of some of the twentieth century's most distinguished choreographers (including George Balanchine and Doris Humphrey), taught hundreds of students a year, and became key nodes in the New York City dance scene. Bureau President Ann Hutchinson Guest made waves with her pronouncements about Labanotation's "scientific

objectivity” and lured dance luminaries with the promise of artistic immortality. At the same time, the Bureau labored to ensure its financial future by working with the U.S. Copyright Office to make Labanotation the standard medium of legal protection. In 1952, they were successful, and it was perhaps this achievement that ultimately assured notation’s persistence within the American dance world.

Chapter Two expands on the thematic questions surrounding the recording of movement introduced in Chapter One. It considers, for example, the ways in which Labanotation not only served to preserve an artistic product for posterity, but also to coordinate movement across time and space and to make money. Additionally, it explores the profound consequences of notation’s entry into American dance, demonstrating how ideas about the body, artistic creativity, ownership, and dance itself were altered alongside Labanotation’s widespread use.²³ Ironically, in their fervent effort to preserve the evanescent movements of the body for posterity, the women of the Dance Notation Bureau fostered a vision of dance in which the body was almost entirely absent.

As the twentieth century progressed, Labanotation was used less frequently for the purpose of recording and more often as an interpretive aid. Accordingly, the following chapters of the dissertation address a slightly different set of thematic concerns.

²³ For relevant secondary literature on these themes, see: Geoffrey C. Bowker and Susan Leigh Star, *Sorting Things Out: Classification and Its Consequences* (Cambridge: MIT Press, 1999); Theodore Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton: Princeton University Press, 1995); James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*.(New Haven: Yale University Press, 1998); Benedict Anderson, *Imagined Communities* (London: Verso, 1983); Marshall McLuhan, *The Gutenberg Galaxy: The Making of Typographic Man* (Toronto: University of Toronto Press, 1962); Walter Benjamin, “The Work of Art in the Age of Mechanical Reproduction” (1936); John Bender and Michael Marrinan, *The Culture of Diagram* (Palo Alto: Stanford University Press, 2010).

In the 1950s, 60s, and 70s, a number of anthropologists, psychologists, and business consultants began to use Labanotation as a research tool. Chapter Three, “Corporate Bodies: Movement Pattern Analysis and White-Collar Work,” explores the proliferation of Laban-based analysis in postwar management consulting. After World War II, “body language” emerged as a subject of popular interest, and chief among its boosters was Warren Lamb, a one-time student of Rudolf Laban. By the 1950s, Lamb was an internationally sought-after management consultant whose claim to fame was “Movement Pattern Analysis,” a system that assessed employees’ potential by observing their unconscious ways of moving. For Lamb, a movement profile was like a fingerprint: impossible to fake, it signaled a specific set of strengths and weaknesses. In his long career, Lamb advised corporations including IBM, Mars, Monsanto, Hewlett Packard, General Motors, and British Petroleum.

At each company, Lamb had two aims: increasing profitability and ensuring employees’ ongoing contentment and loyalty, goals he saw as inextricably linked. Chapter Three, therefore, uses Lamb’s work to demonstrate how the management of movement was crucial to the functioning of the twentieth-century corporation. In particular, it emphasizes how mid-century executives increasingly categorized employees not by experience or education but—via the medium of Laban-based analysis—by purportedly innate, unconscious personality traits.

The chapter also pays special attention to the ways in which Lamb’s ideas about movement both reflected and reinforced prevailing notions about gender. Throughout his career, Lamb wrote extensively about what he believed to be inherent differences in the movement styles of men and women. A systematic analysis of such movement patterns,

he argued, would both boost productivity and reveal new evidence of gender dimorphism “at a time when there is a lot of talk about equality.”²⁴ Here, I contend that Lamb’s work on gendered movement patterns quite literally shaped what it meant for men and women to move through the halls of the twentieth-century corporation, whether sitting behind a desk, gesturing at colleagues, or asking for a promotion. In doing so, I aim to demonstrate how the moving body served as a site for the active negotiation and performance of gender.²⁵

The fourth chapter, “Moving On: Dance Therapy and Psychological Trauma,” represents in part a mirror image of the third, as it considers not the ideal bodies of mid-century corporate America, but the pathologized bodies of the mentally ill. In the decades following WWII, psychiatrists in New York City and in Washington, D.C. began to use Labanotation to evaluate and treat their patients. Working alongside dance notators and new “movement therapists,” they believed that movement analysis represented a revolutionary method for accessing and altering the inner lives of the often uncommunicative individuals they confronted. At the same time, they hoped that

²⁴ Warren Lamb, *Body Code* (London: Routledge and Kegan Paul, 1979), 72.

²⁵ This chapter will put my work in dialogue with both theorists of gender and historians of its workings in the twentieth-century corporation. It will also speak to the role of “technological scripts” in maintaining gender binaries during this period. In particular, see: Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* (New York: Routledge, 1990); Sally Gregory Kohlstedt, ed., “Science and the Construction of Gendered Bodies” in *Gender and Scientific Authority* (Chicago: University of Chicago Press, 1996); Angel Kwolek-Folland, *Engendering Business: Men and Women in the Corporate Office* (Baltimore: The Johns Hopkins University Press, 1998); Ruth Milkman, *Gender at Work: The Dynamics of Job Segregation by Sex during World War II* (Illinois, University of Illinois Press, 1987); Madeline Akrich, “The De-Description of Technical Objects,” in *Shaping Technology/Building Society: Studies in Sociotechnical Change*, Wiebe E Bijker and John Law, eds. (Cambridge: MIT Press, 1992): 205-223; Ellen van Oost, “Materialized Gender: How Shavers Configure the Users’ Femininity and Masculinity,” in *How Users Matter: The Co-Construction of Users and Technology*, Nelly Oudshoorn and Trevor Pinch, eds. (Cambridge, MA: MIT Press, 2003): 194-208.

teaching their patients to move in healthier ways could reverse the effects of maladies ranging from depression to schizophrenia.

Focusing on the efforts of individuals like Judith Kestenber, Irmgard Bartenieff, and Franziska Boas (the daughter of the founding figure of anthropology in the United States), the chapter describes a field very much in-the-making. Practitioners of movement therapy disagreed about many things: from the settings in which it should be performed to the mechanism by which it worked. Their educational backgrounds and the demographics of their chosen patient populations—Holocaust survivors and their children, war veterans, inner city youth—also varied widely. They were knit together, however, by an anxiety about the body’s ability to incubate trauma, fear, and aggression and the consequences of that persistence for society at large. Chapter Four, therefore, considers how therapists used the body to negotiate the uneasy, Cold War territory between expressive subjectivity and top-down control, individual autonomy and group cohesion.

The fifth and final chapter, “From *Volk* to Folk: Alan Lomax and the World Geography of Movement,” describes Laban’s influence within anthropology and folklore. As early as the 1950s, Labanotation had attracted the interest of prominent anthropologists interested in bodily expression, among them Margaret Mead and Ray Birdwhistell. It was in 1965, however, that American folklorist Alan Lomax made Labanotation the central to a mammoth research project known as “Choreometrics.” Along with his collaborators, therapist Irmgard Bartenieff and her student, Forrestine Paulay, Lomax believed that dance was a unique, untapped resource for understanding the adaptive functioning of human culture and the history of human migration. As Lomax

put it, it was “as if the body was a semaphore,” signaling the presence of certain climatic conditions, work practices, and cultural values by “wig-wagging a special set of body parts.” These signs, however, were not the gross stylistic differences immediately obvious to the untrained eye, but rather subtler elements—palm placement, force trajectories, degree of curvature—visible only through careful recording and analysis.

To reveal these “underground rivers of style,” Lomax devised a coding system based on Labanotation, and began a decades-long project to view, code, catalogue, and preserve the totality of the world’s dance traditions. The chapter traces the history of Choreometrics, illuminating the ways in which human bodily movement came to be understood as carrying important and otherwise inaccessible information about social structures, work practices, and human history.

Lomax thus saw Choreometrics as a serious contribution to the human sciences. He also, however, conceived of his work as part of an activist project. He noted with disdain the ways in which globalization had begun to destroy minority cultures across the earth and reserved particular vitriol for the obliteration of “traditional” ways of moving, arguing that “when tides of cultural conquest sweep the human landscape, perhaps the most pervasive, painful, and disorienting demand is that the vanquished conform the invader’s standards of physical comportment.” By making both his findings and his data available for broad public consumption, Lomax intended to reverse this slide while “recalibrating” Americans’ “perceptual apparatus”²⁶ to fit a new, multicultural world.

²⁶ Alan Lomax, “Dance and Human Culture,” n.d., 4/18-01, Library of Congress, Alan Lomax Collection.

In many ways, therefore, the dissertation ends as it begins. Though the vision of the community Lomax hoped to create stands in stark contrast to the one Laban himself envisioned, their beliefs about the body's role in achieving those goals were remarkably similar. Indeed, in all the episodes this dissertation chronicles, debates about the body in motion were inextricably enmeshed with discussions about the nature of modern human society. Not all the actors who used Labanotation answered these questions in the same way—as a system, it was malleable enough to transform in response to new cultural realities, political goals, and aesthetic visions—but its ubiquity and persistence indicates that the human body continued to wield tremendous power, even in the seemingly disembodied modern age.

SCIENCE, POLITICS, AND THE BODY IN MOTION

One cloudy afternoon in the late 1880s, Rudolf Laban found himself upside-down in a dim mountain cavern, suspended only by a rope knotted around his ankles. From above, his father, Laban de Varalja, yelled directions, urging the boy to train his attention on the cave's walls. Then the military governor of Bosnia and Herzegovina, the elder Laban was engaged in the hot pursuit of a group of local rebels; he suspected they had hidden a cache of munitions in one of the local "narrow, deep mountain-clefts."¹ After several of his burlier men tried to gain access to the space with no success, little Rudy was summoned and promptly inverted.

Upon being lowered, Rudolf saw no rifles or revolvers. Instead, he found himself transported to another world, surrounded by "glistening shapes and shadows presenting a movement-display so different from that of leaping animals or undulating forests." Gazing at the cave's mineral formations, he became sure "that the stone was alive and possessed a will of its own in its tenacious, slow crystallisation, and its fight against destruction by sun or water." So stunned was the boy that upon being returned to solid ground, he was rendered nearly mute. Annoyed, the expedition's leader decided "the best thing to do would be to widen the opening and send a level-headed adult into the innermost grotto."²

Laban recounted this story in his memoir, *A Life for Dance*, originally published in Dresden in 1935. The tale may or may not be apocryphal, but it testifies nevertheless to

¹ Rudolf von Laban, *A Life for Dance: Reminiscences*, trans. Lisa Ullmann (New York: Theatre Arts Books, 1975), 24.

² *Ibid.*

the strange intertwining of the romantic and the modern, the artistic and the militaristic that would shape Laban's life and legacy. This chapter chronicles these confrontations, illuminating how the youth who once sought enlightenment in Novalis' mystical "blue flower" found it instead through science, technology, and the regimentation of the Third Reich.³

Known as the symbolic "father" of German expressionist dance, Laban's artistic work has been well-catalogued by dance scholars. His many students and protégés have penned loving biographies, outlining the basic contours of a life that spanned many of the key moments and movements of the long 20th century. Born Rudolf Jean-Baptiste Attila Marquis de Laban de Varalja in 1879, Laban's childhood was spent partly at the family residence in Pressburg (now Bratislava) and partly in the more far-flung environs of Sarajevo and Mostar, where he accompanied his father, recently appointed governor of Bosnia and Herzegovina, on military exercises. After a failed stint in the Weiner Neustadt military academy in the empire's capital—he was dismissed in 1899 after purportedly shooting off his superior officer's cap with a revolver—Rudolf turned to his true love: art. He sought training in painting and architecture at the Munich Kunstakademie and the

³ Ibid, 7. On the nineteenth-century relationship between science, technology, and romanticism, see: Tresch, *The Romantic Machine: Utopian Science and Technology After Napoleon*; Robert J. Richards, *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe* (Chicago: University of Chicago Press, 2002). On the relationship between German romanticism, science, and reactionary politics, see: Anne Harrington, *Reenchanted Science: Holism in German Culture from Wilhelm II to Hitler* (Princeton, NJ: Princeton University Press, 1999); Jeffrey Herf, *Reactionary Modernism: Technology, Culture, and Politics in Weimar and the Third Reich* (Cambridge, England: Cambridge University Press, 1984).

École des Beaux-Arts in Paris and spent time in Vienna and at the famed Monte Verità artists' colony in Ascona, Switzerland.⁴

By 1911, however, he had shifted his attention to dance and opened the Rudolf v. Laban-Varalja Studio in Munich, where he offered courses in gymnastics, eurhythmics, pantomime, dance, and harmonic movement, urging his students to explore themes of tension, balance, and line. He also began performing publicly, both alone and with a small company, inaugurating a decades-long period in which he premiered as many as a dozen works each year. With titles like *Hymne vom Traum von der Erde* (*Hymn of the Dream of the Earth*, 1912), *Das Fest* (*The Celebration*, 1912), *Sonnenfest* (*Sun Festival*, 1917), *Fausts Erlösung* (*Faust's Salvation*, 1922), *Der schwingende Tempel* (*The Swinging Temple*, 1922), Laban's oeuvre centered around two themes: the unity of nature and the decadence of Weimar culture. The initial reception of his choreography was sometimes less than enthusiastic; as he recalled in *A Life for Dance*, "to judge by the ingenious selection of objects which were chosen to bombard us now and then [eggs, over-ripe plums, potatoes, pieces of wood] it was obvious that the ammunition had been carefully brought from home beforehand."⁵ By the late nineteen-teens, however, Laban's star was rising. He was sought after as a choreographer and performer across central Europe, took on leadership roles at Monte Verità, and founded schools in Munich,

⁴ On the intellectual and artistic currents that shaped Monte Verità, see: Martin Green, *Mountain of Truth: The Counterculture Begins, Ascona, 1900-1920* (Hanover, NH: University Press of New England, 1986). On Vienna at the turn of the century, see: Carl E. Schorske, *Fin-de-Siecle Vienna: Politics and Culture* (New York: Vintage, 1980); Christian Brandstatter, ed., *Vienna 1900: Art, Life & Culture* (New York: Vendome Press, 2011); Deborah R Coen, *Vienna in the Age of Uncertainty: Science, Liberalism, and Private Life* (Chicago: University of Chicago Press, 2007).

⁵ Rudolf von Laban, *A Life for Dance: Reminiscences*, 27.

Nuremberg, Stuttgart, Mannheim, Hamburg, and Wurzburg. His students—including the famous Mary Wigman and Kurt Jooss—fanned out across Europe, further elevating Laban’s status and securing his place in the dance canon.

Laban’s most powerful contribution to history was not, however, his performing career. In 1928, he published what he called *Kinetographie Laban* in the new German-language journal *Schrifttanz (Written Dance)*. This “kinetographie,” later known as Labanotation, sought to capture dance on paper by arranging a diverse array of symbols on a three-lined, vertical staff.

Within the dance community, Laban’s notation work is well-known, though rarely critically analyzed.⁶ As a result of this lack of attention, many have seen Labanotation simply as a neutral method for preserving important works of art. Here, however, I argue that Labanotation was far more complex and far more political. The chapter outlines of Laban’s early work on notation and excavates the unique constellation of influences—from 19th century German romanticism to 20th century physiology to fin-de-siècle anxieties about modern society—that framed his thinking. It describes Laban’s intellectual heritage and demonstrates how he stitched together insights from a variety of scientific disciplines to develop his own theory of movement. The chapter then examines Labanotation itself, first focusing on its formal structure and then exploring its practical uses, from 1920s movement choirs to the construction of national dance syllabi under the Third Reich. Drawing on new ideas in physics, physiology, and development biology, Laban’s work indeed represented an attempt to make dance “scientific.” The theoretical

⁶ For biographical treatments of Laban, see: Evelyn Doerr, *Rudolf Laban: The Dancer of the Crystal* (Lanham, MD: Scarecrow Press, Inc., 2008). Karen Bradley, *Rudolf Laban* (New York: Routledge, 2008).

premises underlying Laban's understanding of movement, however, also meant that he envisioned Labanotation as a technology for the preservation and solidification of national identity.⁷

Making Notation

Laban had been interested in the recording of movement in written form for some time: he reports that his first experiments with notation occurred just after the turn of the century in Paris, where he watched people's behavior in the streets and attempted to record it symbolically. As early as 1916, students were performing from a modified form of Labanotation at his school in Munich, but it was not until the mid-1920s that Laban arrived at what he considered a complete, workable system.

The first official publication of that system occurred in 1928, in *Schrifttanz*, founded by Alfred Schlee, then a young member of the staff of the well-known music publisher, Universal Edition. Earlier in the year Schlee had attended Laban's presentation of the system at the Second Dancers' Congress in Essen, and he was quickly swept up in the groundswell of enthusiasm.

The figures below illustrate Laban's basic approach, though several aborted attempts preceded it. The first is the Labanotated score for a few measures of a variety of "traditional" German dances, published in 1929. The second is a key for understanding the system, published by the Dance Notation Bureau in the 1960s. A blank Labanotation score consists of three parallel lines. It is read from the bottom upward, and the bar lines

⁷ For an contemporary analysis of nationalism, feminism, and German dance, see: Susan Manning, *Ecstasy and the Demon: Feminism and Nationalism in the Dances of Mary Wigman* (Berkeley, CA: University of California Press, 1993).

function to indicate time, just as they do in music notation. The center line serves as the spine: actions taking place on the right side of the body are written on the right side of the staff and vice versa. Symbols clustered around this line indicate movements of the feet and, moving outward, successive columns designate movements of the legs, torso, arms, and head.

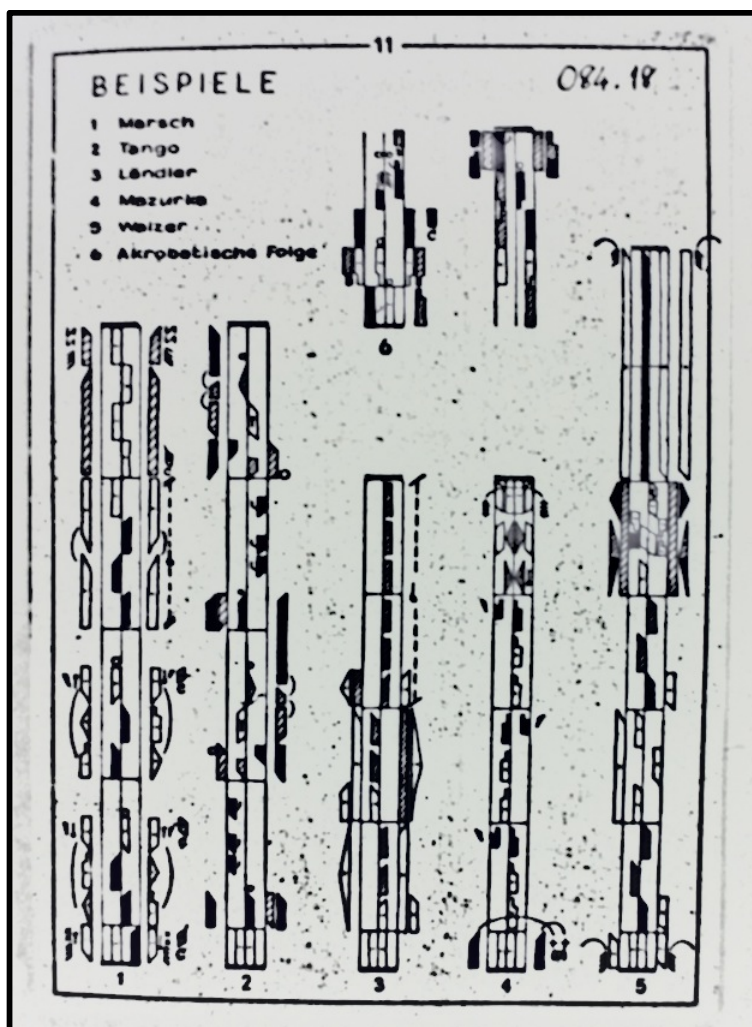
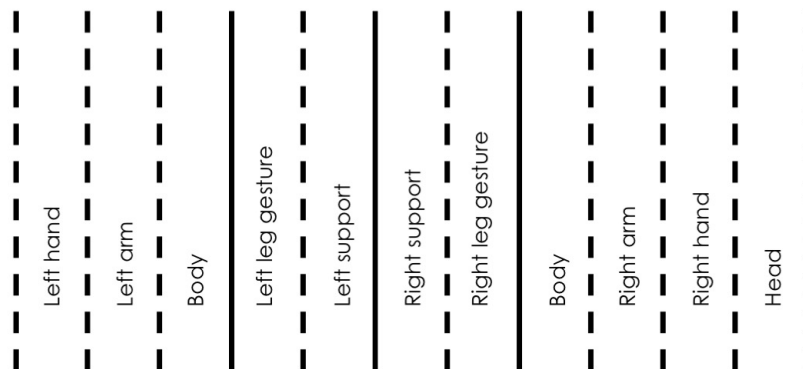


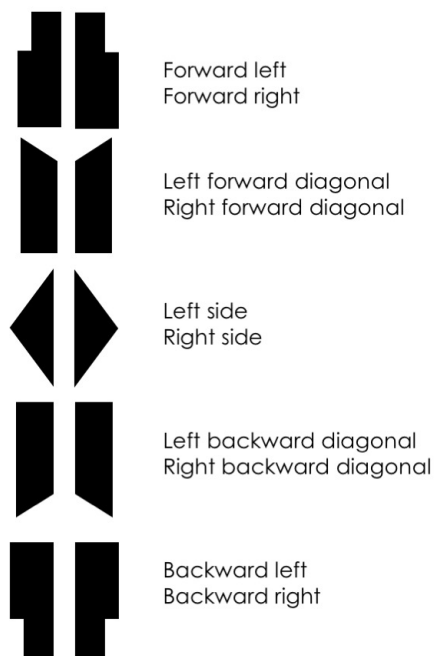
Figure 1. "Beispiele" (Example). From Schifftanz (1929). Courtesy of Trinity Laban Conservatoire of Music & Dance Archives, Greenwich, UK.

The Staff



Staff is read from the bottom up.

Direction Symbols



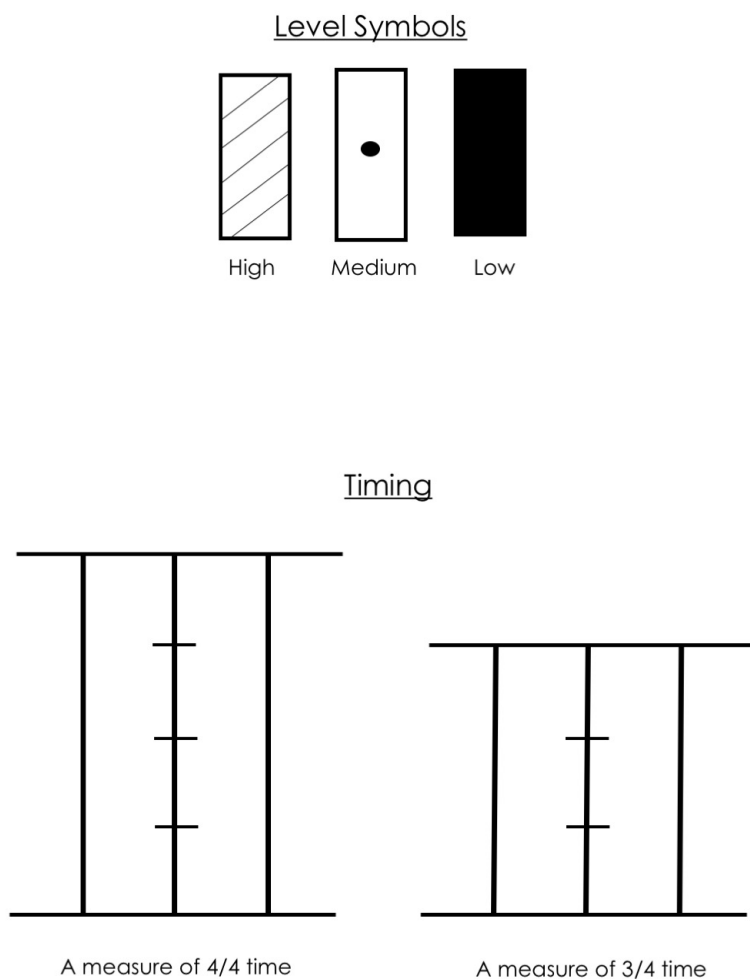


Figure 2. Basic Labanotation key. Adapted from Ann Hutchinson Guest, *Labanotation* (1961).

With such a system, Laban believed, the “science of living movement” could progress, and dance would no longer be subject to the vagaries of human memory. Instead, it could be broken down into its parts, accurately described in its entirety, and easily preserved and distributed.

Eventually, *Schriftanz* widened its mission to include analysis of the modern dance scene more generally, but its theoretical core—and, indeed, its name—was still the recording of dance on paper.⁸ Almost every edition included the insertion of notated dance material, whether short excerpts from well-known social dances, avant-garde expressionist works, or folk dances. In this interest in using graphic recording technologies to understand the body, Laban and *Schriftanz* were not alone. As Etienne-Jules Marey's sphygmograph transformed the peregrinations of the human pulse into a single line and Eadweard Muybridge's chronophotography broke down the movements of humans and animals alike, the moving body, heretofore elusive, seemed newly ripe for analysis.⁹

⁸ One impetus for Schlee's involvement may have been a desire to use written texts to create a critical dialogue around dance similar to that in existence for music, the fine arts, or literature.

⁹ See: Francois Dagognet, *Etienne-Jules Marey: A Passion for the Trace*; Marta Braun, *Picturing Time: The Work of Etienne-Jules Marey (1930-1904)* (Chicago: University of Chicago Press, 1995); Robert Brain, "Representation on the Line: Graphic Recording Instruments and Scientific Modernism," in *From Energy to Information: Representation in Science and Technology, Art, and Literature*, ed. Bruce Clarke and Linda Henderson (Stanford, CA: Stanford University Press, 2002); Rebecca Solnit, *River of Shadows: Eadweard Muybridge and the Technological Wild West* (New York: Penguin Books, 2004).

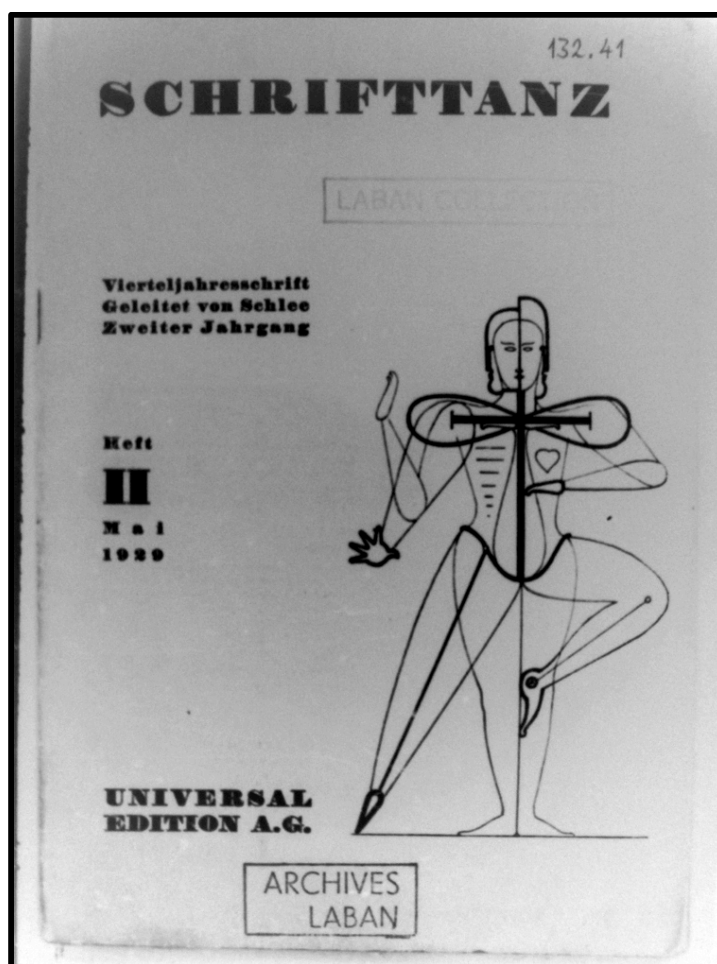


Figure 3. Cover of *Schrifttanz*, 1929. Courtesy of Trinity Laban Conservatoire of Music & Dance Archives, Greenwich, UK.

Through venues like *Schrifttanz*, Laban hoped to communicate preserve dance for the future. As he lamented in 1935:

What would we know today of Homer, Shakespeare and Goethe, if their works had not been written down? What do we know about the music of Orpheus or Pythagoras? Nothing, except that it enchanted animals and human beings. But with the invention of music-notation, music began to blossom, and the works of a Bach, a Beethoven and a Wagner could fortunately be preserved. What do we know of the art of dance in the past? A few pictures and statues give us an inkling of the beauty of the movements. A few notes written in old forms of dance notation which we can barely decipher, inform us about some court dance-steps of the last two centuries. But an effective, serviceable notation, able to render the many

faces of dance, has yet to be created and made universally applicable. I have paved the way for this and I shall develop it still further. The dances of a Pavlova have already been buried with her. Must we also lose the works of our present dance-generation?¹⁰

Laban also, however, imagined his system as a crucial tool for the present. He believed that movement was perhaps the most powerful influence on the human personality, and, with a growing understanding of the “the muscles, nerves, and nervous mechanisms involvement in the complex function of single movements and bodily actions,” new information on its precise effects was coming to light. As such, movement had to be managed properly: a gesture, an emphasis, a limb out of place could spoil the whole effect, leaving the participants in a choir not only unchanged, but worse off, disconnected, and dissolute. Writing down movement graphically was thus also a means of understanding and controlling individual psyches with a new degree of exactitude. As Laban once stated, for any dancer, “the writing down of [a] composition is both a stimulus and a controlling means for his abilities and for *his temperament*, which a developed art of the dance cannot be without.”¹¹

Part of Laban’s interest in the radical potential of theatrical movement likely sprang from his time in Munich in the years immediately following the turn of the 20th century. During this period, both Berlin and Munich served as German centers for theatrical experimentation. While Berlin was the key site for the development of naturalist drama, “the less verbal and more gestural variants of theatrical modernism tended to flourish in Munich, a city that attracted a growing number of important young

¹⁰ Rudolf von Laban, *A Life for Dance: Reminiscences*, trans. Lisa Ullmann (New York: Theatre Arts Books, 1975), 184.

¹¹ Rudolf Laban, “Notes,” Rudolf Laban Collection, University of Surrey NRCD Archives, 39.

dramatists and directors.”¹² Despite their relatively disparate political sympathies, individuals like Georg Fuchs, Max Reinhardt, Peter Behrens, and Max Littmann all sought to explore the expressive potential of the human body and—at the same time—to probe the extent of theater’s ability to facilitate a sense of community, a goal that seemed particularly meaningful only three decades removed from German unification.¹³ This inclination manifested itself through theatrical productions, but also in new architectural designs for the stage; Laban credits this ferment with inspiring his 1904 move to Paris to study architecture at the École des Beaux-Arts.¹⁴

At the same time, Laban’s understanding of dance owed much to contemporary developments in the sciences, which he followed enthusiastically, albeit chaotically. In particular, he was fascinated by new work in the increasingly intertwined disciplines of physiology and physics, research which catalyzed his attempt to articulate a unique new theory of the moving body.

Nervous Systems

Though the vigorous traffic between art and science would have been difficult to avoid anywhere in fin-de-siècle central Europe, Laban’s interest in scientific thought was catalyzed during his time at Munich Kunstakademie and the Teaching and Research

¹² Peter Jelavich, *Munich and Theatrical Modernism: Politics, Playwriting, and Performance, 1880-1914* (Cambridge, MA: Harvard University Press, 1985), 4.

¹³ Fuchs, for example, contended that “drama is possible without word and sound, without sets and costumes, purely as rhythmic movement of the human body” and wrote extensively about the role theater could play in “solidify[ing] the German Volk into a homogenous community through the medium of art.” Ibid, 225.

¹⁴ “Rudolf Laban: Recollections,” *Dance Notation Bureau Newsletter*, 1958, New York Public Library for the Performing Arts.

Studio for Fine and Applied Arts (Lehr- und Versuchsatelier für Freie und Angewandte Kunst). At the Kunstakademie, Laban studied the anatomy and physiology of the human body with the celebrated anatomist and embryologist Julius Kollman.¹⁵ At the Teaching and Research Studio, Laban took courses in nature studies led by Hermann Obrist (who ultimately became a friend) and was introduced to the drawings of Ernst Haeckel.¹⁶

In later years, Laban's understanding of the inner workings of the body was also strongly influenced by the work of Scottish surgeon and artist Charles Bell (1174-1842). Trained as a physician in Edinburgh, Bell was a well-known anatomist who made his first scientific splash in 1802 with the publication of a multi-volume anatomical study, *A System of Dissection Explaining the Anatomy of the Human Body*, co-authored with his older brother John. Shortly thereafter, Bell moved to London, where he continued his both his medical practice and his anatomical research, first at Great Windmill Street School of Anatomy, and later at the Middlesex Hospital, the College of Surgeons, and King's College, before returning to the University of Edinburgh in 1836.

To physiologists, Bell was best known for his research on the nervous system, particularly for his efforts to distinguish the operations of the sensory and motor nerves. As Leonard Carmichael put it in 1926, before Bell, the fibers of the central nervous system were generally understood to “promiscuously” transmit, receive, and interpret both movement and sensation. Bell, however, argued that though the motor and sensory nerves might appear to form a single fiber, they remained functionally distinct. Sensory

¹⁵ Among Kollmann's most heralded works was a massive visual encyclopedia of embryological development in both humans and other animal species. Von Julius Kollmann, *Handatlas Der Entwicklungsgeschichte Des Menschen* (Jena: Verlag von Gustav Fischer, 1907).

¹⁶ Kandinsky's Phalanx School was also in operation in Munich, though it is unclear whether Laban ever attended.

nerves carried information about the environment to the brain, while motor nerves transmitted signals between the brain and the muscles, organs, and tissues.¹⁷

Bell's work has been credited with laying the foundation for much physiologically informed psychology. Carmichael, for example, notes that "from the early experiments of Wundt's institute down to the work of the present day there are few laboratory problems which do not make use, in the course of their development, of certain generalizations which are based on Bell's law." Bell did not, however, (unlike some of his later interpreters) take an entirely mechanistic view of the human sensorium. He was, for example, "just as willing to write of a nervous action as resulting from 'the will' or from 'an idea' as from a stimulus,"¹⁸ and he conceived a circular—though infrequently cited—theory of the relationship between the motor nerves and human emotions.

For Bell, human emotional life was intimately entangled with the physical body. If the sensory nerves were the conduits for intellectual life—conveying information about the properties of the material world—the motor nerves provided the medium for emotional expression. As art historian Frederick Cummings summarized, to Bell, "the organs of the breast were to the 'affections' what the eyes, ears, and fingers were to the mind. They took in emotional information; they were 'aware' of emotional stimuli just as the eye was sensitive to light stimuli or the ear to sound."¹⁹

¹⁷ Leonard Carmichael, "Sir Charles Bell: A Contribution to the History of Physiological Psychology," *Psychological Review* 33, no. 3 (1926): 188–217.

¹⁸ *Ibid.*

¹⁹ Frederick Cummings, "Charles Bell and the Anatomy of Expression," *The Art Bulletin* 46, no. 2 (1964): 191–203.

More concretely, this meant that Bell was fascinated by the connections between movements of the body and internal mental states. He noted with relish, for example, that the same nerves activated during rapid breathing were also those stimulated by fear and anxiety. Bell argued that his fellow scholars had “too much overlooked this relation between the mental operations and the condition of the bodily frame”²⁰ and contended that emotional states simply could not persist in the absence of appropriate physical cues. As a corollary, he posited that certain forms of physical expression could alter a person’s state of mind. In other words, movement didn’t merely express emotion; it also transformed it.

Bell’s work was widely read in the mid-19th and early 20th centuries, garnering readers as varied as Queen Victoria and Goethe. He also gained fame with artists with the publication of the 1806 text, “An Essay on the Anatomy of Expression in Painting,” which was revised and republished multiple times over the succeeding decades.²¹ In the text, Bell sought to apply his physiological training to the practice of painting and sculpture, arguing that the insights of science—and, in fact, the practical experience in anatomy—were necessary tools for any fine artist that aspired to greatness. He also

²⁰ Charles Bell, *The Anatomy and Philosophy of Expression as Connected with the Fine Arts*, Third edition (London: Henry G. Bohn, 1865).

²¹ For a recent treatment of Bell, his scientific work, and his approach to art, see: Carin Berkowitz, *Charles Bell and the Anatomy of Reform* (Chicago: University of Chicago Press, 2015); Carin Berkowitz, “Charles Bell’s Seeing Hand: Teaching Anatomy to the Senses in Britain, 1750-1840,” *History of Science* 52, no. 4 (2014): 377–400; Carin Berkowitz, “The Beauty of Anatomy: Visual Displays and Surgical Education in Early-Nineteenth-Century London,” *Bulletin of the History of Medicine* 85, no. 2 (2011): 248–78.

provided an overview of his thinking about the physiological roots of emotional expression.²²

It is unknown where Laban first encountered Bell's work, but his personal papers contain extensive notes on "The Anatomy and Philosophy of Expression as Connected with the Fine Arts." Alongside drawings of "reflex arcs," Laban paraphrases various passages from Bell's text, noting, for example, that the "organs of the body, which are moving sympathetically with the mind, produce uniform expressions of states of mind and passion in all people...If one investigates the connection between passions and their outer signs, one comes to the conviction that they are not depending upon the direct influence of the spirit. Though strange this might be it is the heart and the lungs as well as the whole breathing apparatus, which must be looked upon as the source of these expressions." Further, Laban writes that he hopes to "establish that what eye, ear, hands are for the mind in producing ideas, are the breathing organs for the development of our emotions. Without these organs we would see, hear and smell; but we would be without feelings which make ideas and actions attractive and charming for us." Though he found Bell lacking on certain points—the expressive potential of blood flow, for example, Laban called Bell's work "far ahead of its time," captivated by its vision of an unbreakable bond between body and mind.²³

Laban's papers also contain notes on the work of Carl Lange, the Danish physician and physiologist who, along with American psychologist William James, is

²² As Robert Brain discusses, similar physiological approaches to aesthetics were also key to the practice of artistic modernism at the turn of the twentieth century. Robert Michael Brain, *The Pulse of Modernism: Physiological Aesthetics in Fin-de-Siècle Europe*.

²³ Rudolf Laban, "Miscellaneous Notes, Charles Bell," Rudolf Laban Collection, University of Surrey NRCD Archives, Box E(L) 70:19.

credited with developing what is now known as the James-Lange theory of emotions. In his 1885 work, “On Emotions: A Psycho-Physiological Study,” Lange argued that physiological arousal was the root cause of all emotional experience. In his notes on “On Emotions,” however, Laban writes that he found Lange’s work valuable not for what he saw as a “re-statement” of Bell’s principles, but because of his “conscientious,” empirical descriptions of the physical correlates of joy, anger, fear, sorrow, disappointment, embarrassment, and tension.²⁴ For Lange, all emotions could be tied to changes in what he called the brain’s “vasomotor sensor,” as he had noted that either vasoconstriction or vasodilation seemed to accompany all emotional states.²⁵

In formulating his own account of embodied emotion, Laban combined insights from Bell and Lange’s work with early 20th century research on the sympathetic and parasympathetic nervous systems, in particular the writings of Cambridge physiologist John Newport Langley.²⁶ For Langley and others (including Walter B. Cannon of Harvard), the autonomic nervous system was understood to be responsible for controlling

²⁴ Ibid.

²⁵ Claudia Wassmann, “Reflections on the ‘Body Loop’: Carl Georg Lange’s Theory of Emotion,” *Cognition and Emotion* 24, no. 6 (2010): 976. In addition to laboratory experiments, Lange found evidence for this position in his more casual observations of alcohol use. Drinking alcohol, he argued, had a “physiologically arousing effect” on the vasomotor apparatus, increasing the heartbeat, widening the capillaries and innervating the voluntary muscles so that a man “chatters loudly, sings and jangles instead of hanging around wailing and whimpering at the road side. He has the sensation of warmth, lightness, and strength instead of the usual flabbiness and incapability; his dumb brain reawakens to life under the influence of rapid blood circulation, thoughts come flying, old memories surface and dispel the usual feelings of his daily misery—and all this only because of a measure of schnapps, the effect of which upon the circulation we can understand and that does not need the intermediary of the soul in order to affect the vasomotor centre.” Lange, 1887, 54-55. In Wassman, 977.

²⁶ Laban does not directly cite Langley, but the terminology he uses, particularly his use of the phrase “autonomic nervous system” seems to be derived from Langley’s work, who claims to have originated the phrase. J.N. Langley, *The Autonomic Nervous System, Part I* (Cambridge: W. Heffer & Sons Ltd., 1921).

relatively “involuntary” bodily movements—regulating, for example, the beating of the heart, the contraction and dilation of the pupils, and the expansion of the lungs. The sympathetic and parasympathetic system represented its two primary divisions, and the two systems worked in concert. The sympathetic system generally worked to move the organism to a state of agitation (accelerating the heartbeat, slowing digestion, increasing blood flow to the muscles while decreasing it elsewhere, dilating the pupils), while the parasympathetic worked to move the organism toward calmer state (slowing the heart, stimulating digestion expanding the blood vessels, constricting the pupils).

In his own notes, Laban echoed these distinctions, writing that the activation of the sympathetic nerve produces “biologically negative” results as it “halts appetite, constricts blood supply, switches flow of blood from skeletal muscles to brain and to the skin” and “prepares for emergency and defence.” In contrast, stimulation of the parasympathetic system was “biologically positive,” quieting the heart, augmenting the appetite, and producing a feeling that was “essentially expansive, expressive—pleasant.”²⁷ But while Lange and his physiological colleagues focused on the effects of drugs or alcohol on the emotions, Laban turned his attention—unsurprisingly—to movement.

He observed, for example, the structural arrangement of the physical nerves within the body, noting that the layout of the parasympathetic nerves was “more straight-lined,” whereas the sympathetic nerves formed a “more curved or almost circularly flat and disc like” pattern. This, he contended, was the result of the relationship between the

²⁷ Rudolf Laban, “Nervous Organs and Functions,” Rudolf Laban Collection, University of Surrey NRCDA Archives, Box E(L) 37:1.

“manifestations of bodily carriage and its relationship to the expression of emotion.” The “upright fearless carriage bringing the spine into a stretched position corresponds to the positively stimulating general effect of an active sympathicus,” while the “collapsed contractual state” was both the cause and consequence of the “straight and electrified parasympathicus.”²⁸

Laban saw this distinction—between sympathetic and parasympathetic, reactive and assertive, Apollonian and Dionysian—as reflecting a fundamental—and perhaps biological—dichotomy at the core of the human psyche. Thus, performing flowing movements that extended out into space would thus promote “self-expression” and “give rise to such positive virtues as richness, domination, sensuality,” while movements that collapsed inward were primarily “self-disciplinary” in nature, fostering “poverty, chastity, and obedience, which may be considered more negative virtues.”²⁹

In all cases, Laban argued for a deep reciprocity between mind and body, insisting that it was not only the body which expressed the mental state, but the mental state which might be transformed by the movements of the body. “The influence of mental tensions on bodily behavior and states is generally acknowledged,” he noted, but “the reverse is sometimes doubted.” In fact, however, “the curing influence of body movements on mental flow is even stronger than that of mental flow on body movement.”³⁰ Dance,

²⁸ Rudolf Laban, “Structural and Functional Shapes,” Rudolf Laban Collection, University of Surrey NRCDA Archives, Box E(AW) 37:2.

²⁹ Ibid. Here one can also see the influence of Friedrich Nietzsche on Laban’s thinking. Tellingly, Laban used the text of *Thus Sprach Zarathustra* as the part of the score for his contribution to the 1936 Berlin Olympics.

³⁰ Rudolf Laban, “Structural and Functional Shapes.”

therefore, could be transformative. Here was the key to health and development that Laban had long sought.

Laban even imagined that humanity's ability to master movement might improve until the species had evolved into a kind of super-being. Machinery provided him with a model for what this physiological transformation might look like, for while some of the new technologies he encountered in his youth appeared clumsy, others captivated his imagination. Laban reserved special appreciation for naval vessels and the machines that made them, including a "steam-hammer for riveting armour-plates" so precise in its functioning that "even a pocket-watch placed underneath could be pinned down but not damaged. "Thrilled by engines" of this kind, Laban envisioned future species of "supermen" endowed with an ability to move with similar strength and precision. Appearing merely as a "tangle of nerves" in a "steel capsule," the human of the future would accomplish "the most incredible feats with all sorts of grabs, feelers, and levers." His perfect movements would enable him to "saw through rocks and mountains like butter," while "[a]nyone undesirable" would be "grabbed by the leg and hurled into space."³¹

Still, Laban did not see the human body as an entirely autonomous, self-governing machine, disconnected from the world around it (at least not yet). As nineteenth-century scientific ideas about the energy, force, and development combined with new discoveries in electromagnetism, radioactivity, and atomic structure, the entire physical world seemed to be ripe for reinvention. Matter—which previously appeared solid and

³¹ Rudolf von Laban, *A Life for Dance: Reminiscences*, 47.

dependable—was beginning to seem anything but. The discovery of the electron made seemingly concrete objects appear newly insubstantial, the X-ray invaded the bones and sinews of the human body, and radioactivity painted a picture of matter as constantly in the process of self-destruction. At the same time, research on electromagnetism seemed to imply that empty space was, in fact, filled to the brim with vibrating waves invisible to the naked eye. The wireless telegraph bridged physical time and space with startling rapidity, while simultaneously suggesting the existence of that an invisible source of oscillating energy permeated all life.³² As Stephen Kern puts it, “The traditional view that space was an inert void in which objects existed gave way to a new view of it as active and full.”³³ What was static became—sometimes unnervingly, sometimes thrillingly—lively and dynamic.

Thinking about space, movement, and energy was, moreover, not confined to the scientific sphere. Artists of all stripes sought new modes of representation to illustrate these new realities, often depicting themselves not as mere handmaidens to science, but as visionaries uniquely qualified to make the unseen visible.³⁴ Linda Henderson, for example, has charted the presence of a “vibratory modernism” in works by visual artists as varied as Umberto Boccioni, Frantisek Kupka, Wassily Kandinsky, Marcel Duchamp, and F.T. Marinetti. In literature, Ezra Pound urged poets to “write in new wavelengths” and to be constantly “on the watch for new emotions, new vibrations,” while poet Joan Salvat Papasseit published “Poems in Hertzian waves.”³⁵

³² Stephen Kern, *The Culture of Time and Space, 1880-1918*.

³³ *Ibid*, 152.

³⁴ Linda Dalrymple Henderson, “Vibratory Modernism: Boccioni, Kupka, and the Ether of Space.”

³⁵ *Ibid*, 129.

Laban too was fascinated by the idea of a world constituted entirely by moving waves, noting in the early years of the twentieth century:

It is already a proven fact that not only radio-active substances, but all bodies from the smallest and simplest atom or cell to the most complex organism, emit electro-magnetic vibrations of varying wave-length and intensity. The study of such currents has attracted the attention of many scientists; a great deal has been written along these lines, and though the field is still little known it has already revealed that we live in a vibrating ocean of energy of which we ourselves are a part, acting simultaneously as producers, projectors, transformers, accumulators, receptors, etc.³⁶

For Laban, everything—from the stalactites that captivated him as a child to the smallest organisms to human beings—participated in this pulsating symphony. Our bodies, “these charming and uninterrupted looking surfaces,” he noted, were an illusion. “Like all other surfaces of bodies and objects which we can see and touch,” they are instead “essentially a network of strains of energies in empty space, far from being filled up by the mass of continuous tracks of electrons.”³⁷

Movement, he wrote, could thus be understood as the “the most elementary physical experience of human life.”³⁸ Though invisible to the naked eye, the rhythm of these vibrating waves shaped all physical and emotional experience: everything from the beating of the pulse to the subtle play of emotions, a view he shared with many scientific contemporaries. Mid-nineteenth-century physicists like Michael Faraday, Lord Kelvin, James Clerk Maxwell, and George Francis FitzGerald, for example, hypothesized that the operation of electromagnetic fields could be explained by the mechanical movements of a

³⁶ Rudolf Laban, “Radiation and Emanation, Part II,” Rudolf Laban Collection, University of Surrey NRCDA Archives, Box E(L) 37:10.

³⁷ Rudolf Laban, “Touch,” University of Surrey NRCDA Archives, Box E(L) 37:7.

³⁸ Rudolf Laban, “Notes,” University of Surrey NRCDA Archives, 21.

pervasive, unseen ether.³⁹ FitzGerald even ultimately became convinced that *all* aspects of the natural world could be explained via movement. As he put it in 1890, “ether, matter, gold, air, wood, brains are but different motions.”⁴⁰ As Anson Rabinbach explains, “The equivalence of different forms of energy and the infinite capacity for the conversion of these forms revealed that matter—whether in the form of nature, technology, or the body—could neither be separated from motion nor divorced from the energy that moved matter throughout the universe.”⁴¹

Not all vibratory frequencies, however, were equally healthy or life-promoting, and Laban quickly developed an interest in the ways in which optimal frequencies might be achieved. This fascination took different forms—in the 1930s, for example, Laban became a partisan of chromotherapy, the use of varying light frequencies to cure disease—but the primary focus of his lifelong investigations centered on dance. The vocabulary of physics, moreover, allowed Laban to conceive of movement as potentially curative, not just for the individual, but for society as a whole.

For Laban, different kinds of movements produced “different excitations of space,” and individuals could emit nervous vibrations at a wide variety of intensities. One should envision each individual, Laban suggested, as enclosed in a shell of nervously charged atmosphere, produced by the radiation of their unique nervous energy into the surrounding space. When these shells came into contact, the stronger would gradually transform the weaker, though a general harmonization of force also occasionally

³⁹ Bruce J. Hunt, “Lines of Force, Swirls of Ether,” in *From Energy to Information: Representation in Science and Technology, Art, and Literature* (Stanford, CA: Stanford University Press, 2002), 99–125.

⁴⁰ *Ibid.*, 109.

⁴¹ Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity*, 50.

occurred. As he wrote in his personal notes, “under certain conditions a person’s gestures can immediately affect the N. System of another person. There must be a positive (active) and negative (receptive) person. This stream of nervous energy can flow from a leader to a group as a form of magnetism, from one person to another as in love, fear, spiritual fascination, etc. This may be beneficial or destructive.”⁴²

Indeed, Laban believed that the “irradiation of nerve force (generated in the human neuron network) through the surrounding space” seemed to be a primary “means of forming contact between two or groups of people.” With enough force, Laban argued that “the irradiation of one person is intensive enough to affect the ‘shells’” of many others. In such cases, the flow of energy becomes “extremely powerful and free and the rhythmical surging of such flow may prove uncontrollable. The atmosphere becomes alive with the shapes and efforts irradiating out from the whole crowd now contained in one great shell.”⁴³ This crowd was Laban’s main quarry.⁴⁴

Group, Self, and Nation in Motion

From its earliest days, Labanotation was used for far more than the recording of individual theatrical movement. In 1929, Laban was called upon by the city of Vienna to help organize the massive Festive Procession of Crafts and Industries (*Festzug der Gewerbe*). Designed as a unifying celebration for all of Vienna’s workers, the four-mile long parade involved more than 10,000 participants and representatives from 400 trades.

⁴² Rudolf Laban, “Nerve Irradiation,” Rudolf Laban Collection, University of Surrey NRCD Archives, Box E(L) 37:5.

⁴³ Ibid.

⁴⁴ On the history of concerns about and interest in crowd psychology, see: Jaap van Ginneken, *Crowds, Psychology, and Politics, 1871-1899* (Cambridge: Cambridge University Press, 1992).

The festival took place in early June, but Laban arrived in Vienna in April. He set up camp in the former imperial riding school, but most of time he was out in the city and its environs, observing and recording in Labanotation the “traditional” movement elements of each craft. Blacksmiths, furriers, carriage decorators, barbers, confectioners, meat smokers, newspapermen, gamekeepers, harmonica makers, gunsmiths, and apparently bakers all received his undivided attention. Once he had committed their movements to paper, Laban returned to Vienna and used his notation as a basis for each group’s festival choreography.⁴⁵ Because the largest rehearsal spaces held a mere fraction of the performers, Laban then disseminated that choreography back to the participating workers and to his rehearsal directors via written scores.

Despite obstacles both technical—a novel loudspeaker system felled by the wind—and political—Laban reported deep-seated hostilities between right and left wing participants, between workers and manufacturers—the city declared an event a success, and Laban echoed its assessment. For him, the most important aspect was that he had:

...enlightened the guilds, from the master down to the apprentices about their own traditions and...arouse[d] their enthusiasm for them. In most cases this was completely successful and, even after many years, I had the satisfaction of hearing from one or the other that I had given them more than just a festival and a momentary advertisement. Young men, who have since become masters have told me that because of the pageant they turned to their trades with far more understanding and love, and that for them the revival of old traditions especially helped to make their work pleasanter and lighter.⁴⁶

⁴⁵ Laban was by no means the only thinker attempting to utilize rhythm to improve and elevate “traditional” work processes. See, for example: Karl Bucher, *Arbeit Und Rhythmus* (Leipzig: B.G. Teubner, 1899).

⁴⁶ Rudolf von Laban, *A Life for Dance: Reminiscences*, 143.

However self-serving this account might be, for Laban, the recording of traditional movements was not simply about preservation, but also a method for coordinating large groups, for bringing diverse constituencies together, and for awakening the attention. By scientifically analyzing and reviving ancient traditions, Laban would create a new kind of modern world.⁴⁷



Figure 4. Bakers dressed as traditional breads in the Festive Procession of Crafts and Industries, 1929. Courtesy of Trinity Laban Conservatoire of Music & Dance Archives, Greenwich, UK.

Significantly, Vienna was only one instance of Laban’s involvement with large-scale group movement events. In the late 1920s and early 1930s, demand for Laban’s work with what he called “movement choirs” (*“bewegungsschor”*)—groups of 50 to 500 individuals recruited from a town, church, school, or political organization and taught a sequence of movements to be performed in unison—was at its height. Here, again,

⁴⁷ See again: Jeffrey Herf, *Reactionary Modernism: Technology, Culture, and Politics in Weimar and the Third Reich*.

notation became crucial. In his autobiography, Laban recounted his joy at the way in which written dance allowed him to synchronize movement from a distance:

I was often obliged to dash by plane from one place to the other to look after things. The procedure was usually like this: we would be commissioned to arrange a celebration or festival for a special occasion. In good time, we would form a choir of young people from all walks of life, who enjoyed movement, and give them body training. My choric works were written down in dance notation and rehearsed by the movement choir from this, very much as an orchestra would learn and rehearse a musical work from the score. I mention this because it is quite a new way of conveying dance compositions which only became possible after decades of painstaking preliminary studies.⁴⁸

With dance notation, exact copies of Laban's choreography could be performed across the nation regardless of his physical presence, and Laban theorized that this experience of collective corporeal engagement would create a sense of geographically and historically transcendent community among the members of an increasingly disconnected industrialized society. The dislocations of WWI had left Laban disillusioned, and he believed that perhaps only in dance could "diverging tendencies" be united, that "through the affinity between the [participants], before unnoticed and unrecognised, a true togetherness becomes possible."⁴⁹ He wrote admiringly of the ritualistic dances of rural peasants, arguing that as they moved together their "individual characteristics become even more sharply defined, and in spite of this, the common ones grow stronger."⁵⁰

⁴⁸ Ibid, 152.

⁴⁹ Ibid, 96.

⁵⁰ Ibid, 79.



Figure 5. Men's movement choir, Hamburg, late 1920s. Courtesy of Trinity Laban Conservatoire of Music & Dance Archives, Greenwich, UK.

In fact, because of the power Laban invested in movement, it was only *after* notation was developed that Laban felt comfortable seriously engaging with movement choirs, something remarked upon quite explicitly by his friend, the art critic Martin Gleisner: “It would be irresponsible to propagate movement choirs, and encourage people to become movement choir leaders, if the possibility were not there of providing written choral works. I might well say that the circle around Rudolf Laban would not spread the idea of the movement choir so widely without the certainty of this possibility.” The close relationship between notation and the movement choir is further represented in Figure 4, an advertisement for a choir led by one of Laban's protégés in the late 1920s. The

geometric forms of the dancers pay subtle homage to Labanotation, a fitting indication of the ways in which group—and in fact, national—movement and written dance were intertwined not only on paper, but in practice. As Laban himself noted, “Illiterate attempts [at choreography] can be most ingenious but they have no [capacity to] develop outside a purely individual sphere.”⁵¹

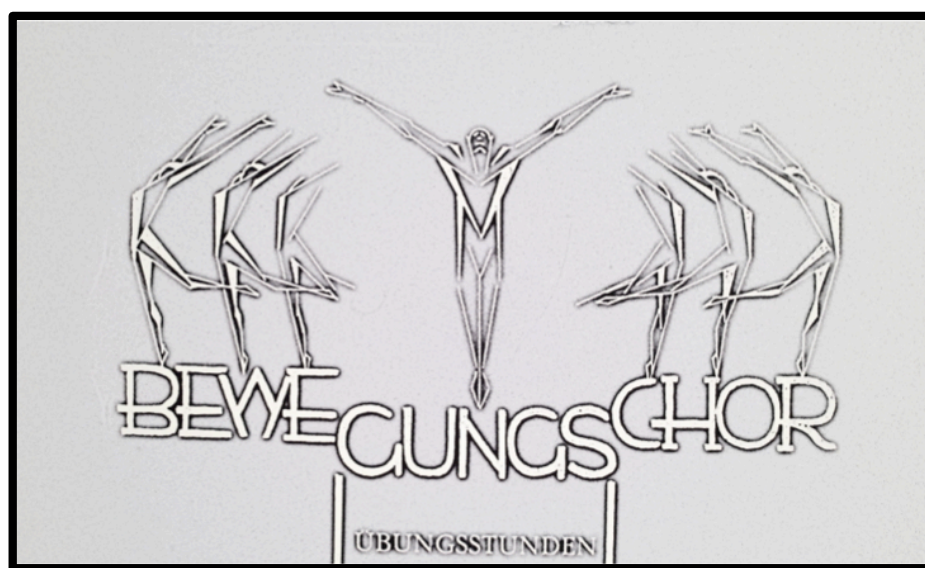


Figure 6. Movement choir advertisement, late 1920s. Courtesy of Trinity Laban Conservatoire of Music & Dance Archives, Greenwich, UK.

Thus, long before the Third Reich’s seizure of power, Laban had already begun to construct a potent nationalist mythology rooted in the movements of the body, the promises and perils of which had, he reported, haunted him since his boyhood in the

⁵¹ Rudolf Laban, “Notes,” Rudolf Laban Collection, University of Surrey NRCD Archives, Box E(L) 31:36.

Austro-Hungarian empire.⁵² Trailing his father on military exercises, he was awed by the displays of military force required to keep the fracturing union together, but simultaneously captivated by the dances of its diverse peoples. In his short time at the military academy in Vienna, Laban even organized his fellow cadets in a performance of their “representative” national dances: the German waltz, the Hungarian Czardas, “the Poles their mazurka, the Bohemians their polka, the Styrians their ländler, the Tyrolese their schuhplatter, an Italian a tarantella, Sevenburger an old nameless peasant dance, the Ruthenians Russian dances and lastly a Herzegovinian a dervish dance.”⁵³

The performance was well-received, but Laban struggled with his dancers throughout. “It was shattering,” he reported “to see the deeply-rooted differences between individual nationalities coming to light.” Moreover, while some cadets were able to mimic the movement characteristics of other cultures, “there were always some who were unable to adapt themselves to peculiarities of movements that were alien to them.”⁵⁴ In the end, Laban wrote that he had begun “to understand something of the difficulties which must have been encountered by the various privy councilors of conciliation who travelled endlessly from one region to another laboring to maintain an always rather precarious peace and sense of union.”⁵⁵

After leaving the academy, Laban’s faith in the body as an index of national identity persisted, though his belief in value of diverse forms of physical expression

⁵² For a longer history of the links between German nationalism and moving bodies, see: Marion Kant, “The Moving Body and the Will to Culture,” *European Review* 19, no. 4 (October 2011): 579–94.

⁵³ Rudolf von Laban, *A Life for Dance: Reminiscences*, 50.

⁵⁴ *Ibid.*

⁵⁵ *Ibid.*

seems to have vanished. His fascination with the “dervish dances” of Turkey gave way to a single-minded devotion to dances had “penetrated so deeply into the flesh and blood of the German people that they can confidently be termed German dances.”⁵⁶ Instead of the movements of “nameless peasants,” he praised the unity and uniformity of military troop formations, parades, march-pasts, and musters, writing that they embodied “a united front which I assumed could only come about through steady comradeship and loyalty: loyalty of one to another, and of the individual to the whole, to the all-embracing unity, to the fatherland.” “Only art,” Laban wrote, “matched up to this ideal,” and notated dance would bring this new form of expression into being.⁵⁷

It should not be surprising, therefore, that the Third Reich was quick to embrace Laban’s tightly-controlled vision of the moving body. Within months of Hitler’s ascent to power in 1933, the National Socialists set out to reinvent the entire cultural landscape, including the founding of a dance division within the Reich Culture Chamber. Once established, however, the division faced a problem, one that historian Marion Kant has posed in this way: “How should the whole range of dancing be arranged to permit that bureaucratic ideal of unified, uniform, transparent, regular, hierarchical, and controlled artistic activity?”⁵⁸

The answer was Labanotation. In a letter to Propaganda Minister Joseph Goebbels supporting Laban’s candidacy to lead the dance bureau, the critic Fritz Böhme wrote the following:

⁵⁶ As quoted in Marion Kant and Lilian Karina, *Hitler’s Dancers: German Modern Dance and the Third Reich*.

⁵⁷ *Ibid*, 38.

⁵⁸ Marion Kant and Lilian Karina, *Hitler’s Dancers: German Modern Dance and the Third Reich*, 86.

If we really want to arrive again at healthy conditions in the entire field and for the first time to seriously ensure an authentic German form of expression, a unified leadership is essential...So taken in hand, dance could function as a constructive and formative force. It could defend racial values and ward off the influx of alien movements and gestures, which are confusing to the German character and are undermining the German attitude. It could be easily built into the structure of propaganda. It could be effectively employed against instinct-uncertainty and weaknesses, which alien gesticulations create and which work themselves out in the will and serve to lame it.⁵⁹

With Laban in charge, Böhme contended, effective control over movement could be asserted not only across the whole dance establishment, but across the German populace as well. And, indeed, from 1933 until late 1936, Laban led the ministry's dance division. During this time, the Nazi regime continued to sponsor nation-wide movement choirs organized via notation, including Laban's contribution to the 1936 Berlin Olympics: a massive display which featured 1000 lay dancers from 30 different towns, set to lyrics from Nietzsche's *Thus Sprach Zarathustra*. Notation was also used to record the syllabi for the national dance examinations that now governed entry into the profession. Via written scores, certain dances were defined as German and preserved in a national archive, while others—from swing to the hora to traditional Romani dances—were designated as foreign or degenerate and banned. This archive included not only theatrical and folk dances, but also everyday work movements like the ones Laban recorded in his early preparations for the Vienna festival.⁶⁰ “Racial characteristics,” he wrote in a 1935 letter to the Reich Ministry for Popular Enlightenment and Propaganda,

⁵⁹ Fritz Böhme to Reich Minister Goebbels, 8 November 1933, Bundesarchiv 50.01 237, As quoted and translated in Kant, *Hitler's Dancers*.

⁶⁰ Marion Kant and Lilian Karina, *Hitler's Dancers: German Modern Dance and the Third Reich*.

“stamp themselves in the movements, especially in the rhythm, in the posture of the body, and in the use of the body parts,” and needed to be closely monitored.⁶¹ In 1933, he dismissed all non-Aryan pupils from the state dance schools.⁶² And, in 1935, Laban—a child of mixed French and Hungarian ancestry, raised on the fringes of the Austro-Hungarian empire—officially embraced his own mythology and became a German citizen.

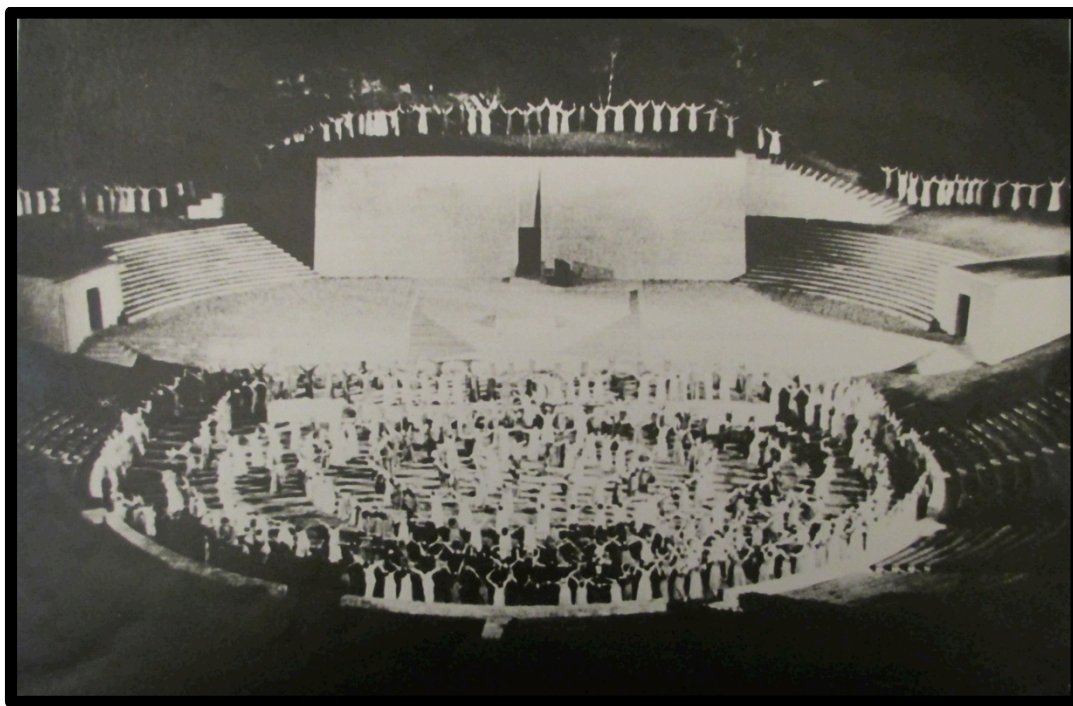


Figure 7. Rehearsal for *Of the Thaw Wind and the New Joy*, Berlin Olympics, 1936. Courtesy of Trinity Laban Conservatoire of Music & Dance Archives, Greenwich, UK.

⁶¹ Rudolf Laban to von Keudell, Reich Ministry for Popular Enlightenment and Propaganda, 29 January 1935, Bundesarchiv 50.01 237. As quoted and translated in Kant, *Hitler's Dancers*, 217.

⁶² Marion Kant and Lilian Karina, *Hitler's Dancers: German Modern Dance and the Third Reich*.

In his undated private notes, Laban wrote more than once about the danger of exposing highly-evolved human bodies to the characteristic vibrations of “lower” animals. The “science of bacteriology,” he noted, had proved that viruses and other “parasitic cells belong to a lower type of life.” When these forms entered the body, Laban argued, they began to interfere with its normal functioning, in part by disrupting the natural, healthy state of bodily tension and vibration. The results were wide-ranging and hazardous, including “an accumulation of mineral substances depositing in various parts of the body, a spontaneous generation of pathogenic organisms” and a “wild spreading of foreign tissues.” As Laban put it, “Disease is, therefore, always a sign that somewhere within the organism a process of reversion has started and must be apprehended before the normal biological state of tension of that body will become irretrievably disrupted.”⁶³ By the 1930s, Laban believed the German body politic was at risk from invading, degenerate rhythms, and he employed his notation as a instrument to return it to a state of health.

Dance scholars have preoccupied themselves with extent of Laban’s Nazi sympathies, but that question—though a valid one—is not my focus here.⁶⁴ He was certainly a nationalist: in his memoirs, he waxed rhapsodic about the generative power of the German countryside, and he frequently connected his fixation with large-scale, coordinated group movement to an affection for displays of national military force. He wrote of the “rotteness and decadence” of Weimar culture, depicting on stage its

⁶³ Rudolf Laban, “Radiation and Emanation, Part II,” Rudolf Laban Collection, University of Surrey NRCD Archives, Box E(L) 37:10.

⁶⁴ For a full discussion of this question, see: Marion Kant and Lilian Karina, *Hitler’s Dancers: German Modern Dance and the Third Reich*.

“screaming stock jobbers,” “satisfied wealthy,” “agitators inciting people to revolt with false blandishments,” and the “air of the slums, so thick with coal-dust and the deadly smell of the powdered prostitute!”⁶⁵ Still, his movement choirs of the 1920s and early 1930s were as likely to involve right-wing ideologues as they were socialists, and Laban himself expressed a variety of progressive beliefs.⁶⁶

Again, however, an account that focused solely on Laban’s personal politics would obscure many of the larger lessons contained Labanotation’s history. What is crucial is the fact that this tool—one that reduced the moving human body to marks on a flat page—was used by a variety of interests for the purposes of coordination, control, centralization and legibility. For though notation was designed to encourage the expression of the masses, only a small number of authorities were trained to create or even to read it. Moreover, the expression it incited was highly managed, rationalized, stripped of racialized “alien gesticulations” and other forms of eccentricity.

But Labanotation also at least aspired to do something else: to create a sense of community, of a collective past and a unified future, for a widely dispersed and diverse people. In 1991, Benedict Anderson speculated that it was print technology that made it

⁶⁵ Rudolf von Laban, *A Life for Dance: Reminiscences*, 43.

⁶⁶ This amalgamation of conservative and progressive thought was, of course, not uncommon for the era, both in politics and the arts. See, for example: Peter Gay, *Weimar Culture: Outsider as Insider* (New York: W.W. Norton, 1968); Jeffrey Herf, *Reactionary Modernism: Technology, Culture, and Politics in Weimar and the Third Reich*; Peter E. Gordon and John P. McCormick, eds., *Weimar Thought: A Contested Legacy* (Princeton, NJ: Princeton University Press, 2013); Larry Eugene Jones, ed., *The German Right in the Weimar Republic: Studies in the History of German Conservatism, Nationalism, and Antisemitism* (New York: Berghahn Books, 2014); Eric D. Weitz, *Weimar Germany: Promise and Tragedy* (Princeton, NJ: Princeton University Press, 2007); Detlev J.K. Peukert, *The Weimar Republic: The Crisis of Classical Modernity*, trans. Richard Deveson (New York: Allen Lane and The Penguin Press, 1991); Kate Elswit, *Watching Weimar Dance* (New York: Oxford University Press, 2014).

possible for people to ‘imagine’ large linked communities that had previously enjoyed no special form of togetherness. In part, that vision is exactly what Laban hoped his system would accomplish—the creation of a feeling of bodily intimacy, a nation that felt, as Anderson put it, a “complete confidence in their steady, anonymous, simultaneous activity.”⁶⁷ That something more sinister occurred is significant, but not preordained.

Not everyone, however, was delighted by the power of notation. A reviewer of the 1927 movement choir *Titan* in Hamburg noted that, in the fully-realized movement choir, “The individual dancer has disappeared. Only groups move together and against each other.”⁶⁸ He continued, however, remarking:

Unfortunately, this was a serious stumbling block in the choral celebrations on Sunday morning. Laban is proud of the fact that this choral work was studied from his own written descriptions in dance notation, but somehow these choral celebrations have something a bit frosty about them, and this one cannot escape even if this has arisen from some roundabout digression on the way between the dance composer and the actual performance, or simply from the awkwardness of the laic figures themselves. The choral work itself was good, but the choral celebrations seemed like a good piano piece played by a laic figure who is pleased if he can at least get the technical difficulties over and done with properly. Nevertheless the large building of the Busch Circus resounded with loud applause.⁶⁹

These dual perspectives—widespread adulation aside deep-seated skepticism, linked with a fear that notation would desiccate movement’s soul—would persist through Labanotation’s long career. In fact, the contest over this shape the formation and goals of

⁶⁷ Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London: Verso, 1983), 26.

⁶⁸ Author Unknown, *Hamburg Echo*, 30 July 1928, as reproduced in McCaw, *The Laban Sourcebook*, 115.

⁶⁹ *Ibid.* For an interesting counterpoint on the subject of piano performance, individuality, and recording technologies during this period, see: Kursell, Julia, “Visualizing Piano Playing, 1890-1930,” *Grey Room* 43, no. Audio/Visual (Spring 2011): 66–87.

Laban's first major outpost on a new continent: New York City's Dance Notation Bureau, the subject of Chapter Two.

PAPER DANCES: THE DANCE NOTATION BUREAU'S RATIONAL REPOSITORY

Late one afternoon in 1943, a United States postal censor came across a rather confusing document. Inscribed on the papers in front of him was an incomprehensible hodgepodge of lines, arrows, tick marks, and boxes. Unable to make sense of the symbols, he suspected espionage and flagged the suspicious pages for further review. The document, however, was not a secret Axis communiqué. It was a dance.¹

For more than a decade, a small group of women in New York City had been corresponding with Rudolf Laban, convinced that “Labanotation” alone could “objectively” preserve dance for future generations; the symbols that unsettled the censor were an integral part of their efforts. Their organization, the Dance Notation Bureau (DNB) bemoaned dance’s “illiteracy,” feared for its future, and contended that, without a written system of preservation, it would continue to languish as an “underprivileged” and “primitive” art.² As a solution, they labored to popularize Labanotation, confident that it alone could objectively preserve dance for future generations. Drawing on the language of science and contemporary ideas about space, physiology, and bodily effort, the Bureau sought to consign the three-dimensional experience of movement to the two-dimensional page. Eschewing notions of dance as too emotional, ephemeral, or complex to be captured, they saw the moving body as swarming with potential data points. To them, a

¹ “Dance Notation Bureau Bulletin,” January 1943, Courtesy of Dance Notation Bureau. John Martin, “Travel Notes: How the Country Feels About the Ballets and Vice Versa-Miscellany,” *The New York Times*, January 3, 1943.

² Eve Gentry, “Dance Notation-the New Profession,” *Health, Physical Education and Recreation*, February 1949.

dance was information, and—with the right system in place—that information could be objectively recorded.³

In the four decades following its founding in 1940, the DNB taught notation to dancers, helped develop a standard international orthography, and convinced the United States Copyright Office of Labanotation's usefulness.⁴ By 1965, the Bureau had notated and archived more than forty works of dance, including those of luminaries George Balanchine, Jerome Robbins, Doris Humphrey, Ted Shawn, and Anthony Tudor. Thirty-five reconstructions of notated scores had taken place. The Bureau office in Union Square served at least 100 students a year, and DNB alumni included not only dancers and choreographers, but sociologists, psychologists, businessmen, and biologists.⁵ Notation was taught at an increasing number of educational institutions, including Bennington College, the University of North Carolina, Julliard, Ted Shawn's Jacob's Pillow, the Boston Conservatory of Music, the 92nd Street Y, and the High School for the Performing Arts; the National Ballet of Canada and the Philadelphia Civic Ballet both maintained

³ Said John Martin, "It is surprising how widespread the superstition is that dances cannot be written down. Even dancers themselves are frequently on the defeatist side of the argument, setting forth how complicated the human body is in movement, and how laborious it would be to notate each quick and tremor, especially of a large ensemble work." John Martin, "Concerning Notation," *The New York Times*, February 20, 1944.

⁴ In the 1940s and 50s, there were three major centers of Labanotation promotion and research, all led by powerful personalities: Albrecht Knust in Germany, Lisa Ullman and Sigurd Leeder in Great Britain, and Ann Hutchinson's Dance Notation Bureau in New York City. They shared a basic approach—and a fealty to both Laban the man and to his methods—but differed in certain matters of emphasis and orthography. (Orthography is usually defined as the conventional methodology for writing a language—including elements such as spelling, punctuation, and letter forms—and was frequently used by notators to refer to the Laban script. See: Ann Hutchinson, "Letter to 'Bobby,'" March 13, 1952, Courtesy of Dance Notation Bureau; Rudolf Laban, "Letter to Ann Hutchinson," May 19, 1951, Courtesy of Dance Notation Bureau.

⁵ "Report: The Dance Notation Bureau," 1965, Courtesy of Dance Notation Bureau.

resident notators.⁶ Within a relatively short period, dance seemed to become the kind of object that might be preserved on paper, filed in a library, catalogued, mailed across continents, shared, or kept under lock and key.

That Labanotation would emerge as the standard method of preservation was, however, far from preordained. Systems for recording dance had existed long before the Dance Notation Bureau took up Labanotation's cause.⁷ In the seventeenth century, an orthography developed by Raoul Auger Feuillet was used to plot the floor patterns of court dances; in the late nineteenth century, Russia's Imperial Ballet employed Stepanov notation as a memory aid.⁸ Twentieth century choreographers frequently recorded their compositions in personal shorthand or relied on the kinesthetic memories of dancers. An even more obvious alternative was film, which, by the 1940s, was an clear option for dance preservation, particularly for the large companies and prominent choreographers

⁶ John Martin, "Solid Progress of the Laban Method in Hands of Lively Local Bureau," *The New York Times*, July 7, 1957.

⁷ It is also important to note that Labanotation was not the only form of dance or movement notation practiced at this point in time. As early as 1934, Martin was reporting on a promising system of movement notation developed by an Italian army officer. Eshkol-Wachman notation was published in Israel in 1958, Benesh notation was gaining adherents in the United Kingdom, and Jia Ruskaya and the Reverend Remigio Zadra put forward notation systems in Rome. The proliferation of interest in such projects is telling in itself, but I focus on Labanotation here because of its prevalence in the United States and its use in multiple fields. John Martin, "New Method of Notation: Lieutenant Chiesa, an Italian Army Officer, Devises System Called 'Motography' for Recording Movement of Body," *The New York Times*, July 15, 1934. John Martin, "Dance Notation: Solid Progress of the Laban Method in Hands of Lively Local Bureau," *The New York Times*, July 7, 1957. John Martin, "Notation Campaign: New Benesh System Being Widely Promoted by Official British Agency," *The New York Times*, May 12, 1957. John Martin, "A New Script: The Problem of Notation as Solved by Sol Babitz," *New York Times*, August 27, 1939.

⁸ Raoul Auger Feuillet, *Chorégraphie, ou l'art de décrire la danse* (Paris, 1700). For an astute cultural and historical analysis of Feuillet notation see: Susan Leigh Foster, *Choreographing Empathy: Kinesthesia in Performance* (New York: Routledge, 2011). On Stepanov notation, see: Marion, Shelia, "Recording the Imperial Ballet: Anatomy and Ballet in Stepanov's Notation," in *Dance on Its Own Terms*, ed. Bates, Melanie and Eliot, Karen (New York: Oxford University Press, 2013).

who tended to employ notators.⁹ Filming a dance was, in general, both less taxing and costly than employing notators, with the added advantage of quickly conveying elements like scenery, costume, and the spark of live stage performance. A filmed dance was also more easily “read” than a notation score, particularly by the many dancers and choreographers who were not interested in devoting the time to learn this complex new “language.”¹⁰

Why, then, did Labanotation succeed so spectacularly? In seeking to capture an already elusive art, why privilege the esoteric and difficult over the accessible and transparent? What did paper accomplish that film or memory did not? The answers to these questions lie in the DNB’s evolving understanding of what dance fundamentally was, an understanding that—ironically—explicitly excluded embodied experience.

Over the past several decades, historians of science have increasingly focused their attention on the political and epistemological dimensions of science’s paper tools: diagrams, graphs, figures, and notation systems. Works by David Kaiser, Bruno Latour, Geoffrey Bowker, Susan Leigh Star, Lorraine Daston, and Peter Galison have drawn attention to these inscription technologies in practice, illuminating the manner in which they shape ways of seeing, create communities, and embed particular values and

⁹ It perhaps goes without saying most notated works came from choreographers who were already well-funded or well-connected. Individuals and companies with fewer resources were far less likely to notate their works, meaning that, in practice, Labanotation may not have had the democratizing effects for which some DNB members hoped.

¹⁰ The following discussion, of course, is not meant to suggest that film presented an uncomplicated or unproblematic alternative to Labanotation. The literature on the political and epistemological dimensions of film is vast, but see, for example: Cartwright, Lisa, *Screening the Body: Tracing Medicine’s Visual Culture*.

structures of power.¹¹ At the same time, historians of art have catalogued the ways in which late 19th and early 20th century modern artists drew upon the graphic methods emanating from the sciences.¹² Captivated by visions of universal communication, global exchange, and the revelation of previously invisible truths, individuals like Marcel Duchamp, John Cage, and Paul Klee adopted science's diagrammatic aesthetic along with many of its theoretical presuppositions.

Dance notators in the United States were similarly eager to adopt a scientific persona, seeing Labanotation as the triumph of objective, rational thinking over the inevitable decay of body and memory. And, in fact, their vision of dance as essentially a matter of points and lines connected the DNB's work to comparable methods in physics, physiology, and psychophysics.¹³ But their program was much broader than mere transcription, or even analysis—in working to define dance as primarily informational, the Dance Notation Bureau also sought transform conceptions of art, authorship, and history. The story of the Bureau, therefore, illuminates both the muscular hold the concept of “information” had on twentieth-century American culture and the practical effects of that mindset, intended and otherwise.¹⁴ As art became science, and dance

¹¹ Kaiser, David, *Drawing Theories Apart: The Dispersion of Feynman Diagrams in Postwar Physics*. Daston, Lorraine J. and Galison, Peter, *Objectivity*. Latour, Bruno, “Drawing Things Together.” Geoffrey C. Bowker and Susan Leigh Star, *Sorting Things Out: Classification and Its Consequences*. Geoffrey C. Bowker, *Memory Practices in the Sciences*.

¹² Bruce Clarke and Linda Dalrymple Henderson, eds., *From Energy to Information: Representation in Science and Technology, Art, and Literature* (Palo Alto, CA: Stanford University Press, 2002).

¹³ See, for example: Francois Dagognet, *Etienne-Jules Marey: A Passion for the Trace*. Marta Braun, *Picturing Time: The Work of Etienne-Jules Marey (1930-1904)* (Chicago: University of Chicago Press, 1995); Rebecca Solnit, *River of Shadows: Eadward Muybridge and the Technological Wild West* (New York: Penguin, 2003).

¹⁴ On the history of information theory and cybernetics, see: Geof Bowker, “How to Be Universal: Some Cybernetic Strategies, 1943-70,” *Social Studies of Science* 23, no. 1 (February 1993): 107–27; James Gleick, *The Information: A History, A Theory, a Flood* (New York:

became data, the meaning of dancers' thinking, feeling, sweating bodies became increasingly uncertain.

Origins: A Rational Repository

The Dance Bureau was founded in 1940 by four women: Ann Hutchinson Guest, Eve Gentry, Janey Price, and Helen Priest Rogers. All had studied Labanotation extensively, but each had trained under a different mentor and in disparate geographic locations. Guest had studied with Rudolf Laban himself in England; after a performing career with the Martha Graham company, Helen Priest Rogers sought the tutelage of Laban's protégé Albrect Knust in Germany.¹⁵ Gentry and Price were exposed to Labanotation in New York City through the efforts of dancer Hanya Holm, formerly a pupil of Laban's colleague Mary Wigman.

The process of notating a complicated piece could take months or, occasionally, even years. In the mid-1960s, DNB members Murial Topaz and Lucy Venable were hired to notate Jerome Robbins' *Les Noces*, a complex, twenty-five minute story ballet featuring a score by Stravinsky and twenty-six dancers. Combined, the two notators attended roughly 75 hours of rehearsals, learning each part along with the dancers and making shorthand notes. Each notator then transcribed her shorthand into "careful pencil

Vintage, 2012); Steve J. Heims, *The Cybernetics Group* (Cambridge: MIT Press, 1991); Andrew Pickering, *The Cybernetic Brain: Sketches of Another Future* (Cambridge: MIT Press, 2010); Paul Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America* (Cambridge: MIT Press, 1996); Slava Gerovitch, *From Newspeak to Cyberspeak: A History of Soviet Cybernetics* (Cambridge: MIT Press, 2002); Lily Kay, *Who Wrote the Book of Life? A History of the Genetic Code* (Stanford: Stanford University Press, 2000).

¹⁵ Jack Anderson, "Helen Priest Rogers, 85, Teacher and Dance Notation Authority," *The New York Times*, March 9, 1999.

sketches” using the standard Labanotation orthography. Once the rehearsals ended, Topaz spent several months correcting and refining the score, at which point the completed document was sent both to the choreographer and to a “certified checker,” charged primarily with spotting inconsistencies, omissions, errors in form, and inefficiencies of expression. After certification, the score was returned to the Dance Notation Bureau, where it was hand-inked, a process that took nearly 200 hours. The final product was a 365-page score resembling, in the words of one newspaper reporter, a “long-lost Aztec codex.”¹⁶ In the Bureau’s final accounting, the full notation process took nearly 1,000 hours and cost \$4,000.

Before the Bureau’s founding, Hutchinson Guest, Gentry, Priest Rogers, and Price were in sporadic contact: they moved in similar circles within the New York dance world but practiced notation independently, often in addition to other artistic pursuits. In 1940, however, all four women found themselves at an informal gathering of prominent dance personalities at Hanya Holm’s studio. Their discussion turned to notation, and then to the orthographic differences to which their varied national trainings had given rise. John Martin, the *New York Times* dance critic, long-time advocate of notation, and eventual DNB board member quickly interceded, suggesting they found a formal organization to promote Labanotation and standardize its form. DNB members often credit their founding to this intervention, though attempts at coordination and increased visibility were already underway. Still, Guest, Priest, Gentry, and Price were taken with the idea, and a more formal association began to come together. By June of 1940, Martin

¹⁶ Earl Ubell, “Dance Notation Steps into a New Era,” *The New York Times*, October 24, 1976.

was reporting that “nothing that has happened in recent years has about it more potentialities for the development of the art than the quite modest beginning this Spring of the Bureau of Dance Notation.”¹⁷

In its early years, the Bureau was indeed a modest operation. Housed in Holm’s studio and initially volunteer-run, it relied entirely upon the missionary zeal of its founders. Guest, for example, spent her mornings corresponding with Laban and then strapped on her tap shoes for long evenings hoofing it on the Broadway stage. The Rockefeller Foundation provided financing for the production of a Labanotation textbook in the early 1950s, but the rest of the small funding base came from membership dues, teaching, and correspondence courses.¹⁸

The Bureau’s resources may have been limited, but its ambitions were mammoth. Hutchinson Guest and her colleagues wanted no less than a “revolution” in dance, equipped by a transition to comprehensive “literacy.” Charges of stagnancy, empty sensuality, and a dearth of intellectual heft had long bedeviled the field, and the DNB connected this lack of artistic status to the absence of a written language.¹⁹ In publications, meetings, and grant applications, they argued that it was “illiteracy” that

¹⁷ John Martin, “Scriveners,” *The New York Times*, June 9, 1940.

¹⁸ The total grant amount was \$4800, part of a larger Rockefeller Grant to the New York City Ballet’s Ballet Society. Ann Hutchinson Guest, *Labanotation: The System for Recording Movement* (London: New Directions, 1954). John Martin, “First Authoritative Textbook Published on Laban Method of Notation,” *The New York Times*, May 30, 1954. John Martin, “Rockefeller Fund Finances Work on ‘Labanotation,’” *The New York Times*, May 17, 1953.

¹⁹ In some cases, dance’s ephemerality was also connected with its perceived femininity, another source of the art’s relatively low status. As dance scholar Susan Leigh Foster notes, “Of all the arts, dance, with its concern for bodily display, its evanescent form, and its resistance to the verbal, distinguished itself as overwhelmingly feminine in nature.” Susan Leigh Foster, “The Ballerina’s Phallic Pointe,” in *Corporealities: Dancing Knowledge, Culture and Power*, ed. Susan Leigh Foster (New York: Routledge, 1996), 7.

kept dance provincial, limited international communication, and stymied historical comparison and analysis. The DNB's stated purpose was to correct this sad state of affairs, serving as a "center of information and a kind of rational headquarters for all dancers who are interested in the recording of dances according to the principles evolved by Rudolf von Laban."²⁰ Notation, they hoped, would "raise dance out of the realm of the minor arts."²¹

In a letter requesting funding from the Rockefeller Foundation in 1958, DNB board member Muriel Topaz made just this case, arguing that "There is no reason why the experience of great teachers must remain geographically isolated, why there can be no exchange of ideas between these pedagogues, why the dissemination of the actual repertoire of the dance must be carried from one place to another by word of mouth as was prehistoric folklore." She noted that a student who is unable to consult written reference material may have "no idea whether or not he is actually learning ballet or some local dialect. The whole picture is comparable to a world of blind musicians learning by rote and performing from inaccurate memory."²² A 1950 fundraising letter written by Ann Hutchinson Guest echoed these sentiments, claiming that notation did for dance "what has been a commonplace and accepted service for the other arts—the score for music, the written word for drama, line and color for graphic art, stone and brick for architecture. It records and perpetuates aesthetic bodily movement so that posterity can reproduce, enrich, play variations upon, the artistic creations of the past. It provides for

²⁰ John Martin, "The Dance."

²¹ Ann Hutchinson Guest, *Labanotation: The System for Recording Movement*, 7.

²² Muriel Topaz, "Letter to Charles B. Fahe, Rockefeller Foundation," March 25, 1958, Courtesy of Dance Notation Bureau.

the continuity essential to any art. It builds up a literature in an art that heretofore has been as evanescent as the performers who created it.”²³

Though notation systems like Feuillet and Stepanov had once seemed promising, they had, for the most part, fallen into disuse by the twentieth century; person-to-person transmission of choreography was undoubtedly the most common method of teaching and preservation.²⁴ Dances were not recorded on paper, but rather stored in the kinesthetic memory of the participants. When choreographic works were revived after their initial staging, dancers who had participated in earlier productions were frequently recruited to reconstruct and teach the new cast. The system, of course, was not perfect. If too many individuals moved, died, or simply forgot, works could be lost. Still, until the DNB began its efforts in earnest, few publicly complained about the state of affairs; if not flawless, oral transmission was functional, drew on long-held traditions, and located epistemic authority in dancers themselves.

Topaz and Guest, however, pledged their fidelity to the written word—or, rather, the written dance. For the DNB, dance’s illiteracy was absurdly archaic, particularly given the advanced state of other twentieth century information technologies. Why, they

²³ Ann Hutchinson, “Letter to Members,” c 1950, Courtesy of Dance Notation Bureau.

²⁴ It is also important to note that Labanotation was not the only form of dance or movement notation practiced at this point in time. As early as 1934, Martin was reporting on a promising system of movement notation developed by an Italian army officer. Eshkol-Wachman notation was published in Israel in 1958, Benesh notation was gaining adherents in the United Kingdom, and Jia Ruskaya and the Reverend Remigio Zadra put forward notation systems in Rome. The proliferation of interest in such projects is telling in itself, but I focus on Labanotation here because of its prevalence in the United States and its use in multiple fields. John Martin, “New Method of Notation: Lieutenant Chiesa, an Italian Army Officer, Devises System Called ‘Motography’ for Recording Movement of Body”; John Martin, “Dance Notation: Solid Progress of the Laban Method in Hands of Lively Local Bureau,” *The New York Times*, July 7, 1957. John Martin, “Notation Campaign: New Benesh System Being Widely Promoted by Official British Agency.” John Martin, “A New Script: The Problem of Notation as Solved by Sol Babitz.”

asked, subject great works to the vagaries of individual lives and memories? Why open the door to the confusion and drift seen to be characteristic of oral culture? Like contemporaries Claude Lévi-Strauss, Walter Ong, Marshall McLuhan, and Jack Goody, the DNB saw written record keeping as central to the edifice of modernity.²⁵

In an article lambasting those skeptical of DNB's work, dance critic Bernard Taper made this argument quite forcefully, noting that "For all its sophistication, ballet really is a prehistoric kind of art. Lacking an accepted written language, it has been able to preserve its masterpieces only by devoted, laborious effort, passing them on from one generation to the next by direct communication, like folk legends. And, like legends, few ballets survive this process unchanged."²⁶ Choreographer Doris Humphrey agreed. Commenting on Labanotation's success in the mid-1950s, she quipped, "Now these dances are no longer legends; they are history."²⁷ Dance had become a verifiable member of the modern era.

Scientific Futures

The DNB's obsession with written documentation also had more immediate, practical roots. In years following the atomic bomb, the specter of mushroom clouds and global war hung heavy, and anxieties about cultural preservation—and, in fact, preservation of all kinds—felt particularly vivid. For the first time, Americans were faced with the prospect of national, or even species-wide, annihilation. As news anchor

²⁵ McLuhan, Marshall, *The Gutenberg Galaxy: The Making of Typographic Man* (Toronto: University of Toronto Press, 1962). Ong, Walter, *Orality and Literacy: The Technologizing of the Word*, 2nd ed. (New York: Routledge, 2002).

²⁶ Bernard Taper, "Choreographer - I," *The New Yorker*, April 16, 1960.

²⁷ Ann Hutchinson, "Letter to Members."

Edward R. Murrow put it at the time: “Seldom, if ever, has a war ended leaving the victors with such a sense of uncertainty and fear, with such a realization that the future is obscure and that survival is not assured.”²⁸ Thus, notation, which might have remained a chiefly internal concern about artistic continuity, gained broader cultural traction. Like seed stocks, “native” populations, human genetic material, and antiquities, dance was newly construed as a potentially vulnerable resource in need of protection. “It’s a dreadful prospect to consider,” one newspaper article noted, “that if all over the world all dancers schooled in classical ballet and all the people associated with them were to be wiped off the surface of the earth, we should have nothing left of classical ballet but the music and a few photographs and stage designs—and, of course, our memories.”²⁹ Tellingly, by 1967, the DNB counted among its members Howard Hamilton of the Atomic Bomb Casualty Commission. Chief of Clinical Laboratories from 1956 until its dissolution in 1975, Hamilton learned the script in an effort to preserve traditional Japanese Noh dances in the face of the deaths of many of its most prominent practitioners in the decades after Hiroshima.³⁰

At the same time, the post-war years were an era of growing faith in the positive transformational power of technical expertise. “Scientific” thinking might have led to the bomb, but it could also foster increased efficiency, health, wealth, and even the eventual

²⁸ Murrow, Edward R., *In Search of Light: The Broadcasts of Edward R. Murrow, 1938-1961*, ed. Bliss, Edward (New York: Da Capo Press, 1997), 102.

²⁹ L.T., “Shorthand Is Used for Choreography,” *The Evening Citizen*, March 20, 1948.

³⁰ “Membership List, Dance Notation Bureau,” 1967, Courtesy of Dance Notation Bureau. Interestingly, Susan Lindee notes that Hamilton was one of the Commission members most distressed by plans to refuse medical treatment to Japanese survivors. Lindee, Susan, *Suffering Made Real: American Science and the Survivors at Hiroshima* (Chicago: University of Chicago Press, 1997).

amelioration of international tensions.³¹ Strikingly, a promotional pamphlet the Bureau issue in the 1950s featured both a spinning dancer and an atomic nucleus, suggesting the paradoxical ways in which Labanotation drew on both the fear of destruction and the dream of progress and preservation.³²

This moment of simultaneous terror and optimism helps to explain the DNB's persistent efforts to highlight the ostensibly scientific character of its work. In forum after forum, members touted their "scientifically constructed method," through which, they argued, "all forms of movement, ranging from the simplest to the most complex, can be written."³³ George Balanchine compared Labanotation to Euclidian geometry, while John Martin praised the "systematic mentality" of Laban and his followers, their "genius for science and invention, for efficiency and mechanical creativity."³⁴ The DNB was a "research center, school, clearing house, publisher, library, and recorder," but also a "free association of laboratory workers."³⁵ In fact, Martin and others suggested that, in the future, all progress in dance would depend on the use of such scientific methodologies: "If experiments have been successfully made and the results incorporated into general practice, they must be accurately and scientifically recorded so that every dancer may be able to know what his colleagues are doing, and that he may be spared the wasteful effort of duplicating experiments already made. The dancer, like the mechanic or the physicist,

³¹ Boyer, Paul S., *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age*, 2nd ed. (Chapel Hill: University of North Carolina Press, 1994).

³² As Angela Creager has demonstrated, the atom represented a particularly potent symbol of this paradoxical Cold War mindset. Angela Creager, *Life Atomic: A History of Radioisotopes in Science and Medicine* (Chicago: University of Chicago Press, 2013).

³³ Ann Hutchinson Guest, *Labanotation: The System for Recording Movement*, 5.

³⁴ John Martin, "The Dance Is Attuned to the Machine," *New York Times*, February 24, 1929. George Balanchine, "Recording the Ballet," 132.

³⁵ John Martin, "The Dance."

must have a method of preserving in a simple and concise form the fruits of his laboratory work as well as of his creative moods.”³⁶ DNB proponents also claimed that notation instruction would train the mind in more precise observational practices. The “careful observation” notation required would make dancers “more aware, more attentive to detail,” while giving choreographers and teachers the “increased perceptiveness” needed “to see why a dancer fails to achieve a desired effect due to an error in such elements as timing or dynamics.”³⁷

In making these claims to membership in the scientific community, Bureau members relied in part on Laban’s own efforts at self-fashioning, including his engagement with early 20th century discussions within German physiology. They also, however, drew on broader—albeit fuzzier—cultural notions of objectivity, replicability, economy, efficiency, and disinterestedness. As the 1955 Bureau brochure put it, an “adequate notation system” needed to possess three traits: “universality, economy, and accuracy. That is---the method must be based on elements common to all forms of movement; it must be easy to read and to write, or it will not be practical; it must be capable of recording even minute actions with great precision.”³⁸ Moreover, in contrast to narrative accounts, films, or dancers’ memories, Labanotation would be “objective”:

³⁶ John Martin, “The Dance Is Attuned to the Machine.”

³⁷ Selma Jeane Cohen, “Notation, Anyone?”

³⁸ Selma Jeanne Cohen, “Dance Notation Conversation: Facts on the Universal System of Recording Human Movement--Labanotation,” 1955, Courtesy of Dance Notation Bureau.

there was only one correct way to notate movement and one way in which to read it.³⁹

“Order” and “uniformity” were the words of the day.⁴⁰

Guest, in particular, instructed notators to approach their work in a rational and detached manner. She was fond of reminding DNB members that their efforts should be “mechanical”—if two notators observed the same ballet, they should produce the exact same set of symbols. And though there *was* a recognition that notation required considerable observational and technical skill, that expertise was ideally independent of any individual notator: notation, if practiced properly, was “as impersonal as music notation and no whit less foolproof.”⁴¹ In fact, by 1975, some enterprising DNB leaders hoped to entirely eliminate human notators via automated computer technology. This substitution did not come to pass, but notators tended to be described in terms more often associated with technical fields than artistic ones. Their thinking was “hard-headed, serious and alert,” and they remained, despite all obstacles, “completely convinced of the value of the work they are undertaking, completely grounded in its fundamentals, and bent and determined to make it practical, accessible and serviceable to as wide a field as possible.”⁴² Like other information workers of the early 20th century, the overwhelming

³⁹ This sense persists among many contemporary proponents of Labanotation, Ann Hutchinson Guest among them. Although younger generations of notators have come to question the absolutely “mechanical” character of notation, “objectivity” was still perhaps the most often uttered buzzword at the 2011 conference of the International Council of Kinetography Laban.

⁴⁰ Larry Cole, “Dance Bureau Puts Pirouettes on Paper for Posterity,” *Sunday News*, February 11, 1973, Courtesy of Dance Notation Bureau.

⁴¹ John Martin, “The Dance.”

⁴² *Ibid.*

female Labanotators carved out a new professional niche by asserting their mastery over the recording and analysis of technical data.⁴³

Moreover, the transfer between science, technology, and dance was not envisioned as unidirectional. Although—especially in its early years—the DNB’s primary quarry was dance movement, the Bureau always emphasized the contributions Labanotation might make to science, medicine, and industry.⁴⁴ One brochure noted that Labanotation is already “used in the medical field to record abnormal movement” and “could replace less adequate verbal descriptions, helping doctors to keep more accurate case records.”⁴⁵ Members touted their conversations with NASA scientists, offered courses for “the therapist and the scientific worker in the behavioral sciences,” and claimed that notation had been used to help industry “by facilitating the study of individual operations” and eliminating “unnecessary movement.”⁴⁶

Tools of Creativity and Control

This expansionist strategy served the DNB well, but the scientific patina Labanotation acquired was not its only appeal. Choreographers, in particular, were drawn

⁴³ On female information workers more generally, see: JoAnne Yates, *Control Through Communication: The Rise of System in American Management* (Baltimore: Johns Hopkins University Press, 1989). Light, Jennifer, “When Computers Were Women,” *Technology and Culture* 40, no. 3 (July 1999): 455–583.

⁴⁴ Members of the Dance Notation Bureau were certainly not alone in their eagerness to appropriate scientific personas. As Clarke and Henderson have discussed, “in the 1920s, the line—inscribed on the new surface—often bore a double meaning: The information that was to be encoded in the image itself as well as a declaration of the artist’s interest in a scientifically oriented persona.” Bruce Clarke and Linda Dalrymple Henderson, *From Energy to Information: Representation in Science and Technology, Art, and Literature*.

⁴⁵ Selma Jeanne Cohen, “Dance Notation Conversation: Facts on the Universal System of Recording Human Movement--Labanotation.”

⁴⁶ *Ibid.*

to the system because of its promise to preserve a “pure” record of their creations, an allure that surpassed that of motion-picture technology, despite the latter’s relative ease and accessibility. Often, choreographers couched their objections to film in practical or technical terms. For example, though in theory film captured all the action that occurred on stage, if the camera recorded from only a single angle, dancers in the background could be obscured, and elements like spacing might also be distorted. Others found the iterative process of watching, rewinding, re-watching, and rewinding again inefficient and exasperating. And during WWII, some cited the difficulty of accessing raw film stock as a motivation for employing Labanotation.

Choreographers’ preferences, however, only partly stemmed from film’s technological limitations. In a 1960 *New York Times* article, John Martin laid out one of the most important objections, noting that:

...a film records a particular company’s performance. It may have been a poor company or an off-night by a good one; or it may be that the choreographer would have preferred other dancers for the various roles but has had to change his ideas to conform to the limitations of the performers at his disposal. A script, on the other hand, records the movements as he has conceived them, without anybody’s personal quirks, just as musical notation captures the composer’s ideas impersonally and in all their purity.⁴⁷

In another publication, Martin reiterated this point, emphasizing again that “what the camera records is not a composition but a performance.” There is, he said, “no guarantee in any particular film that the dancers in the subordinate roles, let us say, were capable of performing the work as the composer conceived it. There is also a certainty that the personal styles of the performers colored the work itself, adding interpretation to what

⁴⁷ John Martin, “They Score a Dance as Others Do Music,” *The New York Times*, July 2, 1950.

should ideally be a simple statement.”⁴⁸ For Martin, the essential problem with film was not what it left out—a gesture here, a subtlety of expression there—but what it left in—dancers. The *real* stuff of dance was the pure choreographic idea, existing only in the mind of its maker.

Hutchinson Guest shared this fundamental assumption. When instructing students, she exhorted them to remember that Labanotation *is* “dance in a written form. When we see a sheet of music we speak of it as ‘music’, not as ‘music notation’. It is old fashioned to speak of a ‘dance notation score’—it is a dance score, and Labanotation is dance and not a separate, though related subject...the students must experience the movements coming to life at the same time that they learn the written version.”⁴⁹ Dancers, their particular and unique bodies, their quirks, their interactions with the audience on a particular evening, play little role in this account: dance was, by definition, that which could be captured in writing.

There were, of course, critics of this position. Even those skeptics who conceded that Labanotation was indeed an effective means of capturing every last “entrechat or swing” were troubled by its inability to record individual performances. They reminded the DNB that “even in ballet, the most formal of dance arts, there never have been two dancers who danced the same role alike.” Moreover, “in the modern dance, where every composition is a purely personal expression of its creator, notations would produce still less definite results. One can write down Martha Graham's *Frontier*, but what will be left of it when reduced to symbols and subsequently recreated from this symbols? *Frontier* is

⁴⁸ John Martin, “Concerning Notation.”

⁴⁹ Ann Hutchinson, “The Meaning of ‘The Language of Dance,’” June 1958, Courtesy of Dance Notation Bureau.

Martha Graham in a certain artistic mood, not a sequence of steps and poses.”⁵⁰ These detractors, however, fundamentally misunderstood the DNB’s aims. To Guest, *Frontier* was those steps and poses, and *not* a particular Graham performance. And as Labanotation grew in influence, it was redefining what counted as creative product—choreographers’ own intellectual engagement—and what was mere interference—dancers’ corporeal contributions.

This was new mode of thinking about dance-making. Commonly, choreography was understood to be a collaborative project between choreographer and dancer, the choreographer outlining an overall schema, but expecting that it would be transformed in the process of engaging with the particular bodies and minds that came before him. As George Balanchine initially put it, “I’m not one of those people who can create in the abstract, in some nice quiet room at home. If I didn’t have a studio to go to, with dancers waiting for me to give them something to do, I would forget I was a choreographer. I need to have real, living bodies to look at. I see how this one can stretch and that one can jump and another one can turn, and then I begin to get a few ideas.”⁵¹ Creation came only through the dialogic interaction between choreographer and dancers.⁵²

⁵⁰ “Where Dance Notation Fails,” *Dance News*, December 1943.

⁵¹ Bernard Taper, “Choreographer - I.” Both Balanchine and NYCB co-founder Lincoln Kirstein had somewhat ambivalent relationships with Labanotation. They were among the DNB’s earliest backers, though Kirstein’s excitement eventually waned (he eventually called notation nothing more than “provocative diagrams calculated to fascinate the speculative processes of a chess champion.”) Balanchine remained a staunch supporter, though he never expressed interest in learning notation himself.

⁵² In the broadest sense, this account of choreography accords well with contemporary scholarship on the participation of “materials” in scientific and artistic creation. See, for example: Pamela Smith, *The Body of the Artisan* (Chicago: University of Chicago Press, 2004).

Labanotation, however, implicitly posited a different vision of creation, one that drew attention away from its rootedness in human bodies.⁵³

Some members of the Bureau suggested that Labanotation could remove dancers from the choreographic process entirely. They noted, for example, that “choreographers who are familiar with notation have even found it possible to create by writing out the dance phrases rather than having to try them out each time on the dancers.” Such changes, they suggested, might have significant financial consequences, allowing choreographers to create while minimizing the fiscal burdens of rehearsal time.⁵⁴ More importantly, once rehearsals began, the DNB contended that Labanotation would facilitate a clear, accurate, and efficient translation of the choreographer’s vision.

Without any of the muddiness of film, oral communication, or physical demonstration to contend with, the choreographer’s ideas could be realized exactly, without fear of revision or distortion. Board member Muriel Topaz highlighted this aspect of the system in 1958 grant letter to the Rockefeller Foundation. Labanotation, she stated, “is capable of much greater precision than words and can describe the movement completely. In fact, the consideration of ballet movement in terms of notation forces the

⁵³ The DNB thus participated in a longer historical trend toward locating authorship in the single, creative individual, rather than in a more complex network of persons, materials, institutions, and cultural practices. Martha Woodmansee locates one possible origin of this shift in the professionalizing efforts of 18th century writers. Martha Woodmansee, “The Genius and the Copyright: Economic and Legal Conditions of the Emergence of the ‘Author,’” *Eighteenth-Century Studies* 17, no. 4 (Summer 1984): 425–48. In recent years, however, particularly in scientific fields, such assumptions are beginning to be questioned once again. See, for example: Mario Biagoli and Peter Galison, eds., *Scientific Authorship: Credit and Intellectual Property in Science* (New York: Routledge, 2003).

⁵⁴ A DNB brochure for students in 1955 noted: “If you are to appear in a composition which is new to you but which has been notated, you will be able to learn your role before going to the first rehearsal.” Selma Jeanne Cohen, “Dance Notation Conversation: Facts on the Universal System of Recording Human Movement--Labanotation.” See also: John Martin, “They Score a Dance as Others Do Music.” Earl Ubell, “Dance Notation Steps into a New Era.”

teacher into a precise realization of what he wants, and supplies for him and his students an exact and common language.”⁵⁵ The messiness of the in-person creative interaction—once understood as productive—was here redefined as a problem to be solved. Dancers, moreover, might not even notice their demotion. As John Martin put it, though notation “has been in the minds of choreographers at least since the time of Feuillet in the Court of Louis XIV,” dancers were less invested, “for they are traditionally more interested in increasing their physical prowess than in troubling their pretty heads over hieroglyphics.”⁵⁶

But like oil painting without pigment or sculpture in the absence of marble, dance sans human bodies was, for many, difficult to envision. Commentators like science writer Earl Ubell picked up on this tension, noting, for example, that “for many dancers nothing can replace the actual movement... The believe dance exists only in the dancers’ body at the moment of performance. For them writing seems to freeze the artistry.”⁵⁷ And performance, not paper, remained the primary means by which the public encountered dance—in fact, notation was never intended for broad public consumption. Moreover, while a number of choreographers sought out notators to record their work, significantly fewer integrated it into their choreographic process. Still, change was in the air, and Ubell’s article on Labanotation—while acknowledging the resistance the new system faced—concluded not with resignation, but with optimism: “Time and technology,” he wrote, “can change all that.”⁵⁸

⁵⁵ Muriel Topaz, “Letter to Charles B. Fahe, Rockefeller Foundation.”

⁵⁶ John Martin, “They Score a Dance as Others Do Music.” This condescending view of dancers may help explain why their voices are largely absent in the public debates about notation.

⁵⁷ Earl Ubell, “Dance Notation Steps into a New Era.”

⁵⁸ *Ibid.*

Owning Movement

It would be a mistake to take Ubell's simple technological determinism too seriously, but the Dance Notation Bureau did achieve a number of successes in the decades following its founding. Among the most notable were its interventions in the realm of copyright law. In fact, it was in copyright law that the distinctions Labanotation suggested—between head and hand, thinker and doer, dance-maker and dancer, male and female—were reified.

Because of its ephemeral nature, dance had long presented a problem for conventional intellectual property regimes. Since 1879, U.S. copyright law has protected particular expressions of an idea, rather than the idea itself.⁵⁹ The expression of dance, however, was understood as fleeting, and thus not easily dealt with by the Copyright Office's file cabinets and bureaucrats. Until the mid-twentieth century, therefore, dance had never been successfully copyrighted under U.S. law.

The Dance Notation Bureau hoped to change that, arguing that by capturing dance in a written form, Labanotation would open up new modes of legal protection. In early 1948, Hanya Holm was recruited to create the choreography for Cole Porter's new musical, *Kiss Me, Kate*. Holm was already a fervent advocate of Labanotation. In addition to providing space for the early activities of the DNB, Holm had studied with Laban's German protégé Mary Wigman and was well-acquainted with the system and its aims. Holm was also acutely conscious of the financial realities of the arts world; her first

⁵⁹ *Baker v. Selden*, 101 U.S. 99 (1879).

company had recently folded due to lack of sufficient funding. Thus, after accepting the job, Holm recruited Ann Hutchinson to notate the musical's complete choreographic score. From the beginning, Holm's motivations were both high-minded and financial. As she recalled in an interview, "I saw the necessity of protection. It was a show which was really running well. It was a show that everybody wanted to do and wanted to repeat."⁶⁰

Labanotation served as a defensive maneuver to protect an asset with clear value.

Still, at the time of the musical's premiere, it was far from certain that the Labanotation would provide any legal protection whatsoever. Only a decade earlier, the Copyright Office had rejected Eugene Loring's Labanotated application for the choreography for *Billy the Kid* on the basis that the Laban system was "not yet recognized as a set method for recording movement."⁶¹ By the early 1950s, however, the DNB's program of advocacy had evidently made inroads: Richard S. MacCartney, Chief of the Reference Division of the Library of Congress, reached out to the DNB and suggested that dance works could now be submitted via Labanotation.⁶² In 1952, the *Kiss Me, Kate* score was successfully registered for copyright at the Library of Congress.

The DNB rejoiced, and intellectual property protection quickly became a standard element of the Bureau's activities. After completion, two copies of each recorded work were made, often on microfilm—one was stored in the Bureau library, and the other immediately sent to the Copyright Office. In 1958, for example, Martin reported that "incidentally," the New York City Ballet has "signed a contract with the Dance Notation

⁶⁰ Hanya Holm, Tobi Tobias Interview with Hanya Holm, Audio, 1974, NYPL for the Performing Arts, Hanya Holm Papers.

⁶¹ Terese Sekora, "Dance Notation: A History of the Dance Notation Bureau, 1940-1952" (M.A. Thesis, Texas Woman's University, 1979).

⁶² Nelson Landsdale, "Concerning the Copyrighting of Dances," *Dance Magazine*, June 1952.

Bureau to have the new Balanchine-Stravinsky ballet, 'Agon,' scored in Labanotation. Ann Hutchinson will be the chief notator, assisted by Margret Abbie, Billie Mahoney and Muriel Topaz. The completed score will be sent to the Library of Congress for copyrighting and to the Dance Archives of the New York Public Library for microfilming."⁶³ In this way, Labanotation entered the American legal system.

With this change in legal status, the potential benefits to notating a work multiplied. A choreographer with a copyrighted work could, among other things, set compensation rates and determine whether and when a piece would be performed. Holm, for example, immediately refused performance rights to a proposed performance of *Kiss Me, Kate* at Princeton University. The protection, of course, was not absolute, particularly in cases when "pirated" works were performed overseas where few enforcement methods existed. Still, Martin noted that the change "gives official recognition to the dance creator as such, which is at least a small step toward the dignity to which he is entitled." He also hoped that it would make younger choreographers and staggers aware of the immorality of uncredited appropriations, thus spurring a "stimulation of fresh creative activity in the summer theatres, as well as a heightened moral code."⁶⁴

Yet Labanotation's role in copyright came with significant ideological baggage.⁶⁵ As the Bureau's resistance to film demonstrated, the DNB was attracted to Labanotation

⁶³ John Martin, "Inbal Group Comes to Us on a Creative Crest That Awakens Echoes," *New York Times*, January 12, 1958.

⁶⁴ John Martin, "Hanya Holm's Works Are First to Be Registered," *The New York Times*, March 30, 1952.

⁶⁵ As Adrian Johns has written, debates about intellectual property often reveal strongly held societal ideals about authorship and creativity, as they force individuals to articulate otherwise inchoate positions. Johns, Adrian, *Piracy: The Intellectual Property Wars from Gutenberg to Gates* (Chicago: University of Chicago Press, 2010), 5.

in part because of the ways in which it captured the “pure choreographic idea,” rather than the expressive details of a particular performance. Copyright legally enshrined this preference, and in so doing, gave credence to a particularly narrow, intellectual, and disembodied concept of dance authorship. Thus, not only was Labanotation’s history now inextricably intertwined with the commoditization of dance, its widespread use in copyright represented a decision about what kinds of artistic output were worthy of protection—indeed, about the nature and essence of the artwork.

The Holm decision of 1952 expanded the category of acceptable “fixing” methods, but it left other issues unresolved. Since 1909, choreographic works had been included in the standard copyright statute as Class D “dramatic compositions.” As such, choreography with significant dramatic content—such as Holm’s work in *Kiss Me, Kate*—could, at least in theory, be copyrighted. More “abstract” work, on the other hand—like much mid-century ballet and modern dance—was not eligible for protection.⁶⁶

But in 1955, the U.S. Senate’s Subcommittee on Patents, Trademarks, and Copyrights began considering a bevy of potential revisions to the U.S. copyright law in light of the “far-reaching changes...in the techniques and methods of reproducing and disseminating the various categories of literary, musical, dramatic, artistic, and other

⁶⁶ One famous early attempt to copyright dance—Loie Fuller’s 1892 application for protection for her signature “Serpentine Dance”—failed for this very reason. Caroline Joan S. Picart provides an astute analysis of the racial and gendered dynamics that underpinned this and other landmark copyright decisions in: Caroline Joan S. Picart, *Critical Race Theory and Copyright in American Dance: Whiteness as Status Property* (New York: Palgrave Macmillan, 2013).

works that are subject to copyright.”⁶⁷ As part of this process, the committee re-opened the question of the protection of non-dramatic dance, and in 1959, produced a formal report on the subject. “Copyright Law Revision, Study No. 28” embodied the further solidification of a disembodied view of artistic creativity.

For example, although the report acknowledged that film was a legally permissible fixing method, it makes clear that Labanotation was the emerging standard. The document includes comments from nine legal and dance authorities, including DNB leaders Ann Hutchinson, John Martin, Hanya Holm, and Lucile B. Nathanson. Of the remaining experts, only Agnes DeMille lent any support to film, though her advocacy was tempered by concerns about the medium’s perishability. Moreover, the report’s author, Borge Varmer, explicitly defined the term “choreographic work” as referring “both to the dance itself as the conception of its author to be performed for an audience, and to the graphic representation of the dance in the form of symbols or other writing from which it may be comprehended and performed.”⁶⁸ Varmer made no reference to *either* physical or filmed performance, eschewing the traditional legal focus on protecting “expression” in favor of a defense of the pure authorial “conception.”

In this way, the DNB participated in a broader 20th century cultural tendency to examine, quantify, control, and abstract the sensual aspects of artistic performance.⁶⁹ In

⁶⁷ Borge Varmer, *Copyright Law Revision, Study No. 28: Copyright in Choreographic Works*, Studies Prepared for the Subcommittee on Patents, Trademarks, and Copyrights (Washington, D.C.: Committee on the Judiciary, United States Senate, 1961), III.

⁶⁸ Ibid.

⁶⁹ Thompson, Emily, *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900-1933*. Sterne, Jonathan, *The Audible Past: Cultural Origins of Sound Reproduction* (Durham, NC: Duke University Press, 2003). Kursell, Julia, “Visualizing Piano Playing, 1890-1930.” Kursell’s account adds nuance to these stories of standardization, as she

her account of the “soundscape of modernity,” for example, Emily Thompson emphasizes the progressive disassociation of sound from the spaces in which it was produced as well as the human bodies that heard it. Over the course of just a few decades, a performance hall’s natural reverberation, once understood to enhance the listening experience, came to be seen as little more than “noise” to be eliminated: the new ideal sound was pure and “efficient,” the same everywhere, stripped of all “unnecessary” elements that related it to the physical world. Similarly, Jonathan Sterne has sketched the ways in which—particularly in the late 19th and early 20th century—sound as such became separated from both the speech act and from music. Instead, sound became “a problem: an object to be contemplated, reconstructed, and manipulated, something that can be fragmented, industrialized, bought and and sold.”⁷⁰

These tendencies have counterparts in the story of the Dance Notation Bureau. With the ascent of Labanotation’s “scientific” approach, human movement became an entity that could exist in the absence of human bodies. This transformation permitted the preservation and management of dance works on a scale previously thought impossible, but it simultaneously altered ideas about what dance actually *was*. Just as the essence of a musical composition was prized over its performance in a particular physical space, the act of dance-making was disassociated from the potentially idiosyncratic and unrepeatable somatic contributions of individual dancers. Dancers became mere noise in an otherwise rationalized recording system: a difficulty to be solved, rather than an integral aspect of the performance.

explores how new techniques of mechanical recordings stoked interest in the skill inherent in piano performers’ *deviation* from the written score.

⁷⁰ Sterne, 9.

Conclusion: Information, Authorship, and Authenticity

Dance scholar Susan Leigh Foster notes that the appellation “choreographer” was rarely used prior to the 1920s, a change she sees as reflective of a new vision of what dance-making meant. In contrast to “making up,” “directing,” or “staging” a dance, the title “choreographer” “specified the author of an original work and highlighted the inventive engagement of the artist in crafting movement.”⁷¹ Foster does not proffer an explanation for this shift, but Labanotation certainly accelerated the transformation. As in other areas of mid-century American life where control moved from workers to owners and choreographed order reigned—corporate management, cybernetics—Labanotation made dance ordered, legible, and commodifiable. Though notation did not fully displace other forms of recording and other modes of dance-making, it did enshrine—on paper, in law—a conception of artistic creativity in which the choreographer appears particularly powerful.

Yet this symbolic elevation of the choreographer did not go entirely uncontested. In addition to dissatisfied dancers and general skeptics, some notators contended that they too deserved a permanent financial stake in any score they produced, that notation itself represented a creative act deserving of remuneration. These claims gained little purchase, however, in part because they were undermined by the ideology of objectivity that underpinned Labanotation. Moreover, though a few companies and choreographers did

⁷¹ Susan Leigh Foster, *Choreographing Empathy: Kinesthesia in Performance*, 44.

integrate notation into their day-to-day practice, many others used it only for preservation, lessening its everyday impact on dancers' lives.

Thus, it would be too simple to read the story of Labanotation as an uncomplicated slide toward control, flattening, and disembodiment. Though the impulse to preserve dance was couched in a narrative of objective, scientific progress, notators themselves had considerably more complex relationships with their work. For many, the drive to record was an emotionally-charged mission to gain respect for an underappreciated, feminized, and all-too-ephemeral art. Others flocked to the profession as a way of remaining close to dance after their performing careers had ended; Hutchinson Guest herself has written about how a career in notation helped her deal with the devastating recognition of her limits as a performer.

Moreover, the process of notation was undoubtedly an intimate one. Women like Guest often spent hundreds of hours with a single piece of choreography, observing dancers, listening to choreographers, poring over details, delicately penning symbols. One 1976 guide for checkers reminded them to “remember that certified checking is a devastating experience for every notator,”⁷² suggesting the profound emotional investments notators made in their craft. Despite the protestations of DNB leaders, notation was never entirely mechanical, impersonal, or “objective,” a truth that present-day notators increasingly recognize.⁷³ Whatever the final outcome, their professed hope was not to desiccate dance, but to care for it.

⁷² Dance Notation Bureau, “Guidelines for Checkers,” 1976, Courtesy of Dance Notation Bureau.

⁷³ ICKL Conference, Budapest, Hungary, 2011.

Nevertheless, the dominance of Labanotation as the legally recognized form of authorship played a powerful role in shaping conceptions of creativity. As one contemporary reporter noted: “Only in a rare instance can it be proved that the presence of a cop on the beat prevented a crime, but everybody knows that the mere fact of a policeman’s existence will do much to keep order among all classes and kinds of citizens, from intractable small boys to hardened criminals. Perhaps if enough choreographers copyright their work in the Library of Congress, the mere existence of such a body of material, with ownership legally defined, will serve a parallel purpose. And choreographers, tempted with the idea of copyright, will find added stimulus to recording their works permanently.”⁷⁴ In essence, the ideal of authorship may have been just as important as its practical effects.

A 1941 *Time* magazine story on Labanotation captured this moment absurdly well. The article, full of praise for the new system, was accompanied by photo featuring two dancers, leaping sideways through the air, eyes trained fixedly on their notation scripts. The caption reads, “Paying no attention to their bodies, Kip Kiernan and Winifred Gregory follow the score of their ballet script...Only experienced dancers can ‘read’ without watching what they are doing.”⁷⁵ This was the new ideal—a script that transferred the choreographer’s vision directly to his instrument, a transaction so frictionless that even the dancers lost track of their own forms.

⁷⁴ Nelson Landsdale, “Concerning the Copyrighting of Dances.”

⁷⁵ “Toe Writing: Ballet Dancers Learn How to Put Muscles in Black and White,” *Time Magazine*, April 11, 1941, Folder DNB_TM_28_894, NYPL for the Performing Arts, Dance Notation Bureau Collection.

But this modernist attitude toward the body would not have so easily triumphed in the absence of pre-existing power relations between dancers and choreographers and pre-existing beliefs about the relative merits of intellectual and physical labor. It also required a culture anxious about its past and its future and a legal and economic system willing to support the efforts of enterprising dance commodifiers.

Among others, Bruno Latour has remarked upon the “extraordinary obsession of scientists with papers, prints, diagrams, archives, abstracts and curves on graph paper. No matter what they talk about, they start talking with some degree of confidence and being believed by colleagues, only once they point at simple geometrized and two-dimensional shapes.”⁷⁶ Between 1940 and 1975, a large part of the American dance world began to share this obsession. Unless recorded on paper, dance appeared unreal. Only when recorded, standardized and abstracted, could it be understood, catalogued, and controlled. The motivations of Labanotation’s proponents were multiple and complex—a desire to increase dance’s prestige by linking it to science, deep-seated concerns about preservation and conservation, hopes of carving out a new professional niche. The outcome, however, was steeped in irony: in seeking to preserve a corporeal art, the DNB promoted a new understanding of dance in which the physical body played an attenuated role.

⁷⁶ Latour, “Drawing Things Together,” 15.

CORPORATE BODIES: MOVEMENT PATTTERN ANALYSIS AND WHITE-COLLAR WORK

When Tom Rath arrived for his interview at New York's United Broadcasting Corporation, he opened the door to find Mr. Gordon Walter, "a fat pale man sitting in a high-backed upholstered chair He didn't stand up when Tom came in, but he smiled. It was a surprisingly warm, spontaneous smile, as though he had unexpectedly recognized an old friend. 'Thomas Rath?' he said. 'Sit down! Make yourself comfortable! Take off your coat!'" Tom sat, awkwardly draping his coat over his lap, though the room was not particularly warm. Suddenly, Walter "touched a button on the arm of his chair and the back of the chair dropped, allowing him to recline, as though he were in an airplane seat. 'You will excuse me,' Walker said, still smiling. 'The doctor says I must get plenty of rest, and this is the way I do it.'"¹

Rath, the protagonist of Sloan Wilson's famous 1955 novel *The Man in the Gray Flannel Suit*, had come to United Broadcasting to seek a new, better-paying job, eager to jettison his family's shabby-seeming homestead in suburban Connecticut. But what began as a pragmatic attempt to move up the economic ladder soon became an expedition into the bewildering world of the large corporation, a place governed by unspoken rituals, where smiling seemed to be "a company rule" and personnel men probed deeply into employees' lives.

¹ Sloan Wilson, *The Man in the Gray Flannel Suit* (New York: Simon and Schuster, 1955), 12.

At its release, Wilson's novel was called "uncannily familiar"² and "reportorially exact in its account of the pressures, problems and tribal customs" of the "ambitious commuters who are too young to be either successes or failures but whose time is running out."³ Within a year, it was adapted into a movie starring Gregory Peck and Jennifer Jones, and "the man in the gray flannel suit" was set on its path to infamy as shorthand for all seemingly dull, conformist strivers.

Wilson, of course, was not the only commentator on the culture of mid-century Anglo-American business. Sociological critiques of the post-war corporate mindset—William H. Whyte's *The Organization Man*, C. Wright Mills' *White Collar*, David Reisman's *The Lonely Crowd*—similarly sketched the emergence of an insidious ideology of loyalty, collectivism, and a new form of physical conformity. As Mills noted, "when white-collar people get jobs, they sell not only their time and energy but their personalities as well. They sell by the week or month their smiles and their kindly gestures, and they must practice the prompt repression of resentment and aggression. For these intimate traits are of commercial relevance and required for the more efficient and profitable distribution of goods and services."⁴

Sociologists also chronicled the development of new technologies intended to enforce this ethic: chief among them, personality and aptitude testing. As Whyte reported in *The Organization Man* in 1956, corporate personnel departments were increasingly

² Barbara Merlin, "Man in the Gray Flannel Suit Is Uncannily Familiar," *Los Angeles Times*, August 7, 1955.

³ Orville Prescott, "Books of The Times," *The New York Times*, July 18, 1955.

⁴ C. Wright Mills, *White Collar: The American Middle Classes*, 50th Anniversary Edition (2002) (New York: Oxford University Press, 1956), xvii. More recently, Arlie Hochschild has remarked upon similar phenomena: Arlie Russell Hochschild, *The Managed Heart: The Commercialization of Human Feeling* (Berkeley: University of California Press, 1979).

availing themselves of tests designed to evaluate everything from “a man’s degree of radicalism versus conservatism, his practical judgment, his social judgment, the amount of perseverance he has, his stability, his contentment index, his hostility to society, his personal sexual behavior—and now some psychologists are tinkering with a test of sense of humor.”⁵ (At his interview, Tom Rath is given a typewriter, an hour, and an empty room and asked to convey his life story, another common evaluative technique.) Between 1950 and 1955, the number of blank personality test forms sold had risen 300 percent and new psychological consulting firms were popping up with shocking rapidity.⁶

This chapter, however, argues that the management of corporate life went well beyond the intellectual. The men and women who strode the hallways of twentieth-century corporations, commanded underlings from behind their desks, and beseeched superiors for promotions were also evaluated physically, via a version of Labanotation known as Effort/Shape analysis. Deconstructed, categorized, and reduced to scribbles on a page, their bodily movements were a means of communication that could be the wellspring of their success or—if used poorly—their professional undoing. As Tom Rath quickly learned, Gordon Walter’s broad gestures, seated posture, and easy recline were not simple signs of friendliness or vulnerability, but rather vibrant manifestations of his power, personality, and potential.

In fact, by 1952, the year Wilson’s novel was published, the analysis of bodily movement in business settings was in full swing, in part through the efforts of a man named Warren Lamb. In 1952, Lamb formed Warren Lamb Associates (WLA), a

⁵ William H. Whyte, Jr., *The Organization Man* (New York: Simon and Schuster, 1956), 173.

⁶ *Ibid.*, 174.

consulting group that promised to revolutionize the process of corporate job selection through its signature test, “Movement Pattern Analysis” (MPA). MPA promised to glean valuable data about personality and aptitudes from a prospective employee’s unconscious bodily movements, and, in so doing, to revolutionize corporate life. Though few CEOs were capable of following the complex logic Lamb employed—or the strange configurations of hash marks that constituted his evidence—they were sufficiently pleased with his results that the company expanded and prospered. This chapter will chronicle its history from its founding in 1950s to the late 1980s, exploring how and why a technique developed in the thick of Weimar expressionist dance found itself a congenial home in the mid-century corporation.

Historians do not usually associate twentieth-century corporate boardrooms with the kind of bodily management that characterized artisanal production or industrial work. Scholars like Anson Rabinbach have chronicled a ubiquitous anxiety about fatigue in nineteenth-century factories, but most historians have concluded that concern with workers’ bodies dissipated as the twentieth century progressed.⁷ Mid-century office workers were, in this view, subjected not to the tyrannies of Taylorist overseers, but to the judgments of middle-managers and the new cadre of psychologists populating human

⁷ Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity*. Harry Braverman, *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*. (New York: NYU Press, 1998); Robin Wolfe Scheffler, “The Power of Exercise and the Exercise of Power: The Harvard Fatigue Laboratory, Distance Running, and the Disappearance of Work, 1919-1947,” *Journal of the History of Biology* 48, no. 3 (2015): 391–423; Richard Gillespie, “Industrial Fatigue and the Discipline of Physiology”; Jennifer Karns Alexander, “Efficiency and Pathology: Mechanical Discipline and Efficient Worker Seating in Germany, 1929 – 1932,” *Technology and Culture* 47 (2006): 286–310; Steve Sturdy, “The Industrial Body,” in *Companion to Medicine in the Twentieth Century* (London: Routledge, 2000).

resources departments.⁸ This understanding is not incorrect, but this chapter will demonstrate that it is, in some ways, incomplete. The surprising popularity of Warren Lamb's system testifies to the fact that the management of the body remained central to the production of expertise in white-collar office settings, albeit in altered form. This chapter will also explore the historical reasons underlying this persistent importance of the physical body, including a larger shift in the imagined relationships between corporation and employee.

“The Lilt in Labor”: Action Profiling’s Origins

At the founding of WLA in 1952, Lamb was certain that he would spend the remainder of his career firmly ensconced in the upper echelons of large corporations. His system, on the other hand, had its genesis in the significantly less-reified climes of the industrial factory floor. During World War II, Great Britain—like many other nations who sent unheard of numbers of young men to the front lines—faced a labor shortage on the home front. Women workers were enlisted to fill the gap, but factory managers expressed anxiety about whether women could perform the physically demanding tasks

⁸ Alfred D. Chandler, *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, MA: Harvard University Press, 1977); JoAnne Yates, *Control Through Communication: The Rise of the System in American Management* (Baltimore, MD: Johns Hopkins University Press, 1993); James Capshew, *Psychologists on the March: Science, Practice, and Professional Identity in America, 1929-1969* (Cambridge: Cambridge University Press, 1999); Rakesh Khurana, *From Higher Aims to Hired Hands: The Social Transformation of American Business Schools and the Unfulfilled Promise of Management as a Profession* (Princeton, NJ: Princeton University Press, 2007).

required of their male counterparts. Fatigue, dissatisfaction, and high turnover were persistent concerns.⁹

Into this disarray came Rudolf Laban who, in 1937, left Germany for England. As Laban's term wore on, the Reich Culture Chamber had become increasingly frustrated with his tendency to disappear without notice for weeks at a time, his myriad health problems and his inability to manage his department's budget. Frustrated by a reduced duties and a proportionate diminution in his salary, Laban eventually resigned his post.¹⁰ After a few months of dislocation, he found a professional home as a dance teacher at the progressive Dartington Hall School in Devon, an institution that sought to integrate artistic expression with practical skills, in particular the management of the school's large agricultural estate. While there, Laban began to experiment with new uses for his notation. In the fields and in factories, Laban recorded how workers moved and suggested changes that might make the process easier or more pleasant. Eventually, he was contacted by F.C. Lawrence, one of the UK's first industrial consultants, who enlisted Laban in a collaboration designed to maximize the productivity of new wartime labor force.

⁹ Anson Rabinbach discusses a similar set of challenges and anxieties—and similarly scientific attempts to solve them—in his account of 19th century labor practices. Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity*.

¹⁰ There is an ongoing debate regarding Laban's motives for leaving Germany. Laban's devotees allege that Josef Goebbels found Laban's movement theories too disruptive to the totalitarian state, while others suggest Laban fell out of favor for bureaucratic and financial reasons. For further discussion, see: Marion Kant and Lilian Karina, *Hitler's Dancers: German Modern Dance and the Third Reich*. On the absorption of Laban-based thinking into the post-war UK more generally, see: Patricia Vertinsky, "Movement Practices and Fascist Infections: From Dance under the Swastika to Movement Education in the British Primary School," in *Physical Culture, Power and the Body*, ed. Jennifer Hargreaves and Patricia Vertinsky (London: Routledge, 2007), 25–51.

Among Lawrence and Laban's first clients was Tyresoles, a tire manufacturer and re-conditioner whose predominately male staff had been almost wholly replaced by women at the outbreak of war. Company management reported that their new female employees succeeded at many crucial aspects of production, but continued to struggle with stacking heavy army transport tires, a task described as "obviously beyond female strength."¹¹ Laban arrived at the Tyresoles factory with a solution, contending that a carefully-conceived physical training program could compensate for the women's lack of sheer muscular prowess.¹² By most accounts, the program was a success. Tyresoles was satisfied with the increased production, and complaints from workers were few (though one operator reportedly took part in the training in a "manner which is somewhat disturbing the others who take the training very seriously."¹³)

Laban and Lawrence's program continued throughout the War; over a five-year period, their services were enlisted in locations as diverse as canning factories, textile mills, and the assembly line out of which emanated the British Army's mammoth supply of Mars Bars. Their suggestions were sometimes quite prescriptive; at Mars, for example, Laban taught the women on the chocolate-wrapping line an intricate procedure for more

¹¹ Olive Moore, "Man of the Month: Rudolf Laban," *Scope: Magazine for Industry*, October 1954.

¹² The precepts of the exercise program grew out of Laban's belief that certain kinds of rhythmic movement activity were inherently more natural for the body to perform, and that—once these patterns were mastered—the women would be able to accomplish easily any heretofore seemingly impossible task. These included maneuvers to relax the arms, legs, and hands, to coordinate the breathing, and to cultivate movement qualities such as "quickness" and "alertness." Rudolf Laban, "Training Schedule, The Laban-Lawrence Method of Industrial Rhythm, Tyresoles Ltd.," 1942, Rudolf Laban Archive (L/E: 71: 1), Archives and Special Collections, University of Surrey.

¹³ Lisa Ullmann, "Letter from Lisa Ullmann to F.C. Lawrence," May 27, 1942, Rudolf Laban Archive (L/E: 71: 1), Archives and Special Collections, University of Surrey.

quickly producing the confections. The two men took pains, however, to differentiate themselves from the time-motion studies of Frederick Winslow Taylor and his followers. “We have felt some slight resistance to our work,” Laban wrote, “because of working in the shadow of [Charles] Bedaux,” the wealthy inventor of the Bedaux Efficiency System, a mishmash of Taylorism and Fordism that gained particular popularity in Nazi Germany.¹⁴ “Scientific management theorists,” Laban and Lawrence claimed, “perceived the worker as a simplistic instrument which, if properly controlled, could significantly increase production.” The Laban-Lawrence “Industrial Rhythm,” on the other hand, saw the worker “not as a machine but rather accepted him as a complex being” whose productive capacity would be enhanced if the process of production took his “natural movement patterns” into consideration.¹⁵ In contrast to the scientific manager’s profit-motivated mindset, Laban and Lawrence saw themselves as striving on workers’ behalf. Industrial Rhythm was designed not merely to increase productivity but—in the words of the company’s slogan—to “Bring that Swing and Lilt in Labour/Which Makes Efficiency a Pleasure.”¹⁶

¹⁴ Rudolf Laban, “Rhythm of J. Lyons & Company. Greenford, Tea Factory,” 1944, Rudolf Laban Archive (L/E: 72: 2), Archives and Special Collections, University of Surrey.

¹⁵ Nancy Murray, “Action Profile--Innate Motivation to Action in Decision-Making” (International Conference on Teaching Public Administration, New York, 1987).

¹⁶ Paton Lawrence & Company, “What We Would like to Tell Your Workpeople about “LILT IN LABOUR””; Mars Confections Ltd.,” January 25, 1943, Rudolf Laban Archive (L/E: 72: 14), Archives and Special Collections, University of Surrey. The reality, of course, was much more complicated; Industrial Rhythm was always a system of labor and production control. By the late 1940s, for example, Laban and Lawrence attempted to the system to deflect labor complaints and to compensate workers based on the “effort” they expended, rather than their output.

From Shop Floor to Management Suite

World War II may have provided the impetus for the widespread interest in Laban and Lawrence's methods, but their work continued long after its conclusion. By 1945, Paton Lawrence & Company had established a consistent stable of clients for its Industrial Rhythm business and had even begun enlisting additional help: namely, Warren Lamb. Born in 1923 to a middle-class family, Lamb got his professional start with a brief stint at Lloyd's Bank, but enlisted in the Royal Navy at the outbreak of World War I. In Lamb's telling, it was the war that provided the impetus for his later work in movement. While stationed on a vessel in the Mediterranean, Lamb observed his fellow seamen at close quarters, often under stress. "It soon became apparent," he recalled, "that the way a man talked was not a good indication of how he would behave. After a time I relied less and less on what men said and started to look for more reliable indicators of personality. Then I began to realize that each man had a number of characteristic gestures and postures... These were constant, no matter what the circumstances were, and I realized they could be studied."¹⁷ A man's body, not his speech, was the key to his character.

After demobilization, Lamb continued exploring these insights and, eventually, ended up in discussions with Rudolf Laban. Laban convinced him of the value of formal movement study and facilitated his enrollment in a three-year training course at the Art of

¹⁷ Tony Clifton, "Right Arm for the Job," *Newspaper Article*, Undated., Rudolf Laban Collections, University of Surrey NRC, Box L(E) 64: 61. Lamb can thus be placed in a long genealogy of attempts to read character through the body. See, among others: Sharrona Pearl, *About Faces: Physiognomy in Nineteenth Century Britain* (Cambridge, MA: Harvard University Press, 2010); Ken Alder, *The Lie Detectors: The History of an American Obsession* (New York: Free Press, 2007); Tracy Teslow, *Constructing Race: The Science of Bodies and Cultures in American Anthropology* (Cambridge: Cambridge University Press, 2014).

Movement Studio in Manchester. Though technically a student, Lamb fast became an intrinsic part of the Industrial Rhythm program, accompanying Laban on his factory visits, performing analyses, and courting clients. In 1950, he was formally invited to join Paton Lawrence.

Lamb's interests, however, relatively quickly began to depart from those of his employers. Laban and Lawrence had focused their energies primarily on the mechanics of shop-floor factory labor. Though their movement training programs had proved capable of altering the physical patterns of many workers they encountered, others were resistant to change, a problem attributed to incompatibilities in their "natural movement patterns." In most cases, these individuals were marked "unsuitable" for the tasks in which they were currently engaged and moved to other jobs within the organization. Lamb, however, took worker suitability as his primary object of analysis. He argued that careful analysis could reveal how an individual's preferred way of moving related to the type of jobs he or she was most suited to perform, and sought to prove that the assessments of "fit" could be applied to jobs that were managerial in nature.

On its surface, Lamb's Movement Pattern Analysis looked much like a traditional job interview: the candidate entered the room, sat down, and proceeded to speak about his or her background and qualifications. In the corner of the room, however, sat a trained movement analyst, who—armed with an intricate notation system—ignored the candidate's words while carefully recording each of his or her unconscious bodily movements. These data were later compiled into a unique "movement profile." For Lamb, this profile was even better than a fingerprint: impossible to fake, indicative of a person's strengths and weaknesses, and predictive of future behavior. As an article in

Scope: Magazine for Industry reported in awe-filled tones in October of 1954, “Imagine, therefore, what it means to interview a man for a job—a workman for a machine, an executive for a desk, a salesman for the road—with all the superficialities stripped from him, and his true potentialities reveal through the revelations of his basic movements. A minimum of mistakes. An end to guesswork. But, most important of all, an end to boredom and frustration in industrialised man. The right man in the right job is a contended man, working to his best potential, his interest fully engaged.”¹⁸

For Lamb, movement consisted of two basic components: “shape” and “effort.” Shape referred to the architectural structure of a person’s movement—whether the majority of their motions occurred side-to-side (horizontal plane), up-and-down (vertical plane), or forward-and-back (sagittal plane). People, Lamb contended, usually shaped their movement predominantly in one direction. Someone with a tendency to move on a horizontal plane “often appears to ‘spread himself’. At the front of a queue, for example, he seems to take up a lot of space on each side, making it difficult for those behind to get a clear view. He tends to stick his elbows out on an escalator, poking those who want to get past him In shaking hands he moves his arm to the side in a circular approach, legs somewhat apart, almost as though pretending to be an aeroplane.”¹⁹ In contrast, an individual who favored the sagittal plane, “almost propels himself through the door and extends his hand straight-forward; he walks with knees and ankles close together and big strides, then gets himself into a position where he can move straight backwards into the chair, or draw the chair forwards towards him In conversation, he seems frequently

¹⁸ Olive Moore, “Man of the Month: Rudolf Laban.”

¹⁹ Warren Lamb and David Turner, *Management Behaviour* (New York: International Universities Press, Inc., 1969), 59.

to come straight at us, then retire away. He is the sort of person we may find ourselves backing away from.”²⁰

Effort, on the other hand, concerned the *way* in which these movements occurred. Lamb identified three basic axes on which effort could be evaluated: it could either be direct or indirect, involve increasing pressure or diminishing pressure, and be decelerating or accelerating. Again, Lamb argued that most people preferred certain types of efforts over others and that, moreover, certain effort types paired naturally with certain shapes.

Drawing on Laban’s earlier work as well of that of the women leading the new Effort/Shape division of the Dance Notation Bureau, Lamb developed a notation system for quickly recording these qualities in interview situations. Any time the interviewer noticed a significant movement, he would record its characteristics on the scales above with a few quick strokes of the pen. At the end of the process, these notes were averaged into a summary profile. Lamb performed most of the initial profiles himself, but he also began to train apprentice profilers, many of whom had backgrounds in dance in addition to business. The process was still slow, however. In 1956, for example, Lamb noted that “We have only one fully trained assessor and he has had to spend three years and more in training for this work, the main reason for this length of time being that one cannot accurately observe the movements and efforts of other people until one has learnt to discern that type of effort or movement in oneself.” In addition to observational training, the learning process required “constant practice in movement and effort,” work

²⁰ Ibid.

Lamb likened to “the reverse of dancing or acting, where the artist, by his movements, attempts to portray an inner feeling such as rage, happiness, love or one or other of the many emotions. That this is possible means that if you can observe accurately the movements of people they will correspond to their inner aptitudes and emotions.”²¹ Even a trained movement evaluator could not, of course, record every single movement an individual made during an interview, so Lamb urged his investigator to see their records as statistical samples, noting that “an adequate sample (somewhere between 200 to 400 phrases) can usually be obtained during a normal interview of an hour to an hour and a half duration.”

Once compiled, the evaluator produced a profile that linked an individual’s natural movement style with his or her personality and professional aptitudes. Those who favored the horizontal plane, for example, tended to be “investigators,” skilled in gathering information, but sometimes hesitant in decision-making. On the other hand, “deciders” favored the vertical plane and were ideal company leaders, as long as they remained supported by sufficiently contemplative team members. Each trait and combination of traits had a similarly distinctive profile, and Lamb held that these associations were based on statistical analyses of previously analyzed individuals. This methodology, of course, meant that WLA tended to recommend the appointment of individuals with movement traits that mirrored those already in power.

In the decades following World War II, corporations included IBM, Monsanto, Hewlett Packard, General Motors, Saatchi & Saatchi, and British Petroleum all engaged

²¹ Warren Lamb, “Letter to G.H. Ladhams,” December 20, 1950, Rudolf Laban Archive (L/E: 62: 1), Archives and Special Collections, University of Surrey.

WLA (later known as Action Profilers International) to perform movement analyses on their executives and middle-managers. In December of 1950, for example, five individuals applied for entry-level managerial jobs at Glaxo Laboratories, Ltd. in London. Excerpts from the firm's evaluations of their potential follow:

Candidate A: "Keeps himself 'in reserve' and possess an inner drive capable of being realized intensively Efficiency depends to some extent upon the significance to himself of the work he is doing. He exerts a powerful influence upon people without deliberately seeking to do so. Interest is more in dealing with people towards the completion of a job process than in correcting individuals' problems. Would be considerate without being obviously sympathetic; loyal to superiors and a sound leader of subordinates. Is intolerant of interference Might seek advise (during training) without intending to follow it."

Candidate D: "He shows great willingness both to succeed in his work and to please those for whom he works. He is observant without the power to follow up his observations and he lacks initiative. He possesses physical ability for technical precision work. Is exact and accurate. He has a benevolent interest in other people but lacks the power to know what he must do in managing them. Could not inspire leadership He must be considered unsuitable for selection."²²

Despite their detail, these assessments were made not on the basis of the applicants' employment histories, technical skills, or any anecdotes recounted during their interviews. They were wholly based on Lamb's evaluation of how the candidates moved—the way they entered a room, held themselves, or picked up a cigarette.

MPA enthusiasts asserted that it was immune to the kind of gaming that frequently characterized other aptitude tests. In Lamb's words, "If this seems an

²² Warren Lamb, "Glaxo Laboratories Personal Assessments," 1951, Rudolf Laban Archive (L/E: 62: 2), Archives and Special Collections, University of Surrey.

impossible claim, let us put it more simply: with a little thought and effort man can give (and does give) a completely false picture, both to the world and to himself. He can hide his thoughts behind words or charm; he can smile at his enemy; he can simulate enthusiasm, honesty and loyalty; a spurt of energy when necessary can cover a congenital vacillation; a show of strength when the boss is looking can successfully camouflage the weakling. There is only one thing which no man living can alter or hide—*his basic unconscious movements*.”²³ To select the correct answer on a multiple choice test was one thing; to actively conceal one’s natural movements for a period of two hours was something else entirely. In fact, Lamb asserted that even long-term training in Movement Profile Analysis would not affect an individual’s basic movement profile.

Moreover, Lamb argued that MPA could be used to undermine stereotypes, potentially enlarging the pool of candidates considered suitable for any given position. He recalled, for example, a case in which a managing director of a group of engineering companies rejected a candidate for an executive position, despite his qualifications, because he did not appear sufficiently forceful. The director, Lamb noted, “considered only big men, obviously robust-looking, and with rather loud voices” suitable for such positions. At Lamb’s urging, however, the candidate—“a small man who usually talked in a quiet voice”—was reconsidered and succeeded spectacularly.²⁴

After MPA assessments, promotions, demotions, and the reallocation of job responsibilities were common. One case study published in the late 1980s, for example, told the story of a “Mr. Y,” who was well-liked as a manager but whose division had

²³ Olive Moore, “Man of the Month: Rudolf Laban.”

²⁴ Warren Lamb and David Turner, *Management Behaviour*, 2.

recently failed to meet its production targets. An MPA was created which revealed a “poor fit” between his innate motivation to action and the requirements of his job.” As a result, “Mr. Y eventually was assigned a new position in which he served in an advisory capacity,” where “his technical expertise gained from natural motivation to explore and investigate was a valuable contribution to his company. Mr. Y performed in his new and more appropriate position with success.” One cannot definitely state that this represented a demotion, but Mr. Y does seem to have had some of his responsibilities removed. Moreover, though the case report reminds readers that “much of the burnout and conflict in the workplace result from the frustration of acting in ways that are contrary to our basic drives,” Mr. Y’s reaction to the process or to his feelings about either position are never mentioned.²⁵

Indeed, not all those subjected to MPA were enthusiastic. MPA practitioners obviously never sought to highlight employees’ dissatisfaction, but evidence of anxiety is detectable nonetheless. The system was widely in use as late as the 1980s, and, in 1989, Mike O’Farrell, a senior manager at Kodak in Rochester, New York was unhappy with the functioning of his team. He asked human resources to recommend someone who could help, and they suggested Anita Hall, a Lamb-trained Action Profiler with her own firm, Professional People Development. O’Farrell was initially skeptical, but he did allow Hall to create a test profile of a close colleague whose strengths and weaknesses O’Farrell felt he knew well. Impressed with how well Hall’s assessments accorded with his own, O’Farrell enlisted Hall to profile himself, the rest of his team, and eventually

²⁵ Nancy Murray, “Action Profile--Innate Motivation to Action in Decision-Making.”

several other divisions at Kodak. Despite O'Farrell's confidence, the reaction to the broader initiative, he reported, was initially "absolute horror": employees feared both the certainty of surveillance and the possibility of demotion.²⁶

Instructions for profilers in training, for example, reminded evaluators to "protect oneself from emotional distress coming from the client" and to immediately assess the interviewee's "willingness to have a profile done."²⁷ Pamela Ramsden, a movement profiler who later became Lamb's business partner, recalled once that "a manager told me how odd he had felt being interviewed in a strange room with a man and a video camera, knowing that in another room he was being scrutinized by a group of strangers."²⁸

Moreover, MPA's endorsement of particular physical behaviors in hiring and promotion quickly made them part of corporate culture, whether they served any actual business need or not. In 1985, a reviewer of Lamb's best-selling 1979 book, *Body Code: The Meaning of Movement*, derisively noted that the book's popularity had resulted in a "splurge of public displays of affection. Princess Diana actually kissed the Chairman of British Airways on a visit to Heathrow in April 1984. Maggie Thatcher and Ronald Reagan always begin Transatlantic negotiations with a publicized peck." As a result, "Times are hard for we non-tactile folk. We're accused of being psychologically warped if we don't rush up and slobber over a person we've met once before at a dinner party," the vogue for body language "chipping effectively away at part of our National Heritage:

²⁶ Michael Skapinker, "Making the Best of Many Moulds," *Financial Times*, February 8, 1989.

²⁷ Charlotte Honda, "Standards and Qualification Material, Action Profilers International," May 1, 1990, Warren Lamb Papers, Archives and Special Collections, University of Surrey.

²⁸ Pamela Ramsden, "The Development of Action Profiling," *Action News*, June 1983, Warren Lamb Papers, Archives and Special Collections, University of Surrey.

the great British Reserve.”²⁹ Despite—and, in fact, perhaps because of Lamb’s efforts—this reviewer, at least, saw body language as just one more venue for the performance of insincerity, manipulation, and power.

Women in the corporate hierarchy were particularly vulnerable to Action Profiling. Though there is evidence that Lamb recommended at least a few women for managerial positions, by the early 1980s, he had begun to assert that the genders were fundamentally different—and that those differences could be detected in their bodily movements. By this point in time, Lamb had introduced a third component to his analytical framework, “Flow,” and it was there he first found evidence for gender dimorphism. Men, he asserted, were more likely to utilize “binding” flow, while women were more likely to display “freeing” flow. To illustrate the difference, Lamb provided the following analogy: “Compare also how men and women trapeze artists move differently during their act, including their initial run up to the rope, or the difference in performance between male and female ballet dancers. What is perceived as ‘feminine’ is the graceful (Freeing) flow of women’s movement compared with the more athletic, controlled (Binding) movement of the man.”³⁰ For Lamb, however, these differences were not simply stylistic choices made within the context of a particular performance, but rather natural, universal gender disparities.

“Women,” he noted, generally “find it uncomfortable to be both strong and controlled,” whereas men exhibit the opposite tendency, a preference made manifest in

²⁹ Sara Barrett, “This Body Language Goes a Touch Too Far,” *Daily Mail*, April 1985, Warren Lamb Papers, Archives and Special Collections, University of Surrey.

³⁰ Eden Davies, *Beyond Dance: Laban’s Legacy of Movement Analysis* (London: Routledge, 2006), 121. Davies quotes Lamb at length, drawing both from his previous publications and interviews she conducted.

every area of daily life. From holding a baby to shaking hands to reaching for a cocktail, men and women were dissimilar. Even the tennis court came under scrutiny: “confronted with very Bound and Directed behavior either their own or that of someone else, [women] will often dissolve into giggles. In a friendly women’s tennis match if the players find themselves all at the net in a long volleying rally it will often break down in shrieks of laughter. It is as if they are not willing to tolerate the pressure except for a short time. Men on the other hand find volleying a natural even preferable way to play.”³¹

Lamb asserted that these gendered differences in movement naturally corresponded to gendered differences in professional aptitudes and roles. Men, for example, were more assertive than women because their preference for “binding flow” meant that “a man’s investigative skills will not be curbed by sensitivities as those of a woman would tend to be, and a punch will be delivered at full force.” On the other hand, women’s preference for combining Freeing Flow with Directing Efforts was “useful for teachers or group leaders to use to bring a group of people together It is the ideal formula for a heart-to-heart, such as women are good at, completely relaxed but eager for detail! All-women meetings can be extremely successful for the same reason. They can deal efficiently with the business without the need for any of the protocol or ceremony necessary to their male counterparts. When a woman tries to chat to a man in the same way she will be less successful.”³²

Lamb promoted his theories on gender as a unique contribution to “a time when there is a lot of talk about equality.”³³ Rejecting those “militant feminists” who suggested

³¹ Ibid.

³² Ibid, 125.

³³ Ibid, 117.

that women and men were fundamentally alike, he asserted that “in a number of areas because of their differing movement patterns, men will be more naturally talented than women, and in an equal number of areas women will outshine men. This is something to be appreciated not denied. There are also areas where they are equally talented, but they would find different routes to achieve the same end. In showing leadership, for example, a woman does better to be inspirational rather than assertive, whereas a man can be assertive about particular goals. To try to emulate each other in such behavior is not a solution. It denies their natural talents.”³⁴

Discussions like these may go a long way toward explaining the peculiar physicality of both women and men in the mid-twentieth century—a certain consciously constructed quality that seems evident in hindsight, but is nonetheless difficult to define. In *The Organization Man*, William Whyte decried the trend toward workplace testing, but—given its seeming ubiquity and permanence—advised prospective employees to cheat the evaluations as best they could: “Scoff as the unbeliever may, if he has ambitions of getting ahead he would do well to develop, or simulate, the master personality matrix the tests best fit.”³⁵ Despite Lamb’s protestations, it is likely that many of the individuals he evaluated—and even those who simply learned of his theories and techniques—did just that. Instructed that, “A woman can never be ‘more like a man’—without, like Queen Hatshepsut, looking rather strange,” it is no wonder that female workers may have sought to physically project feminine flow, refined gestures, and open posture.³⁶ Men, on the

³⁴ Ibid.

³⁵ William H. Whyte, Jr., *The Organization Man*, 171.

³⁶ Eden Davies, *Beyond Dance: Laban’s Legacy of Movement Analysis*, 129. Lamb’s efforts in the arena can productively be read as the construction and reification of a disciplinary regime for

other hand, learned that true leaders' movements were powerful, bound, and accelerating. By the late 1960s, the consulting services Lamb provided included not just assessments of current and prospective employees, but personal training sessions for executives, many of which included movement components.³⁷ He sold just not the test, but instructions on how to beat it.

In *A Cultural History of Gesture*, Keith Thomas suggests that gesture has “always been an important ingredient in social differentiation,”³⁸ and that is certainly the case here. At a historical moment in which the workforce was expanding and industry was rapidly becoming postindustrial, corporate managers supplemented older systems of evaluation and control with new regimes of testing and learning. Through the efforts of Warren Lamb and his disciples—who, by the mid-1980s, numbered in the dozens and had profitable consultancies not only in Great Britain and the United States, but also in South Africa, Denmark, France, and Finland—bodily movement became another component of assessment. As a result, learning how to move became just as crucial to workplace success as the mastery of any particular trade, skill, or industry.

Conclusion: Performing Work in the Mid-Twentieth Century

In 2001, movement analyst Eden Davies noted that Lamb's work fortuitously emerged at a moment in which institutions had increasingly come under the sway of all-

gender performance. Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* (New York: Routledge, 1990).

³⁷ I am in the process of accessing a new set of documents that may shed additional light on these training sessions.

³⁸ Jan Bremmer and Herman Roodenburg, eds., *A Cultural History of Gesture* (Ithaca, New York: Cornell University Press, 1991), 7.

powerful testing regimes. IQ tests, personality profiles, and standardized academic tests served “to condemn to a sense of failure many talented people because they did not jump through the pseudo-academic hoops at the required time.” The prospects “for Western Civilisation,” she continued, were “frightening if the people rewarded with power are those highly skilled at passing examinations and scoring in tests, abilities which could probably be programmed into a computer.”³⁹ In response, Lamb and his protégés professed a desire to use movement profiling to construct a more harmonious, equitable world, one in which a charming con man could not swindle a job from a deserving worker and in which embodied skills that were not easily testable were nonetheless valued.

The test was also promoted as less intrusive than its counterparts. Unlike life histories, personality inventories, or psychological examinations, MPA required no “impertinent and upsetting questioning to bare [an employee’s] soul and reveal their anxieties.” Instead, the candidates’ “true strengths and weaknesses will be evidenced from their movement without the reason for them being discussed.”⁴⁰ In theory, this process allowed corporations to make hiring and promotion decisions based on employees’ private hopes, fears, and aptitudes, while simultaneously affording these same individuals their discretion and dignity. Moreover—just as in Laban’s original shop-floor management scheme—Lamb believed that movement profiling could reduce conflict between the individual and the organization. The harried, downtrodden man in

³⁹ Eden Davies, *Beyond Dance: Laban’s Legacy of Movement Analysis*, 56.

⁴⁰ *Ibid.*

the gray flannel suit would be no more, replaced by a sea of content, effective administrators, perfectly suited to their positions and perfectly devoted to the corporation.

In historical perspective, however, Movement Profile Analysis seems significantly less utopian. Contrary to its creator's claims, many employees suggested that MPA made them feel constantly surveilled. And, in fact, they were. One of MPA's greatest selling points was that no one—no matter how hard he or she tried—could opt out of the screening. As Lamb himself boasted in an interview, "So long as you move at all—and it is impossible not to—you cannot help revealing yourself." In fact, he suggested that substantial number of evaluations had been performed without the knowledge of the candidates involved: "Men are now successfully fulfilling top grade positions without realizing they owe their jobs to the fact that their aptitudes were objectively assessed."⁴¹

Moreover, Lamb's vision of MPA as a technology for creating organizations without discontent embodies some of the more insidious aspects of the mid-century corporation. As Whyte put it, white-collar life during this period was characterized by the "soft-minded denial that there is a conflict between the individual and society."⁴² By claiming that MPA could match an individual with a position that suited not only his or her acquired skills and aptitudes, but also the basic, natural rhythms of his or her body, Lamb participated in the construction of this mythology.⁴³ Just as Laban did in the

⁴¹ Warren Lamb, "Your Movements Are Revealing," N.D., Warren Lamb Papers, Archives and Special Collections, University of Surrey.

⁴² William H. Whyte, Jr., *The Organization Man*, 13.

⁴³ As the work of Rakesh Khurana suggests, the ultimate endpoint of this kind of thinking may be the rise of myth of the "corporate savior," a tendency to hire CEOs not because of industry-specific experience, but rather because of an imagined inherent skill in "management" writ large.

factories of WWII, Laban suggested that the dictates of effective production were also necessarily those of personal satisfaction.

This conflation of the individual and the corporate, sociologists Luc Boltanski and Eve Chiapello contend, is a key component of the “new spirit” of neoliberal capitalism. While early 20th century managers justified their work in terms of its contributions to society, by the 1970s, this vision had been overtaken by an ideology that promoted managerial work as intrinsically, personally meaningful.⁴⁴ In a 2002 book, business scholar Rakesh Khurana echoed Boltanski and Chiapello’s conclusions, noting “over the last twenty years, business has been elevated in American society into an activity transcending the profane task of making money.” Instead, corporate leaders portray their work as moral and fulfilling, while business schools instruct students that “they need to be ‘passionate’ and ‘ecstatic’ about their jobs.”⁴⁵ Such calls-to-arms, while particularly ubiquitous in the past three decades, may owe at least some of their power to the kinds of thinking Lamb and his associates promoted beginning in the 1950s. In Lamb’s world, managerial skill was embedded in a person’s very cells. Professional acumen, therefore, could be neither taught nor learned, and any workplace unhappiness or inequality could be laid at the feet of a simple mismatch in “fit.”

Learning how to evaluate movement, therefore, represented one aspect of a larger cultural and economic system geared toward the efficient management of large

Rakesh Khurana, *Searching for a Corporate Savior: The Irrational Quest for Charismatic CEOs* (Princeton, NJ: Princeton University Press, 2002).

⁴⁴ Luc Boltanski and Eve Chiapello, *The New Spirit of Capitalism*, trans. Gregory Elliott (New York: Verso, 2005).

⁴⁵ Rakesh Khurana, *Searching for a Corporate Savior: The Irrational Quest for Charismatic CEOs*, 69.

organizations. And, in fact, Lamb suggested that the insights of MPA could also be profitably applied to society at large. In a 1991 international meeting of movement analysis, for example, he suggested that “awareness of movement will soon become an essential part of what it takes to be an educated person . . . For children to grow up intellectually brilliant but obtuse in the way in which they move their bodies will be regarded with as much disdain or compassion as illiteracy is currently viewed.”⁴⁶ In at least some sectors of American and European society, this prediction did come to pass. Though few today are aware of the reach of MPA, Lamb continued practicing until his shortly before his death in January of 2014, and several dozen of his former trainees and associates successfully offer movement evaluations to corporations both large and small. Even now, bureaucrats cannot escape their bodies.

⁴⁶ Warren Lamb, “Statement to All API Practicioners,” January 1991, Warren Lamb Papers, Archives and Special Collections, University of Surrey.

MOVING ON: DANCE THERAPY AND PSYCHOLOGICAL TRAUMA

On a Friday afternoon in October of 1952, two “dancing teachers” entered the dayroom of the closed ward of a private psychiatric hospital in Glen Oaks, New York. As Elizabeth Rosen and Roxanne Offner pushed the television set and piano against the wall and folded the Ping-Pong table, they observed the “apathetic” mood pervading the space. A few patients watched television, others, looking ill, huddled in blankets on a couch. Still others stared into space, “apparently doing nothing.” There was, Rosen recalled, “no talking among the patients, and little interest was shown by the appearance of the ‘dancing ladies,’ whose wide-flowing, brightly colored skirts and bare feet may have seemed startlingly frivolous in that drear setting.”¹

Though they received “no sign of greeting or recognition” from those in the room, Rosen and Offner persisted in their plan, filling the room with the sounds of a lively, rhythmic waltz. Initially, there was no change, but “as the music continued its insistent lilting beat,” Rosen noted that “several patients who had seemed completely detached and uninterested had begun to tap the rhythm gently with their feet and were gradually letting it flow through their bodies. Eyes turned to follow the movement on the floor. The hands of the teachers, stretched out invitingly to be held or to give support, were grasped tightly, and here and there individual patients ventured onto the floor.” The patients seemed halting and awkward at first, but they slowly gained surety as they were led into rhythmic movements in pairs, then in threes and in fours, until ultimately all joined in

¹ Elizabeth Rosen, *Dance in Psychotherapy* (New York: Teachers College, Columbia University, 1957).

single, unified circle. Within a quarter of an hour, the “whole room was alive with the vigorous swinging of their bodies,” and even the patients skeptically watching from the sidelines “tentatively imitated the movements, stretching out their legs and swaying in their chairs.”²

Rosen and Offer were dance therapists, and the hospitals they worked in represented the mirror image of Warren Lamb’s Cold War corporate citadels. For Lamb, the men who drove postwar society were methodical, plainspoken, and vigorous. They donned their suits, did their part, and returned home at the end of each day to serve as contended pillars of community and family. In the periphery of these blissful scenes, however, stood other kinds of men and women: war veterans, the mentally ill, and those who were simply unable to integrate into the conventional social life of post-war America. For every triumphal tale of suburban satisfaction, there was a story of anxiety, isolation, and emotional turbulence. For every successful corporate executive, there was an ex-serviceman wracked by nightmares, flashbacks, and bursts of anger. These worlds may have seemed distinct, but they were in fact constructed in relation to one another.³

Indeed, in more cases than many were comfortable admitting, these seemingly disparate personas co-existed uneasily in the same individual. Tom Rath was not just the man in a grey flannel suit, but an ex-Army paratrooper who was tormented by memories—of seventeen felled enemy soldiers, of his culpability in the accidental death of his best friend, of an abandoned child in Italy.⁴ And he was not alone. During the 1942

² Ibid.

³ On postwar American anxieties see, for example: Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York: Basic Books, 1998).

⁴ Sloan Wilson, *The Man in the Gray Flannel Suit*.

U.S. campaign at Guadalcanal, 40 percent of evacuated casualties were psychiatric in nature, and rates could rise as high as 75 percent when soldiers faced intensive, long-term combat.⁵ In fact, some of the worry about finding men suited for the corporation may have stemmed from fears that returning veterans would be able to hide their emotional war wounds until it was too late.

Similar historical currents thus shaped the lives of both the company man and the institutionalized patient. Their experiences, however, had more in common than the post-war milieu. Just as Warren Lamb scrutinized the bodies of middle-managers for evidence of their personalities, motivations, and devotion to the group, a new group of psychological experts saw the moving bodies of the mentally ill as a potential source of both diagnosis and cure. Using the same Laban-derived techniques implemented in the corporate world—and many of the same personnel—dance and movement therapists sought to communicate with, treat, and reintegrate the individuals under their care.⁶ They hoped that by remaking the body, they might remake both the self and the social world.

Dance therapists shared Laban's belief in the connection between certain types of bodily moment and a person's well-being; many used Labanotation in their therapeutic practice, applying an information technology with military origins to the problem of war-damaged psyches. Like Warren Lamb, they saw in this seemingly rigid system of notation the key to personal satisfaction for individuals overwhelmed, not by the dog-eat-dog corporate world, but the trauma of war and the organic turbulence of patients' own

⁵ Herman, Ellen, *The Romance of American Psychology: Political Culture in the Age of Experts, 1940-1970* (Berkeley: University of California Press, 1995).

⁶ The practitioners whose careers this history covers often referred to “dance therapy” and “movement therapy” interchangeably, and I will follow this practice throughout the chapter.

minds. Ironically, many of the practitioners of this therapy were themselves scarred by the War: Jewish refugees from formerly Nazi-occupied Europe or American Jews living in the shadow of a conflict that had threatened to erase them from history.

While Lamb emphasized the authority of his movement profiles and the examiners charged with creating them, dance therapists operated in a professional world with fewer expectations of certainty in diagnosis or treatment.⁷ As a result, they were more candid in recognizing the contingent nature of their prescriptions and the lack of basic knowledge of movement's role in fostering mental health. At times, the lack of coherence of their approaches—individually and as a group—threatened to undermine their therapeutic practices. And while they operated in a protected space free from the strictures of the corporate world, dance therapists still found themselves polarized over their relative emphasis on free expression versus emotional control. While some encouraged their patients' emotional expansiveness, others, echoing the concerns of corporate consultants, saw self-regulation and emotional restraint as the ultimate goals, making some psychiatric hospitals more like the corporations that were driving

⁷ Disagreement about the mechanism and efficacy of various kinds of therapies was also more broadly characteristic of psychiatry and psychotherapy during this period. As psychiatrist Israel Zwerling noted, "As soon as we offer to explain what we do, we therapists, who up to that point have been marching side by side, eschew our solidarity and break up into almost countless clusters under separate banners (neurobiologic, behavioral, psychodynamic, family systems, and so on), and within each cluster into numerous files (for example, the family systems cluster has its structural, analytic, multigenerational, and other files). Each cluster and each file has an adversary relationship to all others. We are generally polite, and we therefore generally agree, verbally, that we would better spend our time searching for commonalities and for articulations between systems levels...But for the most part, we carp at one another's therapies as too shallow, or too impractical, or as unproven or empirical or mystical or whatever." Israel Zwerling, "The Creative Arts Therapies as 'Real Therapies,'" *American Journal of Dance Therapy* (reprinted from *Hospital and Community Psychiatry*, 1979) 11, no. 1 (1989): 23. For psychiatry's early history, see: Elizabeth Lunbeck, *The Psychiatric Persuasion: Knowledge, Gender, and Power in Modern America* (Princeton, NJ: Princeton University Press, 1996).

Americans insane.

Scholars like Ellen Herman, Nikolas Rose, Gerald Grob, Jonathan Metzl, and Deborah Weinstein have chronicled the development of psychiatric and psychological expertise in post-war period, drawing special attention to the prevalent belief that the easiest path to a healthy society was the modification of individual psychology.⁸ In many ways, the emergence of dance and movement therapy was also a response to the same concern about cultural health, an attempt to erase the physical residue of trauma in the service of societal harmony.⁹ As such, dance therapists were direct heirs to Laban's own vision of movement's transformative potential. These individuals, however, confronted a country far different from the one in which Laban worked, and thus adapted his techniques to fit a far different image of the ideal society. Nevertheless, as this chapter will demonstrate, artifacts of Laban's devotion to surveillance and control were difficult to shake completely.

Laban in the Hospital: Theory and Practice

One of the key figures promoting Laban's ideas within the American dance therapy community was German émigré Irmgard Bartenieff. An early member of the Dance Notation Bureau, Bartenieff was born in Berlin in 1900 and spent two years

⁸ Ellen Herman, *The Romance of American Psychology: Political Culture in the Age of Experts, 1940-1970*; Nikolas Rose, *Governing the Soul: The Shaping of the Private Self* (London: Free Association Books, 1999); Gerald N. Grob, *From Asylum to Community: Mental Health Policy in Modern America* (Princeton, NJ: Princeton University Press, 1991); Jonathan M. Metzl, *The Protest Psychosis: How Schizophrenia Became a Black Disease* (Boston: Beacon Press, 2009); Weinstein, Deborah, *The Pathological Family: Postwar America and the Rise of Family Therapy* (Ithaca: Cornell University Press, 2013).

⁹ Movement therapists also sought to capitalize on what they saw as their unique ability to access both body *and* mind, mediating between biological and cultural views of mental illness.

training directly under Laban in her mid-twenties. She had a brief, but successful, career as a performer and choreographer in Germany, but left the country in 1936 with her Russian-Jewish husband, Michail. The two arrived in New York on visitors' visas in 1936 and their children followed in 1939, booking passage on the last ship to depart before the war began.

Once in the United States, Bartenieff continued to teach dance and notation, but also developed an interest in physical therapy, enrolling in the inaugural program in Physical Therapy and Physical Rehabilitation at New York University in 1943. Her clinical work was completed with Dr. George Deaver at Bellevue and she eventually found employment at New York City's Willard Parker Hospital. There, Bartenieff spent seven years working with polio patients and experimented with combining standard physical therapy practices with techniques derived from Laban's movement theories.¹⁰ After Willard Parker, Bartenieff took a position as the therapeutic program coordinator at Blythedale Children's Hospital in Valhalla, New York, before returning to New York City to work independently in 1954.

It was at Blythedale, Bartenieff recalled, that she first became fully aware of the role of expressive movement in rehabilitation, noting that the children under her care frequently experienced negative emotional consequences from the experience of

¹⁰ Irmgard Bartenieff, *Body Movement: Coping with the Environment* (New York: Gordon and Breach, Science Publishers, Inc., 1980). In particular, Bartenieff was interested in promoting ideas about the body as a functional whole, rather than a collection of isolated parts; she used Laban's ideas about space and bodily harmony to undergird her efforts. Physical therapy was also changing more broadly during this period, including a new emphasis on actively involving patients in their recovery and rehabilitation. Sister Kenny's work mobilizing polio patients was also a significant influence on Bartenieff. See: Naomi Rogers, *Polio Wars: Sister Kenny and the Golden Age of American Medicine* (New York: Oxford University Press, 2013).

hospitalization itself. In addition to suffering from a wide array of physical maladies, the children were “listless” and “regressed,” “frustrated” by their removal from the cadences of everyday life. In coordination with an art therapist, a psychiatrist, and multiple social workers, Bartenieff sought to disrupt these negative patterns, discovering through her own work that true rehabilitation was “not always just a matter of teaching them body mechanics. There is a definite need for rhythmic and expressive movements.”¹¹ Her task, she wrote, was to “find ways of keeping alive the movement impulse—the root of all development of a thinking, feeling, acting human being” in a hospital climate characterized by “stasis and regression.”¹²

Upon her return to New York City, therefore, Bartenieff renewed her association with the Dance Notation Bureau, where she began teaching courses in Effort/Shape, the simplified notation technique developed by Laban and Lamb for use in business settings. In 1965, with Martha Davis and Forrestine Paulay, she founded a division of the DNB devoted solely to Effort/Shape analysis, which, in 1978, evolved into the separate Laban Institute of Movement Study (LIMS). “What became increasingly apparent,” Bartenieff noted, “was the value of the inherent structure of dance as a regulating power that could free the patient to express feelings, build relationships, and change attitudes toward living.”¹³ Like Laban and Lamb, Bartenieff believed that movement offered not only diagnostic data about the individual, but also a mechanism for controlling personality.

¹¹ Claire Schmais and Elissa Q. White, “An Interview with Irmgard Bartenieff,” *American Journal of Dance Therapy* 4, no. 1 (1981): 18.

¹² Bartenieff, *Body Movement: Coping with the Environment*, 9.

¹³ *Ibid.*, 10.

Bartenieff also began a collaboration with Dr. Israel Zwerling, the director of the division of social and community psychiatry at the Albert Einstein School of Medicine at Yeshiva University and of the Bronx Psychiatric Center.¹⁴ A founding member of the American Family Therapy Association, Zwerling was a staunch advocate of community-based alternatives to hospitalization and sought to create therapeutic atmospheres relatively “free of constraint or coercion.”¹⁵ Zwerling’s openness to the creative arts therapies—dance, music, and art—also ran deep and persisted throughout his career; in 1979, he published an article in *Hospital and Community Psychiatry* lambasting those who did not consider movement, art, or music therapies to be “real” treatments.¹⁶

In addition to providing favorable comparisons to the heartless pill dispensers and custodial “care” by untrained medical professionals, Zwerling noted that “there is a visible or audible or tangible link to society in a session involving a creative arts therapist and a patient, and it has a qualitatively more immediate, more real presence than does the person or the thing a patient may talk about.” A “body image problem verbalized,” he continued, “is just not the same as a body image problem lived out in movement.”¹⁷ The creative arts therapies “evoke responses, precisely at the level at which psychotherapists seek to engage the patients, more directly and more immediately than do any of the more traditional verbal therapies.”¹⁸ For Zwerling, divining the precise reasons such techniques worked was unimportant; the effects themselves were reasons enough to continue

¹⁴ C.C. Beels, “Israel Zwerling: Lessons from a Career,” *New Directions for Mental Health Services* 42 (1989): 3–8.

¹⁵ Ronald Sullivan, “Israel Zwerling, 76; Helped Alter Care for the Mentally Ill,” *New York Times*, November 16, 1993.

¹⁶ Zwerling, “The Creative Arts Therapies as ‘Real Therapies.’”

¹⁷ *Ibid*, 25.

¹⁸ *Ibid*, 23.

practicing.¹⁹ He was particularly impressed with Bartenieff's mastery of Laban's notational system; as she wrote, he was taken by the fact that that the Laban vocabulary could "describe many aspects of non-verbal behavior in its own 'movement' terms," thus providing an potential methodology for research as well as a way of avoiding the use of contentious "psychiatric jargon."²⁰

In many ways, Bartenieff's scholarly output reflected this preference for practice over theory. Though she is considered one of the most significant figures in American movement therapy—the American Dance Therapy Association dedicated its annual meeting to her in 1975—she published almost no accounts of her work and did not retain archival records.²¹ The main published source for understanding her thinking is a retrospective account *Body Movement: Coping with the Environment*, published with the assistance of Dori Lewis in 1980.²²

What is clear, however, is that Bartenieff understood the body as key to mental health and "Labananalysis" as key to understanding the body. There was, she wrote, "really no such thing as pure 'physical' therapy or pure 'mental' therapy. They are continuously interrelated."²³ As such, she encouraged all her students to obtain basic

¹⁹ This sentiment is echoed by a student of Bartenieff in a dissertation published in 1992. She notes that while working further training in "Bartenieff Fundamentals," she "began to realize that I was operating on the basis of what I learned, as any student might. However, I had no proof, apart from my own and others' experience and observations, that Fundamentals worked. Neither did my searches produce a complete description of this material." Dianne Leah Woodruff, "Bartenieff Fundamentals: A Somatic Approach" (The Union Institute, 1992).

²⁰ Bartenieff, *Body Movement: Coping with the Environment*, 9.

²¹ The program recognized her for her leadership in profession and her "extensive training in dance forms and her knowledge of the work of Rudolf Laban." "Program, American Dance Therapy Association," 1975, New York Public Library for the Performing Arts.

²² Bartenieff, *Body Movement: Coping with the Environment*.

²³ *Ibid*, 3.

training in both anatomy and psychology. She also argued that Labananalysis could provide a vocabulary to bind the diverse emerging world of movement therapy together, noting that “Labananalysis provides a means of perceiving and a vocabulary for describing movement—quantitatively and qualitatively—that is applicable to any body movement research even when there may be differences in interpretation of function and communication.”²⁴

At Albert Einstein, Bartenieff began integrating her movement expertise throughout the hospital. When patients were admitted, Bartenieff and Zwerling would frequently observe their movements from behind a one-way mirror or screen as part of an initial evaluation. Bartenieff, for example, recounted an incident in which a new patient joined a group movement therapy session. From behind a barrier with the sound turned off, Bartenieff and other staff members watched the woman’s progress, noting that she initially appeared “more lively and dynamic than most newcomers to a group.” Relatively quickly, however, Bartenieff began to observe a “peculiar” and “repetitive” patterns in the phrasing of the patient’s movement, causing her to suspect the patient was suicidal. When the sound system was turned back on, Bartenieff’s insight was confirmed: the patient was in the midst of telling the group that she wanted to poison herself.²⁵ In other cases, the insights gleaned from Bartenieff’s movement analysis would purportedly never have been arrived at through verbal examination alone. She frequently, for example, observed the family therapy sessions led by Zwerling, taking notes on the movement behavior of all participants and using them to provide insights on familial dynamics that

²⁴ Ibid, viii.

²⁵ Ibid, 154.

often contrasted with the patients' own accounts.²⁶ Bartenieff also developed movement profiles for various psychiatric states. She noted, for example, that a depressed person's use of space tended to be characterized by an "extremely limited kinesphere," while a schizophrenic's spatial engagement would be "extremely disorganized."²⁷

Bartenieff's aims, however, went far beyond diagnosis: her true passion was the therapeutic use of movement, in both individual and group settings. In *Body Movement*, for example, she tells the story of a woman named Rachel, "a secretary in her fifties," who was deeply unhappy: "Everything in her life was mechanical: the running of the household she kept with an unloved husband, buying the pretty clothes she felt she needed mainly for appearance's sake in the offices she worked in. There were no other interests she shared with her husband and friends. In the first session she expressed some of the disgust with her life, her husband and, foremost, with her typing jobs."²⁸

Bartenieff noted that Rachel had never exercised, seeing it solely as a method for weight control and improved posture; "the idea of having pleasure through movement, being animated into liveliness, was completely closed to her."²⁹ Bartenieff thus began to engage Rachel in basic exploratory movements, often performed on the floor. Initially, Rachel was resistant. She complained constantly about the lack of immediate results and worried that she was performing the movements incorrectly. In time, however, she opened up:

²⁶ Ibid, 14. On the use of one-way mirrors during this period, see: Weinstein, Deborah, *The Pathological Family: Postwar America and the Rise of Family Therapy*.

²⁷ Bartenieff, *Body Movement*, 158.

²⁸ Bartenieff, *Body Movement: Coping with the Environment*, 153.

²⁹ Ibid.

Exposed to many variations of ‘feeling’ her body, her body weight, rolling around on the floor, changing her ‘size,’ lengthening and shortening, widening and narrowing, she slowly evolved sensations: Relaxation that made her burst into tears, ‘feeling so strange’ or talking about her sad, empty life. Her demand for explanations gradually was replaced by feeling ‘energized’ by moving. She discovered swinging the arms-shoulders in space and began to enjoy figure 8 and other spatial forms, introducing discernment of large and small reach space.³⁰

Rachel returned for many sessions and Bartenieff reported that she ultimately “made changes in her personal life, finding resources of enjoyment and new relationships to people.” By re-establishing Rachel’s connection to her body and to physical space, Bartenieff believed she had simultaneously re-invigorated her connection to the world.

Rachel’s complaint was a generalized ennui, but movement therapists also sought to treat more specific maladies. Sometimes, Bartenieff noted, “traumatic, shocking experiences are stored as fixed isolated gestures or symbolic representations of an experience. Dance therapy can sometimes release these fixations and, sometimes, in conjunction with verbal therapy, expose and help to dissipate their cause.”³¹ In one case, Bartenieff treated a woman who constantly, compulsively turned her head back and forth. Using Effort/Shape analysis, Bartenieff suggested that the gesture might be the result of a past experience of “sudden terror,” and prompted the treating psychiatrist to inquire further. After additional verbal and movement therapy, the patient revealed that her father had frequently violently attacked her mother. “As the patient was encouraged to make the verbal and physical association, the ‘tic’ gradually disappeared.”³² Fundamentally,

³⁰ Ibid.

³¹ Ibid, 149.

³² Ibid.

Bartenieff argued that the dance therapist can “help patients experience subtle changes in their body movements and understand the psychological implications of them.”³³

Bartenieff, of course, was not the only practitioner of movement-based therapy during the post-war years. When Elizabeth Rosen published an account of her dance therapy work in 1957, she called the book an account of a “pioneering attempt to use dance as one of the psychotherapeutic means in the treatment of severely sick, or psychotic, patients.”³⁴ Though she acknowledged that hers was not the first dance therapy program, she noted that few serious, clinical studies of the practice currently existed. There had, she argued, been much new activity in the field, but “little recording of clinical experiences.”³⁵

In the main, Rosen was correct. Serious attempts to integrate dance therapy into hospital life had been ongoing since World War II; a 1956 study reported that a minimum of 27 programs were then in operation nationally.³⁶ The years between 1951 and 1956 saw a particular surge in movement therapy in both state mental hospitals and private institutions, as the practice made its way to almost every region of the United States. Dance therapists worked not just in Queens, Riverdale, and Manhattan, but in Tuscaloosa, Alabama, Milledgeville, Georgia, Topeka, Kansas, Kalamazoo, Michigan, Bangor, Maine, and Provo, Utah. Dance, the study reported, was “seen as useful in many

³³ Ibid, viii.

³⁴ Elizabeth Rosen, *Dance in Psychotherapy*.

³⁵ Ibid, 4.

³⁶ Dorothy Zegart, “Dance Groups for Psychotic Patients: A Survey Study” (Smith College School of Social Work, 1956). In total, 55 hospitals responded to Zegart’s study, meaning that approximately 50% of respondents had dance therapy programs. Zegart acknowledged that her sample was not intended to be representative, but it nonetheless indicates the growing prevalence of movement therapy.

ways: as a communicative bridge for non-verbal regressed withdrawn patients; as a healthy and pleasurable rehabilitative technique; as a cathartic experience; and as a sublimated, creative expressive for primitive feelings.”³⁷

The constituencies movement therapists served were similarly broad—from autistic children to schizophrenic adults to the intellectually disabled to impoverished minorities from the city—and early views of movement therapy’s purpose were similarly encompassing. Initially, many casual observers of dance therapy saw it as little more than a form of pleasurable recreation patients might use to blow off steam, akin to the programs in sports, crafts, and recreational music that were increasingly infiltrating mental hospitals in the post-war years. As psychiatry shifted its emphasis from providing custodial care for the chronically ill to delivering preventative and rehabilitative services to a broader patient population, however, new forms of treatment flourished, and dance therapy was one of them.³⁸ As one observer noted in 1956, there had been a “a surge of experimentation in the field of recreation, physical and occupational therapy, group work, and other media adjunctive to formal psychiatric treatment including the use of the art forms of music, art, drama, and dance.”³⁹

What ultimately distinguished dance therapy from related programs in art or music, however, was its practitioners’ fervent belief in the direct, reciprocal connections between movement and mind.⁴⁰ As a 1974 publication summarized, “Dance therapy is a

³⁷ Ibid, iii.

³⁸ See: Gerald N. Grob, *From Asylum to Community: Mental Health Policy in Modern America*. There may also be a relationship between the postwar increase in the patient population and the openness to new therapies that could be performed in large groups.

³⁹ Dorothy Zegart, “Dance Groups for Psychotic Patients: A Survey Study,” 4.

⁴⁰ The popularity of this view was in part due to the new status of modern dance. As Claire Schmais suggested in 1974, by breaking away from the strictures of ballet technique, modern

form of psychotherapy in which the therapist utilizes movement interaction as the primary means for accomplishing therapeutic goals. The dance therapist extrapolates those ingredients from dance that enable the patient to move towards healthier functioning. Movement is the medium of dance therapy just as words are the medium of verbal therapy. The therapist and patient engage in a movement dialogue creating a new dance—a dance of health.”⁴¹

Not all practitioners derived their thinking directly from Laban, though many had at least tangential connections or had read his books.⁴² It is difficult to underestimate, however, the importance Laban had as a symbolic founding figure. Few therapists did not make at least oblique reference to his work, and all saw him as an important cultural force in promoting the idea that body and mind were deeply intertwined.

Moreover, Laban—and thus Bartenieff—emerged as key figures in part because notation seemed as if it might hold the key to knitting together a field that frequently seemed hopelessly diverse, often practiced by those with no training other than a background in dance performance. Even as late as 1968, precisely *what dance therapy*

dancers were “able to give primacy to the emotional content and begin a creative search for new ways of communicating... The greater range of expressiveness and focus on total personal experience nurtured a new definition of dance, one that laid the ground work for its use in therapy.” Schmais also drew a clear line between Laban and current movement therapists via Laban’s modern dance protégé, Mary Wigman. Wigman, she writes, “exemplified this new view. She studied dynamics and space with Laban and eurhythmics with Dalcroze. In her teaching she stressed the use of the body as an expressive instrument and focused on the need to return to one’s own emotional experience in order to recreate the material of dance... It is no accident then, that many of the leading dance therapists learned the art of dance from Wigman and her followers.” Claire Schmais, “Dance Therapy in Perspective,” in *Dance Therapy*, ed. Kathleen Criddle Mason, Focus on Dance (Washington, D.C.: American Association for Health, Physical Education, and Recreation, 1974), 8.

⁴¹ Ibid, 7.

⁴² Marian Chase, the famous dance therapist at St. Elizabeth’s Hospital in Washington, D.C., , for example, had worked with Mary Wigman but developed a therapeutic approach derived mostly from her own intuition.

was remained hazy. In October of that year, the Committee on Research in Dance, the relatively recently formed American Dance Therapy Association, and the Research Department of the Postgraduate Center for Mental Health held a joint workshop in New York City.⁴³ As one speaker noted, the questions still open to discussion included the following:

What are the factors which distinguish dance therapy from other kinds of therapy which also involve the body? – Does the utilization of a movement vocabulary stemming from a particular cultural source close-out patients whose background is different? – By what means is it possible to identify the effective therapeutic factors in a dance therapy session or sessions? – Has dance therapy reached the stage of development where its therapists can agree on a specific vocabulary to define movement, especially since a viable one is already available and in use?⁴⁴

That “viable” language of movement was, of course, derived from Labanotation. As movement therapist Claire Schmais put it in retrospective account of the field, Laban’s system of observing and recording movement not only helped therapists developed their observational acumen and “choose the movement sequences most effective in achieving treatment goals,” it also allowed them “to make diagnostic evaluations in movement terms and to speak about patient behavior without resorting to the jargon of other disciplines.”⁴⁵ She continued by noting that “since effort-shape deals

⁴³ The Postgraduate Center for Mental Health was founded in 1945 by Dr. Lewis Wolberg as a small clinic intended to treat veterans returning from World War II. Wolberg was trained in psychoanalysis—though he was open to other forms of treatment—and the PCMH also served as a training ground for social workers and psychologists interested in psychoanalysis.

⁴⁴ Bonnie Bird, “The Workshop on Dance Therapy: Its Research Potentials,” *CORD News* 1, no. 1 (1969): 8–9.

⁴⁵ Claire Schmais, “Dance Therapy in Perspective.”

with the process of movement and employs consistent and scientific principles,” it could be used to develop an independent theory of dance therapy, “much as mathematics has been used to develop theories about physical reality.”⁴⁶ The language of Effort/Shape would, therefore, “gives some credence to the therapist’s interpretations of patient behavior” and would help the therapist “to communicate not only with colleagues but with other persons professionally involved with patients.”⁴⁷ In a field that was deeply self-conscious about its professional status, the use of recording techniques derived from Labanotation enabled dance therapists to see their work as properly scientific.

A Science of the Unspeakable Self

One of the individuals particularly taken with the call to more fully integrate movement into medical practice was Judith Kestenberg. A psychoanalyst specializing in child development, Kestenberg was born in Tarnov, Poland, in 1910. She trained in medicine, neurology and psychiatry at the University of Vienna, and—after completing her doctorate under Hermann Nunberg in 1934—began additional training at the Vienna Psychoanalytic Society. Her Jewish heritage and socialist beliefs, however, soon made Austria a less-than-welcoming home, and Kestenberg emigrated to the United States in 1937, where she quickly began work alongside the neurologist and psychoanalyst Paul Schilder at Bellevue Hospital in New York City.

Schilder had also trained in Vienna, and he was known for his attempts to integrate psychoanalytic theory and psychiatry as well as for his focus on the physical

⁴⁶ Ibid, 37.

⁴⁷ Ibid.

body. In his 1935 book, *The Image and Appearance of the Human Body*, Schilder developed the concept of the “body image,” conceiving of it as an entity borne out of the interactions between the physiological state of the individual, his or her social experience of the body, and the felt reality of daily life. The body image, however, was not a steady state, but a dynamic one, full of fluctuation and change.⁴⁸ Schilder had previously studied disorders of the central nervous system and believed they were caused by interactions between the physiological and psychological and, moreover, that—over time—the nervous system could be altered by an individual’s psychological life. The physical was not prior to the mental.

This effort to combine analyses of the mind and the body attracted Kestenberg, who—though devoted to the psychoanalytic perspective—was, due in part to her training in neurology, convinced that the psyche could not be separated from universal, organic experiences, in particular, the experience of bodily movement. When Kestenberg met Bartenieff in New York, therefore, she was fascinated by Bartenieff’s account of Laban’s work and asked Bartenieff to teach her the basics of Labanotation. They began collaborating immediately and, in 1955, the two women visited Warren Lamb in England together and received additional training in observation and notation.⁴⁹

Kestenberg thus absorbed the basic tenets of Labananalysis and always retained strong ties to the Laban-centered community; she also attempted to integrate Laban-based

⁴⁸ Paul Schilder, *The Image and Appearance of the Human Body* (Oxford: Kegan Paul, 1935); Francine Hanley, “The Dynamic Body Image and the Moving Body: A Theoretical and Empirical Investigation” (PhD Thesis, Victoria University, School of Social Sciences and Psychology, 2004).

⁴⁹ Ellen Goldman, *As Others See Us: Body Movement and the Art of Successful Communication* (New York: Routledge, 2003), 184.

thinking into her own psychoanalytic outlook. She posited, for example, that Freudian developmental stages were characterized by specific kinds of bodily rhythms. In one 1965 paper, she distinguished the “anal-erotic” phase from the “anal-sadistic” primarily in terms of the kinds of bodily rhythms the infant and toddler most often utilized, both characterized by intervals of holding and releasing, but one significantly slower than the other.⁵⁰

Mothers who failed to take these rhythms into account, Kestenberg argued, put their babies at risk for psychological disturbance. Babies predisposed to anal-sadistic rhythms, for example, “become easily frustrated when they are not allowed to do things their own way, in their own rhythm, and in the posture of their choosing. If mothers interfere too much and too early, babies, who have less pronounced preferences for anal rhythms, will also react with prematurely increased aggression, which may lead to obsessive development.”⁵¹

Kestenberg even developed her own form of movement notation based on Laban’s work, which she used both in her clinical practice and in her research. Called the Kestenberg Movement Profile (KMP), it required that the therapist be trained in Laban-based observation, but asked that the observer concentrate mainly on the “rise and fall of flow.” As she put it, this form of notation “consists of the recorder’s freehand drawing of the increase and decrease of muscle tension during movement” and is primarily based “on the observer’s kinesthetic mirroring identification with the observed subject.”⁵²

⁵⁰ Judith Kestenberg, “The Role of Movement Patterns in Development II: Flow of Tension and Effort,” *Psychoanalytic Quarterly* 34 (1965): 517–63.

⁵¹ *Ibid.*

⁵² Judith Kestenberg, “The Role of Movement Patterns in Development,” *Psychoanalytic Quarterly* 34 (1965): 4. Kestenberg also cautioned the would-be notator to remain aware of “her

With the KMP in hand, Kestenberg began recording and analyzing movement data. Her first subjects were infants and toddlers, in part because they were difficult to understand using traditional methods. Kestenberg emphasized that certain rhythms corresponded to particular developmental stages, but her work also reflected Lamb's contention that some movement traits—and thus personality characteristics—were essentially ingrained and difficult to alter. Writing of one toddler she studied, for example, Kestenberg noted that “Charlie” seemed “to prefer to have objects presented in space so that he could reach for them by moving forward or laterally... . This does not mean that Charlie could not move in all directions. He tended to choose his preferred directions over others when he also had to do new things.” Charlie's mother, however, favored opposing forms of movement, leading to ongoing conflict. Still, Kestenberg noted, “despite all the efforts of those about him to bend Charlie's rhythm to fit theirs, he seemed to remain basically unchanged in temperament.” “Even in the nursery,” she wrote, “Charlie gave the impression of being an important citizen. He looked and felt like a heavy viscous mass.”⁵³ Thus, like Lamb, Kestenberg was apt to link movement and aptitude, connecting, for example, a “baby's preference for maintaining even levels of flow intensity” to “stability, placidity, or attentiveness” but also to “stubbornness, inflexibility, or other traits that cause clashing with the environment.”⁵⁴

own preferences for certain rhythms which tend to distort kinesthetic perception and reproduction of another person's movements.” On the growth of ideas about kinesthetic mirroring in the twentieth century, see: Susan Leigh Foster, *Choreographing Empathy: Kinesthesia in Performance*.

⁵³ Kestenberg, “The Role of Movement Patterns in Development,” 26.

⁵⁴ Kestenberg, “The Role of Movement Patterns in Development II: Flow of Tension and Effort,” 530.

Kestenberg's work on infants was particularly influential within psychoanalysis, and her students went on to productive careers in child development, both in academic research institutions and in therapeutic private practice.⁵⁵ Kestenberg herself became a professor at New York University's medical school, was a member of the faculty at the Long Island Jewish Hospital, and founded an institute devoted to research in child development in Sands Point, New York.

Kestenberg's work was always political—she was concerned about the impact of early experiences on societal health—but her later research dove into one of the key trauma's of the twentieth-century more explicitly. Kestenberg's husband, Milton, was a lawyer who had emigrated from Poland in 1939. During the war, his mother and brother died in the Treblinka concentration camp; after the fall of Nazi Germany, Milton Kestenberg was known for representing Holocaust survivors seeking reparations in the German courts.⁵⁶

Judith, too, was obsessed with the effects of trauma on Holocaust survivors and their children; her own father had been killed at Auschwitz. Moreover, in treating patients, she began to notice peculiar commonalities in the physical presentation of Holocaust survivors' children, though they themselves had not been exposed to Nazi

⁵⁵ One of Kestenberg's former students, Dr. Mark Sossin of Pace University in New York City, generously agreed to be interviewed for this chapter. Sossin now has both an academic and therapeutic practice and his research subjects include movement, trauma, and infant development. See: Judith Kestenberg and Mark K. Sossin, *The Role of Movement Patterns in Development* (New York: Dance Notation Bureau, 1977); Beatrice Beebe et al., eds., *Mothers, Infants and Young Children Of September 11, 2001: A Primary Prevention Project* (New York: Routledge, 2012); Phyllis Cohen, Mark K. Sossin, and Richard Ruth, eds., *Healing After Part Loss in Childhood and Adolescence: Therapeutic Interventions and Theoretical Considerations* (New York: Rowman & Littlefield, 2014).

⁵⁶ Bruce Lambert, "Obituary: Milton Kestenberg, 79 Lawyer Who Won Holocaust Reparations," *The New York Times*, November 21, 1991.

persecution. “There is something here that is almost universal,” she wrote. When survivors’ children “reach the age when they themselves had been persecuted, they begin to act out, and the children too begin to act out the parent’s Holocaust experience.”⁵⁷ To make sense of this strange occurrence, Kestenberg turned to movement, beginning a program of research into the embodied consequences of trauma.

“I want to know,” she noted, “whether there is a clear correlation between the following aspects of trauma: where and how it happens, in which parts of the body it happened, and what were the effects of each trauma.”⁵⁸ Drawing on her personal experience treating survivors and their children, Kestenberg began to ask questions about how the physical experience of confinement might lead to profound and permanent psychological changes:

...when the adaptive patterns Laban referred to as ‘efforts’ cannot be used because of confinement in space or/and the need to avoid noise, in order not to be discovered, do these patterns freeze to be applied again when the restrictions are removed? At the same time, movement patterns which serve relationships to people, which we refer to as ‘shaping planes’ must freeze as well. Is it incumbent upon the endangered individual then to regress and rely wholly on tension changes which allow us to express our anxiety and also to serve the rhythmic discharge of drive impulses? If so, will this individual, when not restricted any more, tend to become anxious and less related whenever there is a need to restrict motion?⁵⁹

By the early 1970s, Kestenberg had made childhood trauma—and the Holocaust specifically—one of the key foci of her research program. Along with Milton, she

⁵⁷ Judith Kestenberg, “Dr. Judith S. Kestenberg Talks to Kristina Stanton,” *Free Associations* 2 (1991): 161.

⁵⁸ *Ibid.*, 163.

⁵⁹ *Ibid.*, 163.

arranged and archived conversations with more than 1500 children who had spent time in concentration camps (as well as a smaller number of the children of Nazi perpetrators). Judith, reportedly, was particularly persistent in her efforts to track down as many survivors as possible. As one friend reported in an obituary, “When Judith could not get a child survivor to come to her, she went to the survivor, using her experience in recognizing child survivors even in the street, through gestures, postures, and facial expressions.”⁶⁰ Like Lamb’s Movement Pattern Analysis, the restricted movements of victims of Nazi terror were impossible to conceal or fake, providing a window into a person’s true nature unmatched by any other diagnostic technology.

Kestenberg even once allegedly identified a survivor based on a portrait his son had painted. At an art exhibition in Jaffa, Judith was immediately struck by the image and, once introduced to the portrait’s subject, asked him if he had been a child during World War II. “The man, who looked and spoke like an English gentleman, remained speechless. He acknowledged being a Holocaust child, but warned us that his son did not know about it. He asked Judith how she found out about it, and Judith said that through the portrait, painted by his son, she was able to detect all the hidden suffering that his son knew about without knowing that he knew.” The interaction supposedly catalyzed both a cathartic interview with Kestenberg and a long-awaited conversation with the man’s son. As Judith’s friend, Yolanda Gampel, recounted, “With her very direct, straightforward manner, she managed to obtain these interviews. Although sometimes this appeared intrusive to me, after the interviews the interviewees were clearly grateful.”⁶¹

⁶⁰ Yolanda Gampel, “Judith S. Kestenberg,” *Echoes of the Holocaust*, April 2000, <http://www.holocaustechoes.com/obituaries.html>.

⁶¹ *Ibid.*

As a psychoanalyst, Kestenberg had always been interested in the psychological consequences of reckoning with repressed or unspoken memories, but, like Laban, she believed that her work also had broader political and social consequences. In the decades following WWII, both Judith and Milton were deeply troubled by attempts to deny or minimize the suffering of survivors. Judith feared the ongoing attempts of “revisionist historians” to “‘prove’ that the Final Solution of the Jewish problem never existed, or that if it did, the death toll was ‘only’ in the thousands, not the millions,” while Milton constantly chafed against the legal attempts to deny compensation to victims.⁶² Whether in Germany or the United States, he wrote, “people did not believe that the atrocities described really happened; oftentimes they did not even want to listen. Many survivors were faced by the disbelief of their immediate families, the very ones who had facilitated their admission to the United States.⁶³ Like Laban, Judith Kestenberg saw movement analysis as a tool for connecting dispersed individuals joined by a common history. By allowing therapists to spot Holocaust survivors and register physical evidence of their trauma, KMP would provide unarguable evidence of a vast, if diasporic, community of suffering. Such a community, Milton insisted, merited compensation from the German government, whose representatives had been slow to acknowledge the crimes of the Nazi regime.

In the German courts, those seeking legal remedy for the Holocaust were required to demonstrate that they had lost at least 25% of their earning power as the result of

⁶² Judith Kestenberg and Ira Brenner, *The Last Witness: The Child Survivor of the Holocaust* (Washington, D.C.: American Psychiatric Press, 1996).

⁶³ In Judith Kestenberg and Charlotte Kahn, eds., *Children Surviving Persecution: An International Study of Trauma and Healing* (Westport, CT: Praeger, 1998), 74.

government action. Proving psychological damage, however, was not a straight-forward endeavor. As Judith Kestenberg wrote, “it became increasingly apparent that the survivors, not only the child survivors, had memory problems and could not always recall the dates of the persecution and their whereabouts at certain times. Children suffered from a double jeopardy: their memory was adversely affected by persecution, and many were too young to remember when, where, and what happened to him.”⁶⁴

Survivors were frequently interviewed by physicians, but Milton was often dissatisfied by their reports and thus developed his own methods for provoking survivors’ memories. A woman he called Janine, for example, suffered from tremendous knee pain that impaired her ability to work, but the examining physician contended that her pain had no organic cause and was unrelated to her childhood experiences. When Milton interviewed her, however, he prodded Janine to talk about the moment in which her father was taken away by the Gestapo. In tears, she recalled throwing herself on her father’s body. At first, Judith recounted, “the attention was focused on the father, not on the child herself. Only when Milton asked her what happened next, did she recall that a Gestapo officer kicked her in the leg with his heavy boot. Milton then asked Janine where she felt the pain of the kick before she could identify the spot on her knee that hurt her now. Focusing on the childhood experiences allowed Janine to describe her own actions and feelings, which enabled this young survivor to establish the connection between the Nazi-inflicted trauma and the present-day affliction.”⁶⁵

There is no evidence that Milton Kestenberg was able to directly utilize data

⁶⁴ Judith Kestenberg and Eva Fogelman, eds., *Children During the Nazi Reign: Psychological Perspectives on the Holocaust* (Westport, CT: Praeger, 1994), x.

⁶⁵ *Ibid.*, xi.

drawn from movement analyses in legal complaints against the German government. What is clear, however, is that Milton and Judith deeply influenced one another's thinking about the body, trauma, and the sources of healing. They shared subjects, methodologies, and, eventually, a formal organization: the International Study of the Organized Persecution of Children, founded in 1981, and still devoted to—among other causes—the investigation of the “nonverbal expressions of normal and disrupted child development.”⁶⁶ For Kestenberg, therefore, movement analysis represented not just a mode of scientific inquiry, but a technology for voicing truths otherwise most unspeakable. In her book, *The Last Witness*, Kestenberg wrote that the reader “will note” that “we offer no photographs, tables, graphs, maps, blueprints of the gas chambers, copies of incriminating Nazi documents, or extensive statistics.”⁶⁷ This was not because these forms of evidence did not exist, but because they were only a pale suggestion of the true consequences of war, which so often did not lend themselves to easy representation. Movement allowed one to see beyond the verbal façade of Cold War normalcy and made the body the source for a new kind of evidence and a new view of history.

Taming Aggressive Bodies and Minds

Judith Kestenberg held out movement analysis as one mode of responding to past historical traumas. She and other movement therapists, however, were also deeply committed to using movement to *prevent* future atrocities and generalized social breakdown. As Kestenberg's sometime collaborator, Charlotte Kahn wrote, most families

⁶⁶ Child Development Research, “The International Study of Organized Persecution of Children,” accessed January 24, 2016, <http://holocaustchildren.org/>.

⁶⁷ Kestenberg and Brenner, *The Last Witness: The Child Survivor of the Holocaust*, xii.

who had lived through the twentieth-century “contain at least one member affected by war or revolution, forced or voluntary relocation, discrimination and ostracism, political harassment, and even torture.”⁶⁸ Preventing future iterations of these horrors—and engineering a new kind of future—became, in the postwar years, another key organizing principle for movement therapy. As Bartenieff wrote, “[t]he problems of healing and restoring mental, emotional health are not confined to pathological extremes. There are differences in degree of mental health, rather than kind. The current explorations in healing oriented toward ‘restorations’ of wholeness—some ancient and some apparently new—are reflections of the wide-spread concern with problems of personal and community wholeness and survival.”⁶⁹

Movement therapists were not, of course, the only ones consumed by the fear that the current peace was only temporary, profoundly vulnerable to new outbursts of aggression. When, in 1950, Theodor W. Adorno, Else Frenkel-Brunswik, Daniel Levinson, and Nevitt Sanford published *The Authoritarian Personality*, American culture more broadly became consumed by the idea that the responsibility for the Holocaust might be laid at the feet of fascistic personalities, which often owed their origins to early childhood experiences.⁷⁰ Kestenberg herself warily noted that “what the one-time persecutor and the one-time persecuted carry with them are traces of their previous roles for which they were trained in childhood.”⁷¹ In response, as Jamie Cohen-Cole has

⁶⁸ Kestenberg and Kahn, *Children Surviving Persecution: An International Study of Trauma and Healing*, 1.

⁶⁹ Bartenieff, *Body Movement: Coping with the Environment*, 151.

⁷⁰ Theodor Adorno et al., *The Authoritarian Personality* (New York: Harper & Row, 1950).

⁷¹ Kestenberg and Kahn, *Children Surviving Persecution: An International Study of Trauma and Healing*, x.

discussed, mid-century social and behavioral scientists cultivated the idea of “open-mindedness” as a key characteristic of the democratic citizen. Depicted as autonomous, tolerant, and creative, the open-minded individual represented the authoritarian personality’s mortal foe.⁷²

In many ways, movement therapy was a natural tool for cultivating these ideal democratic citizens. In relatively unstructured sessions, movement therapists sought to encourage play, creativity, and a clear sense of the self. Patients were never forced to attend dance therapy sessions, and meetings often had “no fixed structure,” responding instead to the moods and needs of the diverse participating individuals on a particular day. As Bartenieff put it, “Dance therapy stresses changes in the learning experience. Sensory, kinaesthetic, and feeling experiences are developed through movement, instead of repetitive, mechanical rote-learning. And the movement processes themselves are expressive—statements of feeling and thinking.”⁷³ The line between freedom and anarchy could not, however always be drawn clearly, and dance therapists often disagreed over the degree of expression to be allowed in sessions.

Audrey Wethered, a Laban-trained therapist and Jungian analyst who practiced in England, echoed Bartenieff’s call to cultivate free expressiveness, arguing that modern life tended to confine the body’s activities to “certain parts.” There was, she noted, “nearly always a tool, an implement or a machine” that dictated the body’s movements,

⁷² Jamie Cohen-Cole, *The Open Mind: Cold War Politics and the Sciences of Human Nature* (Chicago: University of Chicago Press, 2014); Jamie Cohen-Cole, “The Creative American: Cold War Salons, Social Science, and the Cure for Modern Society,” *Isis* 100, no. 2 (2009): 219–62.

⁷³ Bartenieff, *Body Movement: Coping with the Environment*, 151.

and thus—even in motion—the “inner man is not necessarily fully freed.”⁷⁴ In contrast, the kind of movement cultivated in a therapy session would “free the inner mechanism” of the spirit, promoting psychological well-being and personal integration. Similarly, Frantizska Boas—Franz’s daughter—practiced movement therapy with New York City children, and encouraged them to engage dynamically with their environments, whether pretending to be animals, climbing on one another like jungle gyms, or literally bouncing off the walls. It allowed them, she believed, to “stimulate and find expression for primitive and deeply buried fantasies” and express their inner selves in a too-often restrictive society.⁷⁵

Through this encouragement of individual expressiveness, however, ran a deep current of anxiety about the consequences of *too* much freedom. As Wethered once recalled at a conference of dance therapists, “early on in my work I used cushions for people to deal with aggression, until on two occasions it led to people using them in such a violent way, seriously bodily harm could have been inflicted if it had been directed at a person.” Though she noted that it “sounds unbelievable,” she remember encountering one of the patients who had concerned her years later: “she told me ‘I was always afraid to let go of my aggression, I thought if I did, I would have to kill. Only then did I realize that I had a choice, I didn’t have to kill.’”⁷⁶ In other cases, Wethered wrote about her fear that “a riot” might break out if patients’ newly freed personalities were not properly managed.

⁷⁴ Audrey Wethered, “Movement,” Audrey Wethered and Chloe Gardner Collection, University of Surrey NRCDA Archives, Box E(AW) 3:6.

⁷⁵ Lauretta Bender and Franziska Boas, “Creative Dance in Therapy,” *American Journal of Orthopsychiatry* 11, no. 2 (1941): 235–44.

⁷⁶ Audrey Wethered, “Notes on Emotional and Psychological Conditions,” Audrey Wethered and Chloe Gardner Collection, University of Surrey NRCDA Archives, Box E(AW) 1:1.

“Letting off steam with violence, shouting, fighting and so on can only be of value when the energy is channeled, creating equilibrium. With some people [particularly those with weak egos], very dangerous situations can arise unless there is de-climax at the crucial moment.”⁷⁷

In essence, therapists sought to provide a safe way of encountering—and then counteracting—patients’ aggressive or destructive impulses. Dance, they believed, could give expression to these feelings, but simultaneously keep them “within reasonable bounds. It is only when they are repressed, denied, ignored or feared, or conversely indulged in to excess that they form a volcanic element which is liable to become very destructive.”⁷⁸ There was, therefore, considerable discussion among dance therapists regarding the relative merits of free expression and structured movement. As Bartenieff summarized: “Does structure inhibit or release freedom? Such questions lead to the even larger questions about the nature of freedom, the relationship of permissiveness to freedom, the differences between freedom and license, the degree, if any, of manipulation that is necessary or acceptable in educational methods, parental controls or lack of them, the therapist’s responsibilities, and others.”⁷⁹ For her part, Bartenieff saw at least some degree of control as profoundly important. “Too often,” she wrote, “there is a misconception that freedom should be identified with any outburst of feeling at a given moment.” Though Bartenieff emphasized that dance therapy should not be overly “structured by mechanical measurements,” she also maintained that therapy should not be

⁷⁷ Audrey Wethered, “Some Comments on Working With Groups,” (1968-1969) Audrey Wethered and Chloe Gardner Collection, University of Surrey NRCD Archives, Box E(AW) 1:2.

⁷⁸ Audrey Wethered, “Movement,” Audrey Wethered and Chloe Gardner Collection, University of Surrey NRCD Archives, Box E(AW) 3:

⁷⁹ Bartenieff, *Body Movement: Coping with the Environment*, 144.

allowed to “deteriorate into amorphously indulgent self-expressiveness...The delicate balance between structure and permissiveness must be gently maintained because either extreme becomes destructive.”⁸⁰ The skilled movement therapist was constantly in control of her patients: the studio was a microcosm of the world at large and the therapist was its choreographer.

In a characteristic example of how such redirection might work, Bartenieff told the story of a recently discharged patient who had returned for an individual session:

On this particular day, she seemed unresponsive and resistive to movement. All of a sudden—and it may not have been all of a sudden, perhaps I just failed to notice the signs—she seized a billiard cue for a table next to her and tried to attack me. I managed to seize the stick with both hands; we became locked into each other. I began to respond to her pushing, pressing quality by a Sustained (Time Effort), Strong (Weight Effort), Indirect (Space Effort) rhythm, with slight fluctuations in the components. Several minutes passed in this locked, strong encounter. I had no intention of yanking the stick out of her hands. In a dim way, I held on to the intent of dancing with her. She finally dropped the stick very suddenly on the floor, exclaiming with a broad smile, ‘That was some workout. I am tired. I feel fine.’ We parted on friendly terms.⁸¹

“It could seem,” Bartenieff reflected, “an almost pointless story, but it, in fact, taught me something crucial about intent and transforming an aggressive tension by gradually dissolving its Effort elements from fighting to indulging qualities This kind of transformation is at the heart of dance.”⁸² Viewed at the right angle, the aim of free expression seemed to be, ultimately, control.

⁸⁰ Ibid, 151.

⁸¹ Ibid, 13.

⁸² Ibid.

Movement therapists also went beyond attempts to mold the individual psyche, focusing their efforts on the creation of coherent, harmonious groups. Bartenieff's practice for example, included some individual sessions, but the primary "focus was on the individual in the group."⁸³ In fact most dance and movement therapy was practiced in group settings; while individual patients did sometimes work one-on-one with therapists, group sessions emerged as the practice's emblematic form.⁸⁴ The reasons for this preference for group activity were both financial—after the explosion of the patient population in the post-war years, group therapies provided an economical means of providing treatment—and philosophical. For many therapists, dance represented the paradigmatic example of a democratic society: each individual expressing his or her particular self, but remaining willing to adjust personal desires to achieve a larger aim. As Wethered wrote in 1968, "Dance is a social activity and, in the group situation which it provides, the individual has to find his proper place within a unit of which he is only a part. Through the need for group awareness and sensitivity, for group action and formation, the individual personality is pulled out of the boundaries of his independent self to play a role in a happening which follows its own laws."⁸⁵ By enacting these social relationships through movement, patients would rehearse the social roles to which therapists hoped they would one day return.

In practice, this orientation toward the group took various forms. Therapists often sought to control the number of patients in any one session: too many could cause the

⁸³ Ibid, 11.

⁸⁴ For the rise of group family therapy, see: Weinstein, Deborah, *The Pathological Family: Postwar America and the Rise of Family Therapy*.

⁸⁵ Bartenieff, *Body Movement: Coping with the Environment*.

group to fracture into smaller units, while too few could impede the creation of a dynamic, creative community. Some urged patients to come early and prepare together, and most prohibited non-participants from observing a session, fearing it would lead to both self-consciousness and a disrupt cohesion. Other techniques were employed during the sessions themselves. Bartenieff almost always began her group sessions in a circle, waiting until a “ground rhythm” organically emerged from one or two individuals. As others joined in, the rhythm would often be changed or transformed, but the circle formation generally persisted: it was, Bartenieff noted, “an almost organic expression of non-aggressive relationship. Everyone sees everyone else and the joining of hands relates people and aids the experience of streams of movement energy spreading from one to the other.”⁸⁶ The experience of dance, therefore, was kept from being entirely self-reflexive: “Since the primary function of the therapist is,” Bartenieff wrote, “to help a patient find an acceptable identity and satisfying mode of behavior for himself and in his society, it is important to maintain a context of flow between the internal and external as active as possible.” Individual expressiveness was important, but never at the expense of the group.

Along with Bartenieff and Wethered, Laban-trained therapists like Veronica Sherborne, Richard Lewis, and others used group-based movement with diverse patient groups, from schizophrenic adults to intellectually disabled and autistic children, hoping to stimulate not just their creative juices, but their ability to communicate, their capacity to develop meaningful relationships, and their willingness to participate in the formation

⁸⁶ Bartenieff, *Body Movement: Coping with the Environment*, 11.

of a “group identity.” Often, Wethered noted, “schizophrenics have a repetitive pattern of movement and using other rhythms” flowing from other group members could prod them to “gently to extend their own rhythmic pattern” and “sometimes draw off excessive tensions,” leading to both an appreciation of the contributions of the group and a sense of personal awareness.⁸⁷ Self-confidence, therapists argued, was best developed in a group context, as it allowed participants to “develop a sense of supportiveness from the community” as well as a simultaneous “ability to make adaptations for the interdependence of that support.”⁸⁸

One final story from Bartenieff’s career illustrates the sometimes tense relationship between expression and self-effacement, creativity and control particularly well. Writing of a problematic patient, “E.M.,” at Bellevue Hospital, she recalled:

Her improvisations were an expression of a creative urge, but unfortunately one which was too undisciplined and too uncontrolled to be fully utilized Because the sessions were primarily directed toward providing a group experience for as many patients as possible, this patient’s highly individualized needs were felt to have been only partially met. Because of her tendency to get overstimulated by the material, unlimited permissiveness of her self-expression could not be encouraged. Furthermore, within the group situation, the patient’s overactive response inhibited other patients who were in need of greater support and more direction. As a result, the patient’s full creative potentiality in this medium could not be fully explored. The limitations on complete freedom of

⁸⁷ Audrey Wethered, “The Sesame Research Project of Drama Therapy with Long-Stay Schizophrenics at Goodmayes Hospital, Ilford, Essex, February-July 1970,” Audrey Wethered and Chloe Gardner Collection, University of Surrey NRCDA Archives, Box E(AW) 1:2

⁸⁸ Bartenieff, *Body Movement: Coping with the Environment*, 145.

expression were felt to be necessary, not only to preserve the integrity of the group, but also to control the regressive behavior of the patient.⁸⁹

E.M. was thus allowed to express her impulses, “but always within the controlling limits of the reality situation.” Moreover, “in spite of the constraint of these imposed restrictions,” Bartenieff noted that she was still “able to experience exhilaration and joy, not only in the sense of physical release which the dance afforded her, but in the opportunity it provided for creative expression.”⁹⁰

Conclusion: Creativity and Control

The history of dance and movement therapy thus demonstrates how the postwar encouragement of tolerance and creativity was integrated into therapeutic practice. But just as the open-mindedness of Cohen-Cole’s social scientists sometimes slid into the groupthink they criticized, movement therapists’ efforts to cultivate the individual imaginative spark were not without limits. Patients in dance therapy classes were told to explore space, to create, and to fully experience their emotions, but they were also cautioned about creativity’s excesses. Therapists sought to stimulate patients’ originality—and, through it, their selfhood—but these efforts were nearly always tempered by an attention to the individual’s place *within* the larger group. Each class, therefore, represented an embodied microcosm of the idealized social world: one in which citizens were free, but regulated, unique individuals, but fully devoted to the social whole.

⁸⁹ Bartenieff, *Body Movement: Coping with the Environment*. *

⁹⁰ *Ibid.*

The mental health that dance therapists fostered, thus, was one highly contingent on postwar American ideas about the balance between autonomy and self-control necessary for any individual's functioning in society. In the War, Tom Rath had been both the victim and perpetrator of violence, but capacity for the latter was not an asset in the country to which he returned; instead, employers demanded of him physical and mental aggression shorn of violence. Bartenieff and Kestenberg's psychiatric patients, similarly, were to be goaded into resolute physical action, but not violence, which was a cause of trauma but could never be its cure. Labanotation and other related technologies employed by the therapists would enable them to both spot the telltale signs of victimization and reverse its effects, by directing violent energies into more profitable forms of movement. For psychiatric patients, effectively, every form of movement not forbidden was compulsory.

It should not, however, be assumed that movement therapists' aims were nefarious. Patients' recollections of the effects of therapy—where available—were generally positive. They emphasized that “they felt the experience in the group had helped them,” particularly in terms of increased range of movement and personal expression. One patient said simply, “It put life back into my body,” while a therapist recalled that “There was no ‘them’ and ‘us’; just a group of people creating movement and life together.”⁹¹ Movement therapists also brought real attention to patient populations whose humanity was often ignored because of their struggle to communicate verbally.

⁹¹ Evy Westbrook and Doreen Court, “Work with Subnormal Patients,” Audrey Wethered and Chloe Gardner Collection, University of Surrey NRCD Archives, Box E(AW) 1:10.

Movement therapy—much of it Laban-derived—is still practiced relatively widely today, though it did not achieve the total infiltration of the mental health professions that its founders might have hoped for. The American Dance Therapy Association, founded in 1966, still exists, however, and its website lists contact information for more than 100 active, credential practitioners. The Laban/Bartenieff Institute of Movement Studies (LIMS) in New York City offers its own credentialing services and hosts courses in the United States, Belgium, Israel, Scotland, and China. The first M.S. degree program in dance therapy was created in 1971 at Hunter College. Though it was shuttered in 1996, masters' programs currently exist at Antioch University, Columbia College of Chicago, Drexel University, Lesley University, Naropa University, the Pratt Institute, and Sarah Lawrence College. But, as C.C. Beels argued in a 1989 issue of *New Directions for Mental Health Services*, creative arts therapies and public psychiatry more broadly began to come into their own “just as the ideological and material support” for such programs started to disappear.⁹² The funds available for treating mental illness in the 1960s had begun to run out by the late 1970s, and “psychiatry was trying to redefine itself as a medical specialty.” Even with the armature of notation, movement therapists were unable to compete with the scientific respectability, “the glamour, the money, and the hope for career distinction” genetics and psychopharmacology increasingly offered.⁹³

The idea that movement might influence mood has—especially in recent years—begun to penetrate popular culture more broadly. With female executives recommending

⁹² Beels, “Israel Zwerling: Lessons from a Career,” 8.

⁹³ *Ibid.*, 7.

the bracing effects of taking a “power pose” before an important meeting and *New York Times* articles warning about the depressive consequences of the “iPhone slouch,” few seem to doubt the real effects of the body on the mind.⁹⁴ What is absent in recent accounts, however, is a sense of the body as a profoundly social entity. Embodied tricks for enhancing individual performance are, in a real way, far removed from a worldview in which, as one movement therapist summarized, “to understand and master movement is a very human way of achieving a balance between the claims of society and individuality. It requires the adoption of a new outlook on life, a new way of interacting with other people.”⁹⁵ In moving away from this vision, contemporary analysts of body language may have also moved away from the overly choreographed, controlling aspects of Laban-based practice, but they also abandoned a powerful resource for thinking seriously about the modern relationship between creativity and control, individuality and belonging.

⁹⁴ Amy Cuddy, “Your iPhone Is Ruining Your Posture--And Your Mood,” *The New York Times*, December 12, 2015.

⁹⁵ Sam Thornton, “Rudolf Laban—An Appreciation,” Sesame-Laban Centenary Festival—28-29 July, 1979, Audrey Wethered and Chloe Gardner Collection, University of Surrey NRCD Archives, Box E(AW) 1:10.

FROM *VOLK* TO FOLK: ALAN LOMAX AND THE WORLD GEOGRAPHY OF MOVEMENT

In the basement of the Library of Congress—just down the hall from the aisles that house the famous recordings of Jelly Roll Morton, Lead Belly, Woody Guthrie, and Muddy Waters—sit dozens of boxes filled with dusty coding sheets. The pages are, at first glance, far less exciting than their musical counterparts. They are filled with tables, graphs, and diagrams rather than the vibrant sounds of American folk culture. But they too represented an attempt to capture, study, and renew a cultural form that many feared was slipping away.

The American folklorist Alan Lomax is well-known, both to scholars and to the general public, because of his lifelong efforts to protect America's musical heritage. Born in Texas in 1915, Lomax's training started early: his father, John, himself a folklorist, took young Alan along on his trips to record the songs of the prisoners and sharecroppers of the rural south. After a peripatetic education at the University of Texas and at Harvard, Alan participated in his father's work more formally, joining him on expeditions for the Library of Congress, and co-authoring two books: *American Ballads and Folk Songs* in 1934 and *Negro Folk Songs as Sung by Lead Belly* in 1936. Alan also began embarking on solo expeditions, including a famous trip with Zora Neale Hurston in the summer of 1935. In 1937, he was appointed the Assistant in Charge of the Archive of Folk Song of the Library of Congress. In the succeeding years, Lomax hosted popular television and radio programs, produced folk records, recorded oral histories with jazz musicians, and helped pioneer the "man on the street" interview.

Existing histories, however, make only passing reference to the fact that music was not Lomax's sole concern. In the 1960s, he turned his attention away from music and toward another aspect of human cultural life: dance. His goal, however, was not mere salvage. Lomax and his collaborators believed that dance was an untapped resource for understanding humanity. Cultural and geographic variations in dance style, they proposed, revealed crucial elements of a community's life history. As Lomax put it, it was "as if the body was a semaphore," signaling the presence of certain sets of climatic conditions, productive systems, and cultural values by "wig-wagging a special set of body parts."¹

These signs, however, were not the kind of stylistic differences immediately obvious to the untrained eye, but rather subtler characteristics—palm placement, force trajectories, degrees of curvature—visible only through careful recording and analysis. To reveal these elements, Lomax employed a version of Labanotation. With this tool in hand, Lomax believed that dance could produce evidence about human history and variation just as powerful as "the point on a potsherd or the edge on a handaxe."²

Lomax thus set out to undertake a massive comparative study of dance patterns. He called the project "Choreometrics," and it consumed him for the better part of two decades. Along with dance experts Irmgard Bartenieff and Forestine Paulay, Lomax gathered filmed samples of dance from nearly two thousand cultural groups, carefully notating and analyzing each one. He used this information to theorize about historical

¹ Alan Lomax, "Dance as a Measure of Man" (Unpublished, n.d.), 4/18-01, Library of Congress, Alan Lomax Collection.

² Alan Lomax, "The Universals of Movement" (Unpublished, n.d.), 4/18-01, Library of Congress, Alan Lomax Collection.

migration patterns, structures of production, and the mechanism of behavioral evolution. Though not an anthropologist himself, his work attracted the attention of many major figures in the field, including Margaret Mead, Gregory Bateson, and Ray Birdwhistell. By the project's conclusion, Lomax had produced several films for public broadcast, an unpublished book manuscript of more than one thousand pages, and, of course, the boxes and boxes of notated coding sheets that now fill the Library of Congress' shelves.

This chapter is the story of the production of those pages: it asks how and why this quixotic project came into being. To do so, the chapter first examines how Lomax came to understand bodily movement as carrying important anthropological data. It then continues with an account of Choreometrics on the ground: the contested process of gathering filmed dance, translating it into notation, performing statistical analysis, and presenting the findings to the public. Finally, the chapter concludes with an analysis of the underlying motivations for Lomax's work. Specifically, I argue that Lomax understood Choreometrics as more than a methodological means to an end: it was a technology for fundamentally restructuring perceptions of human difference and actively preserving human cultural diversity.

This chapter draws on recent scholarship on the practices of knowledge-making in the social sciences, paying attention to the too-often neglected "mundane actions and processes by which the makers of social knowledge carry out their work."³ It is particularly in debt to analyses of twentieth century universal knowledge projects, and

³ Charles Camic, Neil Gross, and Michele Lamont, eds., *Social Knowledge in the Making*, Chicago (Chicago: University of Chicago Press, 2011), 8.

especially to Rebecca Lemov's work on mid-century anthropological efforts to collect and make meaning from various types of "subjective" data.⁴

The story of Choreometrics also resonates with existing work in the history of science and technology emphasizing the capacity of classification and inscription systems to shape material, psychological, and social realities. The scholarship of Sarah Igo, Geoffrey Bowker, Susan Leigh Star, James Scott, and Ian Hacking are particularly powerful examples of this kind of analysis.⁵ Choreometrics, however, presents an especially interesting episode because Lomax *himself* was acutely aware of the power of classifications, numbers, figures, and tables. In his own words, Lomax created Choreometrics with the explicit aim of "recalibrating" individuals' perceptual apparatuses and allowing them to see, appreciate, and—in fact—embody the "full range of movement possibilities."⁶

The following account thus not only adds texture to a particularly interesting moment in the history of anthropology—one in which notions of human difference were a constantly shifting blend of the cultural and biological—but provides an opportunity to examine how those understandings were communicated. The subsequent pages will

⁴ Rebecca Lemov, "Filing the Total Human: Anthropological Archives from 1928 to 1963," in *Social Knowledge in the Making*, ed. Charles Camic, Neil Gross, and Michele Lamont (Chicago: University of Chicago Press, 2011), 119–50. Rebecca Lemov, "X-Rays of Inner Worlds: The Mid-Twentieth-Century American Projective Test Movement," *Journal of the History of the Behavioral Sciences* 7, no. 3 (2011).

⁵ Sarah E. Igo, *The Averaged American: Surveys, Citizens, and the Making of a Mass Public* (Cambridge, MA: Harvard University Press, 2007). Geoffrey C. Bowker and Susan Leigh Star, *Sorting Things Out: Classification and Its Consequences*. James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1999). Ian Hacking, "Making Up People," in *Science Studies Reader*, ed. Mario Biagioli (New York: Routledge, 1999), 161–72.

⁶ Forrestine Paulay, Irmgard Bartenieff, and Alan Lomax, "The Choreometric Coding System" (Unpublished, n.d.), 4/18-03, Library of Congress, Alan Lomax Collection.

demonstrate how, for Lomax and for his audiences, human movement transformed from a muddle of incomprehensible signs into a new resource for historical and cultural understanding.

Moving Bodies: Kinesics, Labanotation, Film

The contours of Lomax's project were unique, but he was not alone in professing a scholarly interest in the moving body. By the 1960s, a growing contingent of anthropologists had begun to argue that language by itself could not possibly convey the kaleidoscopic complexity of culture. Visual, oral, and corporeal experiences were also significant, and scholars sought new methods—including film—to capture such data.⁷ This was particularly true in the new field of “kinesics.” Pioneered in large part by anthropologist Ray Birdwhistell, kinesics sought to bring attention to the messages communicated by the physical body, arguing that non-verbal behavior was patterned and analyzable in much the same way as spoken language. Moreover, Birdwhistell contended that non-verbal cues not only conveyed discrete conversational information, but were also important for establishing both individual and cultural identity.

Lomax met Birdwhistell in 1961 when he enrolled in Birdwhistell's special seminar on the fundamentals of kinesic research at the Eastern Pennsylvania Psychiatric Institute.⁸ The senior scholar's work quickly impressed Lomax, and the course marked the beginning of a long and significant relationship. At the time of their first encounter,

⁷ For an overview of these developments, see: Anna Grimshaw, “Visual Anthropology,” in *A New History of Anthropology*, ed. Henrika Kuklick (Oxford: Blackwell Publishing, 2008).

⁸ Ray L. Birdwhistell, “Letter to Alan Lomax,” February 21, 1961, 1-1/01, Library of Congress, Alan Lomax Collection.

Lomax's primary interest was in the comparative analysis of music, but he hoped to find useful insights in Birdwhistell's general approach to non-linguistic communication. For his part, Birdwhistell was supportive of Lomax's analytical framework, but suggested that dance might represent an every better quarry. In Birdwhistell's mind, dance was more "primal and preverbal than song, and...more directly connected to everyday work and the social movements of the body."⁹

Lomax did not abandon his project on song style, but he soon conceived a new study focused entirely on dance.¹⁰ Dance analysis, however, required an entirely new set of methodological tools. While the metrics for evaluating music—tone, timbre, harmony, etc.—were second nature to Lomax, he was unaware of a similarly structured system for physical movement. Again, Birdwhistell provided guidance, and directed him to two individuals: Irmgard Bartenieff and Forestine Paulay, former dancers with extensive expertise in Labanotation.¹¹

Bartenieff and Paulay were eager to get involved, though they were only able to commit to part-time work, particularly given the project's initially limited resources.¹²

⁹ Szwed, John, *Alan Lomax: The Man Who Recorded the World* (New York: Penguin Books, 2011), 351. Dance, as Lomax later came to believe, was also formalized and repetitive, making it a more transparent object of analysis than everyday movement. The tendency to associate dance with "primal" instinct also merits further analysis, and I will return to the subject at the end of this paper.

¹⁰ In fact, the project became known as Cantometrics. Though less concerned with notational practices or bodily movement, Cantometrics and Choreometrics shared many of the same collecting patterns and theoretical investments.

¹¹ Though Birdwhistell used a personal shorthand for his own research, he enthusiastically recommended Labanotation to others.

¹² Because of his lack of a permanent institutional affiliation, Lomax often had to scramble for funding. During the early years of Choreometrics, he cobbled together a living from contract work for the Library of Congress, the sales of his popular books and records, and small pockets of grant money from institutions like the American Council of Learned Societies. Institutionally, Choreometrics was supported by Columbia University's Department of Anthropology as well as its Bureau for Applied Social Research, though its financial investment remained limited. In later

Nevertheless, their contributions were significant—not only did they provide technical expertise on notation, they collaborated on nearly all other aspects of project development. Paulay recalled in an interview that, “One of the other reasons why Alan wanted to look at dance is because, when he listened to song performance, he could sense in it something about the body — the physical stance that produced that kind of sound — and he wanted to see it, and he wanted to make it more than just something abstract, like a sound, but he wanted to put the bones and the flesh on it, literally.”¹³ It was only with Bartenieff and Paulay’s help, however, that he was able to do so.

But before any analysis could begin, the Choreometrics team needed data. Late in 1962, therefore, Lomax, Bartenieff, and Paulay set out on a seemingly impossible mission: to obtain at least one sample of dance from every world culture. Using George Murdock’s Human Relations Area Files at Yale University as a guide, Lomax made an initial list of approximately 1900 distinct cultural and ethnic groups for analysis.¹⁴ In earlier eras, this list alone would have represented an insurmountable obstacle. Lomax may have criticized earlier dance scholarship for being virtually empty of hypothesis,¹⁵ but he readily admitted that “our predecessors in this field did not have the privilege of observing the whole range of choreography.” Even “the great Curt Sachs,” he recalled,

years, the project received grants from the Rockefeller, Ford, and Wenner-Gren Foundations as well as the National Institute of Mental Health. At various points, Margaret Mead expressed concern that some larger government and foundation grants might be off-limits to Lomax because of his previous affiliations with left-wing groups and causes.

¹³ Forrestine Paulay, Interview of Forrestine Paulay by John Bishop, *Rhythms of Earth* DVD, 2006.

¹⁴ For an account of the creation of the Murdock HRAF files, see: Rebecca Lemov, “Filing the Total Human: Anthropological Archives from 1928 to 1963.”

¹⁵ Alan Lomax, “Dance and Social Structure,” n.d., 4/18-04, Library of Congress, Alan Lomax Collection.

“based his seminal book on world dance largely on written accounts, sculptures, paintings and photographs. He had seen little dancing with his own eyes outside of Europe and North America.”¹⁶ Lomax and his compatriots, on the other hand, had the advantage of an increasingly large, albeit decentralized, store of global film.

Lomax reached out to anyone and everyone that might have filmed dance—from anthropologist Margaret Mead to kuru-researcher Carleton Gadjusek, to a retired vascular surgeon, adventurers’ clubs, and the U.S. military.¹⁷ The process was long and sometimes contentious: the letters negotiating fees, rental arrangements, and mailings fill nearly a dozen boxes of the Lomax archive. While some institutions—such as the Institute für den Wissenschaftlichen Film in Göttingen—were eager to participate, others—including the Russian cultural ministry—required delicate diplomatic negotiations. Wealthy adventurers were often the most difficult to work with. As sometime collaborator Margaret Bach wrote in a letter to Lomax, “Some of these fellows do lecture circuits, thus realizing the ‘cash’ value of their traveling and filming. They must be handled with kid gloves.”¹⁸ The team even unsuccessfully attempted to locate down fabled footage made by Roy Disney and H.G. Wells.

¹⁶ Alan Lomax, “The Treasury of Dance on Film, from Unpublished Manuscript for Dance and Human Culture,” 1981, 4/18-01, Library of Congress, Alan Lomax Collection.

¹⁷ Margaret Bach, “Letter to Alan Lomax,” September 4, 1972, 9.2-03/01, Library of Congress, Alan Lomax Collection. As Jonathan Sterne has pointed out in the case of nineteenth century recordings of Native American music, “The work of anthropological cultural stewardship coincided with the decimation that necessitated the stewardship in the first place.” Sterne, Jonathan, *The Audible Past: Cultural Origins of Sound Reproduction* (Durham, NC: Duke University Press, 2003), 332.

¹⁸ Margaret Bach, “Letter to Alan Lomax,” May 15, 1972, 9.2-03/01, Library of Congress, Alan Lomax Collection.

Lomax recognized that many of the films were not intended for scholarly analysis, but he remained sanguine about their value. While an inexperienced or biased cameraman might shape the data in minor ways, Lomax believed that movement style was so profoundly entrenched in the body that—even in the most poorly-made films—its basic structure and elements could not help but emerge.¹⁹ In fact, Lomax saw the world’s growing film footage as a store of “by far the most valuable data extant for the study of human beings, far more meaningful than written or printed documents.”²⁰ He envisioned “a great library of the visual arts, where all important cinematic documents would be stored, catalogued, and analyzed. Such a temple of knowledge would cost no more than an atomic submarine, but its influence would far outrun the famed library of Alexandria or, indeed, all the libraries that ever existed, since it would preserve a living, moving record of all human behavior.”²¹ Choreometrics, Lomax hoped, would represent an initial step toward this comprehensive collection. The project itself was important, but Lomax also saw his work as part of a larger, ongoing scientific endeavor, one that might not be completed until long after his lifetime. He understood himself, in Lorraine Daston’s terms, as a “scientist of the archive,” construing his “present data as the past

¹⁹ This view may not have been unique to Lomax, as Anna Grimshaw has commented on a certain methodological naiveté that plagued early many ethnographic filmmakers. Lomax himself notes that “Sorenson and Gajdusek indicate, however, an assurance that subjectivity in film footage is less likely to interfere with later research than are other more conventional methods of recording, and remembering events. If such a film is preserved, catalogued and made available, it can then be of use to investigators from more than one field. They also recognize something which I found to be quite commonly conceded by anthropologists—namely that the camera can record material which went unnoticed by the cameraman, or which may not, at the time, have been seen for what it was.” Lomax also contended that the sheer quantity of accumulated data would render the effects of the inclusion of errors merely incidental.

²⁰ Alan Lomax, “The Treasury of Dance on Film, from Unpublished Manuscript for Dance and Human Culture.”

²¹ Ibid.

data for future scientists,” and “self-consciously creat[ing] the archives for an imagined community of disciplinary descendants, just as they embrace past observers in an imagined disciplinary lineage.”²²

In the end, Choreometrics drew upon approximately 250,000 feet of raw footage, selected from the far larger body of film that had been collected.²³ This collecting enterprise, however, was only the first step of the project. Once all the films had arrived at Lomax’s offices at Columbia University, Lomax, Bartenieff, and Paulay began to watch the films and, more importantly, to code them, looking for the “principles that unify and differentiate the movement styles of the species.”²⁴

“An Endless Tunnel of Film”: Observing and Notating Movement

Lomax, Bartenieff, and Paulay intended to use traditional Labanotation to make and record these observations. Soon, however, they realized that standard orthography was not necessarily well-suited to their needs. In its original form, Labanotation was enormously detail-oriented, designed to record choreographic works in their entirety for future performances and for preservation. Each and every movement a dancer made was painstakingly recorded, and the process was repeated for each and every dancer on stage.

The Choreometrics team, however, was more interested in the overall *characteristics* of movement than in specific choreography. As such, Lomax, Bartenieff, and Paulay decided to retain the basic framework that underpinned Labanotation, but to

²² Daston, Lorraine, “Sciences of the Archive,” *Osiris* 27, no. 1 (2012): 164.

²³ Alan Lomax, “The Treasury of Dance on Film, from Unpublished Manuscript for Dance and Human Culture.”

²⁴ *Ibid.*

eschew its attempt to record complete dances. The movement qualities Labanotation sought to capture—like rhythm, forcefulness of limb movement, and bodily coordination—would be recorded, but specific choreographic elements would not.²⁵

But even with these self-imposed limitations, recording dance in a way that permitted meaningful comparisons and analysis seemed overwhelming. Labanotation could potentially code for hundreds of movement traits, and Lomax, Bartenieff, and Paulay decided that their first task would be to begin to limit that range. Thus, as they made a first pass at the films, they resolved to write down traits that jumped out especially forcefully, or that seemed particularly characteristic of one area. The process was both collaborative and intuitive. Lomax described in this way:

We looked for qualities or actions or limb use that persisted through long stretches of footage, preferably through whole films from one culture, and which were used in a clear or marked way by everyone in the scene. Our judgment about the presence of such a movement characteristic was not based on what else was known about the people or what might be surmised about the working of the muscles under the skins, but only by what all three of us agreed that the actors were doing in a particular stretch of film. In the end this meant the way that light was reflected off a certain body surface, and that these visible patterns continued and were repeated all through the scene.²⁶

In an ideal situation, the Choreometrics team would then locate a trait's "opposite"—smooth movement, for example, as opposed to jerky—in another region. While

²⁵ Erika Brady suggests that this "emphasis on the paradigmatic over the specific" was an attitude Lomax and his collaborators shared with many late 19th century anthropologists. Though phonograph recordings of songs and narratives became an significant professional tool during this period, "particular performances were important only insofar as they could be used to reconstruct a paradigm for song, story, narrative, or myth in a given culture." As such, efforts to create meticulous records of individual performances were dismissed as "mad" and a "waste of time." Erika Brady, *A Spiral Way: How the Phonograph Changed Ethnography* (Jackson, MI: University Press of Mississippi, 1999), 63.

²⁶ Alan Lomax, "The Universals of Movement."

movement qualities that seemed globally ubiquitous were excluded from future coding, traits that “proved to be useful in differentiating large world regions from each other” were incorporated into the system.²⁷ Lomax, Bartenieff, and Paulay worked in this way for about two years before arriving at a set of approximately 85 relevant movement traits. After a “three-way collaboration, in which each word and phrase was discussed and voted on,” these characteristics were set down and defined in the official *Choreometric Coding Book*.²⁸

The Coding Book was not designed for the project’s leaders, but rather for the new, untrained raters—graduate students from a variety of disciplines—enlisted to notate the remaining dance samples. Its text provides a sense of how complex the observational process was. Take, for example, the general instructions for coding just one variable, “body vertical”: “Here the coder records the kind of change in and out of the vertical, if any change occurs. At the center of this line, he notes that the dancer maintains a normal upright position. At the far right, he records a violent plunging and rolling about on the earth and, on the far left, narrow and highly controlled shifts of body attitude take place in the upright position scale.”²⁹ Nine other potential ratings for “body vertical” included:

- Continuous sectional change. In this case, controlled action takes place at one level for some time; then, there is a change and there is a long engagement in activity at that level; then another and another, etc.
- Smooth change. Action in which the level of verticality changes gradually and smoothly under great control: dipping, alternating

²⁷ Alan Lomax, “Dance as a Measure of Man.”

²⁸ Alan Lomax, “The Universals of Movement.”

²⁹ Alan Lomax, “Body Vertical,” n.d., 9.1-1/08, Library of Congress, Alan Lomax Collection.

change of verticality, side to side, or sagittally. The shift is marked, the vertical distance traveled being at least 6 inches.

- Neutral. The body held at one level as the dancer remains in place. If there is forward movement and vibration is not coded, the vertical distance traveled should be less than 2 inches. Here, a normal, smoothly controlled walk would be coded, for instance.
- Sporadic leap/discontinuous. Here some other kind of activity is punctuated by leaps or a by a series of leaps.
- Leaps/total trust. Here the mover crouches low to the ground and then, straightening his knees, leaps to his full height. This is the maximal extension possible.³⁰

Understandably, even with these instructions, Lomax, Bartenieff, and Paulay worried about consistency, and they eventually agreed to drop 20 characteristics about which raters had difficulty agreeing. “We must,” they noted, “leave out these variables in the protocol which do not yield order, comparisons, and classification.”³¹ The remaining variables, Lomax boasted, generated an average inter-rater agreement rate of eighty percent.

Once a dance was fully coded, technicians transferred the data from coding sheets to punch cards, and fed them into Columbia University’s IBM 7094 computer. There, with the help of Columbia University statisticians, the Choreometrics team began to search for meaningful patterns.

³⁰ Ibid.

³¹ Alan Lomax and Irmgard Bartenieff, “Pilot Study Discussion,” n.d., 9.1-1/07, Library of Congress, Alan Lomax Collection.

Dance as the Measure of Man

Lomax, of course, had not gone into the project without some idea of what he hoped to find: evidence that cultural practices were not mere window-dressing on the human experience, but rather crucial to human survival. “The growth of systems of culture,” he contended, “is now seen to be man’s way of adapting to varied environments and new challenges.” While other animals depended on genetic change to produce new adaptive behaviors, human beings were “constantly making those changes, revising and reorganizing all these behavioral patterns, day by day, throughout the whole span of life and of society, and passing on both the core of the accepted wisdom and its revisions to oncoming generations as parts of symbolic cultural codes, rather than as encoded in the helix of the genes.”³²

In his view, music, dance, art, and literature all had “coherent and rational relationships to human needs, to human development, and to the spread of the human species on the planet.” Because of its embeddedness in bodily practice, dance was particularly crucial. In dance, Lomax argued, cultures enshrined the movement patterns “essential to the survival of that group in its particular environment.”³³ Thus, a direct line could be drawn from the patterns of movement observed in dance and the everyday kinetic behavior needed to work, remain healthy, and thrive in a particular setting.

In the initial pages of the *Dance and Human History* manuscript, Lomax plied his readers with literally hundreds of examples of these correlations. On the subject of work, he noted connections between the distinctive hand movements of carnival dancers in a

³² Alan Lomax, “Dance and Human Culture.”

³³ Ibid.

champagne-producing French village and “the vintners, pacing the aisles of bottles, rotating two bottles at a time with the same quick hand motion displayed in the yearly carnival dance.”³⁴ He understood the stooped posture and “deep shoulder rotation” of West African dance to be a reflection of the widespread historical use of the short-handled grubbing hoe, arguing that, “here, dance movement clearly mirrors a principal subsistence act.”³⁵ Of contemporary dance in the United States, he wrote: “The half-cocked arm position, with vaguely pumping forearms and hands bent at the wrists, brings to my mind’s eye the occupations most frequent in post-industrial America—the sales clerk wrapping packages and writing up sales slips, the bureaucrat shuffling papers, the secretary typing away at the word processor, and the driver at the wheel of a delivery van—all these and a thousand other service occupations where the arms and hands are laxly but swiftly engaged in light work, while the rest of the body remains inactive.”³⁶

Lomax also linked dance style and climatic conditions, hypothesizing, for example, that certain patterns of movement effort stemmed from attempts to mitigate the effects of heat or cold. “One effective way to generate heat in the extreme cold,” he observed, “is to stiffen or clench a part of the body and then strongly apply energy; a rush of warmth immediately arises in the body. For example, Eskimos flip out of their furry beds in a whole-bodied, porpoise-like leap which brings them hotly into the chilly air of the igloo.” On the other hand, he suggested, “one way to stay cool in the tropics is to glide along and to flow into action.”³⁷

³⁴ Ibid.

³⁵ Ibid.

³⁶ Ibid.

³⁷ Alan Lomax, “Dance as a Measure of Man.”

Still, these colorful examples belied Lomax's more systematic aim, one deeply influenced by the emergence of "neo-evolutionist" anthropology. In the late 19th and early 20th centuries, the study of the world's cultures was inextricably intertwined with an evolutionary model of development. Founded on the premise that all societies progressed through the same series of cultural stages—from the primitive to the increasingly complex—this perspective was linked to systematic racism toward non-Western peoples. With the ascent of the Boasian school in the United States, however, mid-century anthropologists increasingly sought to understand individual cultures in all their complexity, largely eschewing notions of development or hierarchy.

By the 1960s, however, some believed that the flight from the scholarly study of "temporal change in social structure" had gone too far, a development recently charted by historian Howard Brick. These "neo-evolutionists"—prominent among them Leslie White and Julian Steward—believed they could reconcile Boasian cultural relativism with a renewed focus on the structural, rather than biological, determinants of cultural change. Their aim was to "put historical 'progress' back on the agenda of social thought"³⁸ without falling prey to racial or cultural hierarchies, social Darwinism, or modernization theory.

White, for example, contended that human culture "could indeed be examined as a single whole, having a dynamic of change and growth quite apart from human consciousness of it, a process moving *directionally* toward more large-scale,

³⁸ Howard Brick, "Neo-Evolutionist Anthropology, the Cold War, and the Beginnings of the World Turn in U.S. Scholarship," in *Cold War Social Science: Knowledge Production, Liberal Democracy, and Human Nature*, ed. Mark Solovey and Hamilton Cravens (New York: Palgrave Macmillan, 2012), 157.

organizationally encompassing forms of association and state power, paced by growing quantities per capita of physical energy in social use.”³⁹ Steward was less convinced by unidirectional accounts of cultural evolution, but nevertheless believed it possible to locate common patterns of social development via comparative ethnographic evidence. Both maintained that such studies did not have to rely on discarded racial tropes and, moreover, could incorporate new theories of cultural exchange, interaction, and fluidity.

Lomax did not make direct reference to neo-evolutionist thinkers in the framing of *Choreometrics*, but he clearly drew upon their perspectives. In the introduction to the draft for *Dance and Human History*, Lomax acknowledged that there had “been a very considerable argument, pro and con, as to whether human culture has evolved or, whether, once invented, it has simply changed its shape according to circumstance, expanding or collapsing, winning and losing capabilities in the struggle to satisfy human needs in earth’s varied environment.”⁴⁰ Lomax had little uncertainty as to which perspective was correct. “On one point,” he notes, “there is little doubt. The productivity of human subsistence systems, for which archeology and the study of living cultures provide the record, has progressively increased from simple extractive systems to systems with an ever-increasing ability to transform large portions of the environment into food and energy.”⁴¹

Lomax hoped that *Choreometrics* would provide additional support for this thesis. Though evolutionary theorists had heretofore ignored dance—seeing it as decorative, rather than functional—Lomax believed that certain habits of bodily comportment were,

³⁹ Ibid, 159.

⁴⁰ Alan Lomax, “Dance and Social Structure.”

⁴¹ Ibid.

in fact, prerequisites for the development of increasingly productive cultures. This instinct seemed to be borne out in the coded data: in his early analyses, Lomax noticed a correlation between certain clusters of movement traits and particular subsistence systems: “Some movement features appear in cultures that represent an early stage of socio-economic development, others in the middle range, yet others in the more complex productive systems.”⁴² High levels of bodily “articulation,” in particular, appeared characteristic of the most “advanced” systems.

This data only increased Lomax’s confidence that dance was nothing less than “the behavioral representation of man’s increasing control of his environment through rational manipulation.”⁴³ Though he admitted that his conclusions were only preliminary, it seemed more and more likely that movement style played a role in a population’s ability to “carry out the ever more differentiated tasks of production and social relations that support an ever larger human population on the planet.” Like culture itself, dance evolved into increasingly complex forms, forms that Lomax now believed he could accurately track.

Still, like other neo-evolutionists, Lomax worked to reconcile this sense of teleological progress with a belief in the essential equality of all cultures. In part, he did so explicitly, frequently pointing out that—although some were more complex than others—all movement styles were equally *adaptive*. He observed, for instance, “a lot of people using the shuffling step that blacks use when they dance thought this was all about laziness. But it’s not, it’s connected with the fact that blacks have always worked as hoe

⁴² Alan Lomax, “An Evolutionary Taxonomy of Dance Styles,” n.d., 4/18-02, Library of Congress, Alan Lomax Collection.

⁴³ Alan Lomax, “The Universals of Movement.”

agriculturists, and they have a broad stance, and they moved like this when they were working... We see that all throughout the tropics.” For Lomax, there was almost no better counter to accusations of indolence than this: “these are the people who pioneered the whole tropical part of the planet during the last two or three thousand years. A part of the world where we couldn’t survive, we Europeans.”⁴⁴ Lomax also argued that movement style might represent a less problematic way of assessing human difference than the concept of race, contending that it was both “far more reliable” and “surely more interesting since it deals with behavior and communication rather than physical traits over which we have no control.”⁴⁵ It was a vision that undoubtedly felt particularly resonant in the midst of the burgeoning civil rights movement.

Ultimately, however, Lomax believed that mere words could only accomplish so much. Instead, it was Choreometrics’ very structure that would most powerfully convey the message of cultural equity and reconcile the conflicting demands of neo-evolutionary theory.

Recalibrating Perception, Communicating Culture

The instructions for raters at the beginning of the Choreometric Coding Book included the following caution: “The rater is advised not to attempt to count the frequency of a feature by breaking down the action or scene into similar parts or units and then summing up his impressions in numerical terms. If a quality is not strongly and

⁴⁴ “Interview Transcript. Lomax and David Mayer.,” May 13, 1987, 9.1-1/04, Library of Congress, Alan Lomax Collection.

⁴⁵ “Choreometrics--Groundwork. Progress Report--Undated.,” n.d., 9.1-1/02, Library of Congress, Alan Lomax Collection. Lomax also noted that Choreometrics’ findings accorded well with contemporary research on the distribution of genetic traits.

emphatically present throughout the whole scene, or else if it is not markedly emphasized in some way in the scene, it should be given a low score.”⁴⁶ This flight from numbers seems, at first, at odds with a project that generally emphasized its quantitative, scientific credentials.⁴⁷

An integral part of Choreometrics’ methodology, however, was Lomax’s contention that the system itself would render numerical measures unnecessary. As a rater viewed more and more films, coding sheets in hand, he or she would gradually absorb the schema until it became second nature. “Training in Choreometrics,” Lomax contended, “consists, fundamentally, of the recalibration of the observer’s stands of tempo, etc., to the full human range.”⁴⁸ Raters thus participated in the project in two ways: by gathering data and by offering themselves up as test subjects.

The trial, it seemed, was successful. As the project went on, Lomax, Bartenieff, and Paulay placed greater and greater confidence in the raters’ ability to discern movement differences. Although those working in non-verbal behavior more generally had described difficulties in teaching observers to differentiate and identify the “micro-units” of individual interaction, Lomax reported that his team “discovered that gross contrasts in movement style between culturally different groups were relatively easy to define and agree on. Not only that, but when we incorporated graded examples of the

⁴⁶ Forrestine Paulay, Irmgard Bartenieff, and Alan Lomax, “The Choreometric Coding System.”

⁴⁷ This focus on the acquisition and arrangement of value-neutral data and on technical tools was not unique to Lomax. See, for example: Mary Morgan, “Economics,” in *The Cambridge History of Science: Modern Social Sciences*, ed. Theodore M. Porter and Dorothy Ross, vol. 7 (Cambridge: Cambridge University Press, 2003), 275–305. Joel Isaac, “Epistemic Design: Theory and Data in Harvard’s Department of Social Relations,” in *Cold War Social Science: Knowledge Production, Liberal Democracy, and Human Nature*, ed. Mark Solovey and Hamilton Cravens (New York: Palgrave Macmillan, 2012).

⁴⁸ Forrestine Paulay, Irmgard Bartenieff, and Alan Lomax, “The Choreometric Coding System.”

steps in these movement scales in teaching films, we found that students could learn to make these distinctions at the same high level of agreement which we had established among the original coders.”⁴⁹

In fact, the final manuscript for *Dance and Human History*—envisioned as a strange chimera of academic tome and coffee-table book—included a plan to extend the kind of perceptual training the raters received to the book’s entire audience.⁵⁰ Not only did the work feature significant excerpts from the raw data, Lomax made a point of including the Choreometric Coding Book itself, along with a blank version of the coding sheets.⁵¹ In part, Lomax was making an effort to be methodologically transparent, an exercise perhaps particularly important for a liminal figure in a new field of endeavor. He also, however, envisioned the blank pages as an invitation to a kind of do-it-yourself instruction in movement observation.⁵²

Indeed, all along, Lomax had been adapting the system with the aim of making it easy for non-experts to follow. Statistical analysis, for example, had been used to group the original 65 variables into 19 factors, and then again into 4 “superfactors.” Lomax contended that this process was, scientifically, “no more esoteric than deciding that oil, turpentine and brandy all burn and therefore out to be grouped as a Combustible factor in

⁴⁹ Alan Lomax, “Dance as a Measure of Man.” For an account of difficulties training observers in this kind of observation, see: Wendy Leeds-Hurwitz, “Notes in the History of Intercultural Communication: The Foreign Service Institute and the Mandate for Intercultural Training,” *Quarterly Journal of Speech* 76 (1990): 262–81.

⁵⁰ Two films based on Choreometrics were also broadcast on American public television in the 1970s.

⁵¹ Alan Lomax, “The Universals of Movement.”

⁵² In certain ways, this popular instruction in reading bodies bears a resemblance to the case of nineteenth-century physiognomy as discussed by Sharrona Pearl. Sharrona Pearl, *About Faces: Physiognomy in Nineteenth Century Britain*.

the environment, as opposed to water, mercury and milk, which are relatively Non-Combustible.” But it also had a broader purpose, as Lomax feared that book’s reader might “dread the burden of thinking about hundreds of dances in a 65 dimensional space. Certainly more succinct and thus comprehensible profiles of human movement events are called for.” If a too-complicated classification system might turn scare off the lay reader, it had to be re-thought.

Popular re-training in movement observation was crucial in part because Lomax saw Choreometrics as a means of countering the dangerous dominance of American and European culture in a progressively globalized media environment. “All of us,” he contended “are being swept into an ocean of the visible media, whose tides and currents arise in the offices of the advertising and entertainment industries, rather than in the human community. With every passing month as passive watchers we are being moulded and remade by what we are allowed to see and hear.” Movement behavior was not immune from this tidal wave, and in fact was particularly vulnerable to subconscious shaping: Lomax noted that “kinesic observers have found that human beings respond below the level of awareness to the movement patterns they encounter.”⁵³

Such tendencies contributed to the “greying of culture”—a progressive, worldwide homogenization that might lead to the wholesale elimination of certain forms of cultural life—but they also they threated individuals’ psychological well-being. Lomax charged that the contemporary media, “which bite into our kinesic sub-conscious, cause human beings to lose confidence in their diverse, culturally inherited and healthy styles of

⁵³ Alan Lomax, “Dance and Human Culture.”

bodily comportment and to spend their lives in the dubious and anxiety-filled pursuit of ways of life that are not only beyond their means and their reach, but may be demoralizing as well.”⁵⁴ In fact, Lomax believed the world had already seen the negative effects stemming from the imposition of bodily techniques developed in one culture on individuals of another. The globalization of markets, for instance, had “imposed the confining and stiff-waisted European costume almost everywhere. The head-back, chest-out, erect posture of the North European elite is held up for universal admiration as the only way for a real human being to carry himself. School children and soldiers in every clime were drilled in this carriage, often with ridiculous and unfortunate consequences.”⁵⁵ For him, “when tides of cultural conquest sweep the human landscape, perhaps the most pervasive, painful, and disorienting demand” was that “the vanquished conform the invader’s standards of physical comportment.”⁵⁶

The only way to meet this challenge was to become “expert viewers,” to learn how to “spot the false, the fake and the oversold, to pick out the beautiful and to see where one’s own non-verbal culture stands in relation to the others being presented.” These skills, Lomax held, were “latent...in all human beings,” but Choreometrics’ modes of analysis would bring them out, serving as a corrective to precisely the kind of homogeneity both Laban and Lamb, for example, imposed.⁵⁷

Lomax believed that once an individual was trained to analyze movement style in dance, their day-to-day experience of non-dance movement would also change, new

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ Ibid.

⁵⁷ Ibid.

scientific understandings demolishing old prejudices.⁵⁸ No longer would “shuffling” connote laziness; instead, it would tell a story about climatic adaptation, agricultural technologies, and persistence. In fact, as Choreometrics-trained observers moved through a city, they would encounter hard evidence about the long course of human history in the body of every person they passed. A trip to the grocery store might teach as much as an afternoon at a natural history museum. Studying human interaction in this way was, Lomax promised:

...like looking through a microscope or underwater for the first time. The viewer enters a new world in which he encounters the thousands of previously hidden micro-communications that compose all human interactions. He sees ‘toes talking to toes’, torsos moving together in forbidden ways, and becomes aware that communication is a deep and never-ending stream of non-verbal inter-communication in which words and gestures are merely the surface phenomena.⁵⁹

Lomax’s concerns, however, were not solely educational or aesthetic. If, as he contended, movement style were in fact a functional element of culture, its loss would present real, practical dangers to many populations. As Lomax put it, dance “concerns life—survival itself.”⁶⁰ What would a herding culture be without its “graduated and flowing” style of energy? How would a hunter move on rough terrain without a deeply ingrained sense of restrained, linear movement? Indeed, how would *any* culture perpetuate its movement styles—and thus its lifeways more generally—if its members were constantly bombarded with the movements of the West?

⁵⁸ “Choreometrics--Groundwork. Progress Report--Undated.”

⁵⁹ Lomax, “Universals of Human Movement.”

⁶⁰ Alan Lomax, “An Atlas of Dance Styles,” n.d., 4/18-04, Library of Congress, Alan Lomax Collection.

Like many others of the era, Lomax held a loosely cybernetic view of culture, and he understood dance to be a crucial element in its regulation.⁶¹ The best way to combat cultural greying, therefore, was to alter the surrounding feedback system. As such, Lomax was particularly keen to promote film screenings—and accompanying Choreometrics training—in places where “traditional” cultures seemed threatened. He remarked often that the individuals and communities who appeared in the Choreometrics films should “see the footage in toto and as often as they like, both in local screenings and over local television.” If proper filming had been performed, “the people will rediscover in the footage the worth, the dignity, and the beauty of their way of life. There can be no question of the beneficial effect of such feedback for folk cultures in the vicinity of powerful and highly organized communication systems.”⁶² Most social scientists, Lomax contended, had forgotten that “the principle social function of film is to reinforce the culture of which it is the product.” The Choreometrics team would not make that mistake, instead using both notation *and* film as tools for subverting dominant mainstream media networks and supporting minority cultures.

Conclusion: Writing Practices, Embodied History, and Cultural Preservation

“All authors,” Lomax wrote, “have their dreams. Mine runs this way: a folk dancer, an aboriginal choreographer, a student from some place away from the overwhelming mainstream picks up this book, looks through this atlas for his or her

⁶¹ On cybernetics in the social sciences, see, for example: Steve J. Heims, *The Cybernetics Group*. Philip Mirowski, *Machine Dreams: Economics Becomes a Cyborg Science* (Cambridge: Cambridge University Press, 2002).

⁶² Lomax, 316.

culture area and finds a pattern that is quite familiar—coming from his home or at least from his home ground.” Though, until this point, he may have been suffocated by the barrage of Western cultural media, “now he discovers that there are many other aesthetic alternatives created far away from the urban art and pop market-places, including one by his own ancestors. This style he can feel in his joints and muscles belongs to him or is akin to the one he knows.” He begins to “look at himself and his people with renewed esteem and begins to think, if he is a dancer, about what he can do with what he really knows. He has discovered that his own movement style is there, that it is composed of a special and fitting rearrangement of the same elements found in all human activity, but handled in an original style.”⁶³

This was Lomax’s holy grail. Numbers and figures, maps and diagrams, would awaken in even the casual reader a new sense of culture, of history, and even of his or her own body. While it would be impossible for the lay person to do what Lomax, Paulay, and Bartenieff did—collect and view literally thousands of films—the technology of Choreometrics would allow anyone to have a comparable experience. Film alone was a good first step, but—particularly given the overall media landscape—it was far from sufficient. Only with a clear system for evaluating and recording movement could the observer be fully retrained.

Writing also likely served another, less-acknowledge purpose: it concretized and implicitly elevated the cultural materials of “non-literate” peoples. It was no accident that Lomax emphasized that the readers of *Choreometrics* would have “evidence, *printed*

⁶³ Alan Lomax, “An Atlas of Dance Styles.”

evidence, a text to support the claim that his aesthetic traditions deserve care, study, a place to live, and the means to grow [emphasis mine].”⁶⁴ On the other hand, he demonstrated to those in the modern West that their cultural identities were no less rooted in their physical bodies than their “primitive” counterparts.

Lomax’s project was a product of its unique historical moment in one other way. As Fred Turner has recently described, Cold War America witnessed a flurry of interdisciplinary efforts to use new kinds of media to encourage the development of tolerant, free-thinking “democratic personalities.” Psychologists, Bauhaus refugees, and anthropologists like Margaret Mead and Gregory Bateson, all believed that properly designed media could psychologically orient American citizens to the “perception and appreciation of difference”⁶⁵ and, in so doing, serve as a powerful bulwark against totalitarianism.

Many of those who helmed such efforts—including Mead and Bateson—were also among Lomax’s strongest supporters, and Choreometrics might be productively understood as part of this endeavor. Indeed, Lomax’s methodology allowed him to extend the reach of his research far beyond academic audiences. His measures of human difference were not relative abstractions like ideologies or genes, but something that—once revealed—could be physically felt and observed, a kernel of the long past carried within each individual.

This is, of course, not to say that Choreometrics was an unproblematic endeavor. In many ways, it was not far from the domain of traditional salvage anthropology, and

⁶⁴ Ibid.

⁶⁵ Fred Turner, *The Democratic Surround: Multimedia and American Liberalism from World War II to the Psychedelic Sixties* (Chicago: The University of Chicago Press, 2013).

Lomax flattened and simplified the complex histories of many of the cultures the project analyzed. Moreover, Lomax had a strangely essentialist view of movement style; he seemed to believe that—at least for the individual—movement was relatively immutable, arguing that “in fact it is difficult, if not virtually impossible, for a group of ordinary people to move convincingly in any other style but that of their own culture.”⁶⁶

Lomax’s aims are complex if graspable, but the success of his program is even more complicated. Choreometrics did attract the attention of major anthropologists and the documentaries he produced were widely viewed; in fact, the Lomax archives include records of several individuals who saw them writing in thanks. His massive tome, *Dance and Human History*, however, was never published: crushed under the weight of its own ambition, it simply grew too large for any publisher to take on.⁶⁷

In hindsight, the project also suffered from troubles more philosophical in nature. For Lomax, totality ultimately required a distant, cartographic view, one that—ironically—neglected the embodied details of daily life he found so profoundly important. As Lomax himself acknowledged, excluded from the study’s purview were “the sequences of movements, the gestures, the costumes, the dramas, the themes, the functions, [and] the contexts in which particular dance sequences acquire their meanings.”⁶⁸ Lomax’s decision to elucidate the basic movement patterns of large *groups*, rather than the particularities of individual styles, meant that information about the

⁶⁶ Library of Congress, Alan Lomax Archive, 18/533.

⁶⁷ For more on the material limitations that frequently scuttle universal knowledge projects, see: Mary Poovey, “The Limits of the Universal Knowledge Project: British India and the East Indiamen,” *Critical Inquiry* 31, no. 1 (Autumn 2004): 183–202.

⁶⁸ Alan Lomax, Unpublished manuscript for *Dance and Human Culture*, 1981, Box 4/18-01, Alan Lomax Collection.

dancers upon whose labor Lomax depended was curiously absent from the record.

Though they are undeniably present when watching one of Lomax's films—it is they who compel the viewer's gaze and their actions that are the object of study—we know little about their lives, motivations, or quirks. They are static symbols, not fully realized artistic beings.⁶⁹ Tellingly, Lomax publicly thanked the “explorer film-makers of many countries [for] generously sharing their hard-won findings with us,”⁷⁰ but he did not thank the dancers whose groaning muscles, sweating brows, and calloused feet made those films possible.

Such a tactic—highlighting one phenomenon at the expense of others—is certainly not an uncommon one in the production of knowledge. These invisibilities may, however, point to some essential tensions at the heart of both the production of massive, modern archives and in the concepts of “culture” and “society” themselves. As James Scott has famously suggested, scope and depth are often uneasy bedfellows, an antagonism that becomes even more visible when collectors' aims are as lofty as Lomax's.⁷¹ As new, ambitious projects of data collection proliferate, such stories may become more common. For though few today know the history of Choreometrics, Lomax's fantasy that, through movement, understanding, tolerance, and control could all be achieved proved enduringly alluring.

⁶⁹ In fact, at the heart of Choreometrics lies a tension between two different notions of the nature of dance: one that held it up as a form of purposeful, individual expression with an infinite degree of variation, and another that suggested that it was merely a collection of basic cultural vernaculars mimicked with varying degrees of perfection by largely anonymous practitioners. In the end, Lomax's view seemed to tend toward the latter.

⁷⁰ Alan Lomax, “The Treasury of Dance on Film,” from unpublished manuscript for *Dance and Human Culture*, 1981, Box 4/18-01, Alan Lomax Collection.

⁷¹ James Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1999).

CONCLUSION

From the 1920s to the 1970s a strange, complicated tool for recording human bodily movement on paper flourished wildly. Developed in Weimar Germany by an eccentric Hungarian choreographer-cum-amateur scientist, it migrated both to Great Britain and across the Atlantic, where it found a home in some of the key institutions of modern life. Anthropologists used “Labanotation” to analyze and preserve the gestural languages of native peoples, seeing in motion a window onto culture. Efficiency gurus dictated the movements of factory workers, while students of behavior developed systems to more “impartially” analyze the activities of their subjects. NASA officials sought to model how their astronauts might move about in confined quarters at zero gravity. Management consultants swore that movement analysis could pick future leaders, and psychotherapists used similar techniques to diagnose and treat their patients.

Labanotation’s moment, however, did not last forever. In 2005, the Dance Notation Bureau announced that it would lay off five of its six staff members, having almost completely run out of funding. In subsequent years, the organization made a remarkable recovery: a new executive director won grants from the National Endowment for the Arts and the New York State Council on the Arts and many of the lost staff were re-hired.¹ At a small office off Wall Street, DNB members continue the ongoing work of notating, checking, archiving, and licensing. The Bureau, nevertheless, does not possess the cultural cachet it once did, the kind that once led the *Sunday News* to exclaim, “Dance

¹ Roslyn Sulcas, “All the Right Moves,” *The New York Times*, August 30, 2007, sec. Dance.

Bureau Puts Pirouettes on Paper for Posterity!”² Labanotation’s influence in other fields has similarly waned, though it has not disappeared entirely.

What, then, accounts for the declining presence of this once-ubiquitous technology? One answer may be rooted in the materiality of Labanotation itself. From its beginnings, Labanotation was a tool intended for an elite cadre of practitioners: individuals were inducted into the world of notation after long careers in the reified world of the stage and trained to decipher its esoteric language over a period of months or years. Indeed, though organizations like the DNB trumpeted Labanotation’s accessibility, notators also consciously sought to portray themselves as masters of a particularly unique and difficult craft. They were intuitive, but objective, artists, but also scientists. In fact, Labanotation’s very opacity likely did much to convince skeptics of its scientific bona fides and thus to establish the boundaries necessary for the construction of a coherent professional communities, whether in dance, in management consulting, or in therapy.

The difficulties involved in learning Labanotation also served its creators’ ends in other ways. Laban himself, of course, ultimately envisioned notation as a technology of control. Though he wanted to bring movement to the lay person, not just any movement would do: as Martin Gleisner recalled, Laban believed that it would, in some sense, be “irresponsible” to propagate movement choirs without the appropriate oversight notation provided. Despite the much vaunted rhetoric of self-expression through movement, improvisation and innovation were not encouraged, a fascistic tendency the inherent complexity of Labanotation reinforced. Similarly, as a result of Labanotation’s ubiquity

² Larry Cole, “Dance Bureau Puts Pirouettes on Paper for Posterity.”

as the medium of copyright, the financial control and ownership of dance was often functionally restricted to the already powerful companies and choreographers who had the resources to engage notators.

But though the complexity of Labanotation may have served the tool well early in its life, it may also bear some responsibility for its ultimate failure to persist. At a moment in which alternate technologies—film, video, motion capture—have become so readily available, the appeal of a tool which requires years of training to fully master becomes less clear. At the same time, the symbolic power of paper seems to be in decline. While Alan Lomax once proudly boasted that a reader of *Choreometrics* would have “evidence, printed evidence” of the value of his or her culture, the scholarly and popular attention devoted to literacy, writing, and print that characterized the mid-century is no longer as strong. To many, paper today seems to be a relic of the past.

The story of Labanotation’s birth and decline is not, however, merely a tale of technological change. In fact, in the 1970s and 1980s, Labanotation did make the leap from paper to the screen. In a series of collaborations between the DNB, the U.S. Army, NASA, the University of Pennsylvania, and the Biological Computer Laboratory, Labanotation was transformed into code and moving images. Over a period of 20 years, it was used to simulate everything from the movements of astronauts in space to the movements of human bodies in high-speed car accidents and played a role in the design of early humanoid robots designed to function in otherwise inaccessible environments. As a result, the regulation of human movement became central not just to the coordination of human groups, but also to the effective operation of large technological systems.

The book version of this project will include an additional chapter that traces the story of Labanotation's leap to the computer. For now, it is simply important to note that it was not necessarily a mismatch with the technological mainstream that doomed Labanotation. Instead, I would argue that the purposes to which Labanotation was put in the 1970s and 80s suggest a larger cultural shift in thinking about the meaning and value of human movement. Whether one sees Laban's vision of movement as utopian, dystopian, or something else entirely, his worldview was one in which the body was inherently meaningful, the seat of a not entirely graspable power that—if properly harnessed—could transform not just the individual, but society as a whole. The women of the Dance Notation Bureau, whatever the ironies of their efforts, saw the activities of the human body as perhaps *the* cultural form most deserving of preservation. Warren Lamb understood the body as the key to economic prosperity and personal happiness, while movement therapists like Bartenieff and Kestenberg sought in the body a tool of social reintegration after the bodily horrors of the Holocaust. Alan Lomax believed that dancers' undulations held the key to transforming and building new kinds of communities. The body, in these visions, was a formidable force in the world at large, ignored only at one's peril.

By the 1980s, however, the projects in which Labanotation was employed were much less idealistic and relied on a more mechanistic view of the body. NASA engineers were not particularly interested in the emotional experiences engendered by the movements of their helmeted captives; they simply wanted the mission to proceed with as few injuries as possible. Robotics designers sought to change the world using tools that mimicked the motions of the human body, but human bodies themselves were largely

absent as an object of study. The body became, in this new world, merely a collection of circuits and feedback mechanisms. It was no longer an inhabitant of the strange, vibratory landscape of fin-de-siècle Germany, but the hard-nosed, disenchanted environment of the modern scientific lab. Ironically, therefore, the scientific respectability Laban chased ultimately undermined his utopian aims.

Nevertheless, with the advent of new digital platforms for preserving, storing, and sharing multiple forms of media, Labanotation may be having a second life. When I visited the Lomax collections at the Library of Congress two years ago, the archivist told me that not a single person had touched the Choreometrics collection in the many years he had had overseen them. In the past year, however, there has been a renaissance of interest in Choreometrics. Working alongside Library of Congress archivists, a group of dance scholars from the University of Maryland has embarked upon an effort to digitize Lomax's films and make them available online for both academic study and popular enjoyment.

In many ways, this new venture, which the project's leaders are calling "Re-imaging and Re-imagining Choreometrics," represents a fulfillment of Lomax's thwarted vision.³ At the same time, however, it raises new questions about how to most compellingly, accurately, and ethically present data about the body. Lomax's massive trove of film is an indisputable treasury of cultural information, and it is exciting that it may soon be available outside of the limited confines of the Library of Congress. Nevertheless, there is a danger that the online repository will present the films as

³ "Re-Imaging and Re-Imagining Choreometrics," Accessed July 9, 2015. <http://www.reimaginechoreometrics.com/>

transparent representations of static cultures, rather than as documents produced through complicated interactions at particular historical moments.

The project's leaders have not yet clarified exactly what kind (or, in fact, whether) historical or critical materials will accompany the films. If they merely present the moving images without context, however, they will miss an important opportunity to help the scholarly community think seriously about the challenges and opportunities inherent in all attempts to preserve embodied experience.⁴ In the next year, I plan to develop my own set of resources for scholars and students interested in methods for capturing and preserving historical forms of embodiment. When complete, the portal will feature Labanotated movement scores alongside corresponding moving images, still photographs, computerized simulations, textual material, and personal recollections, inviting audiences to consider the benefits and shortcomings of each medium. The site will also move beyond Labanotation, providing comparable information about other techniques, both contemporary and historical, for recording movement. From Benesh and Beauchamp-Feuillet notation to recent efforts to preserve performance art, this collection will be intended to help spark a new critical dialogue about movement and methodology.

In her 1980 book, *Body Movement*, Irmgard Bartenieff “strongly suggested” that her reader “try to observe and experience actively, not just intellectually, the movement components and their variations as they are presented. The reading needs to be accompanied by doing. Otherwise, the totality of movement process will be reduced to fragmented, static rhetoric.”⁵ Such vigorous activity is perhaps a lot to ask from academic

⁵ Bartenieff, *Body Movement: Coping with the Environment*.

readers, but I hope that both this text—and, eventually, whatever additional media accompanies it—has at least begun to provide a vibrant, textured sense of what it meant to move in the twentieth-century.

To that end, future iterations of the dissertation will more fully explore the lived experiences of the dancers, workers, and patients whose movements Labanotation chronicled. Notators, unsurprisingly, were also chronic note-takers. Laban's papers fill hundreds of boxes at multiple archives and a quick glance through the Dance Notation Bureau's neglected file cabinets provides a similar wealth of information. The *notated*, however, have tended to be far less vocal. While I have been able to locate some evidence of their perspectives in the written record, I hope to supplement this data with future oral history interviews. Though several of the figures around which this dissertation centers have died in recent years—Warren Lamb, Irmgard Bartenieff, and Judith Kestenbrg, for example—many of the individuals whose movements they studied are still living and, in many cases, possible to locate. Closed portions of several archival collections that contain sensitive patient and employee information will potentially also be opened in the near future, providing further opportunities to access new perspectives on Labanotation's history and impact.

In his most recent book, the philosopher of art Alva Noë wrote about the revolutionary power of an imagined system for recording dance on paper: “Inventing a way of writing the moving body is transformative and imaginative in precisely the way that the invention of the writing of speech was but is no longer.” Writing, he writes, provided the foundation for the construction “of civilization, government, law, not to mention science,” and the creation of a similar institution for dance might provoke

equally wide-ranging changes.⁶ On a more quotidian level, he also notes that “in a world in which dance has been *represented*, it is not generally possible to dance in a way that is insulated from dance’s image... Watch people dance, and you see them perform; they cite and sample the postures, attitudes, steps, and styles that they have consumed. It is as if their spontaneous, free, untutored forays into dancing are shaped by a culturally shared movement bank.”⁷

What Noë does not realize, of course, is that such a system does exist and its effects have, in fact, been profound. Labanotation’s users employed it to synchronize movement across time and space, to uncover seemingly concealed truths, and to forge communities at times of great anxiety. It shaped bodies and minds and politics, and demonstrated the ongoing power of the body in a world that seemingly ignored it. Labanotation forged a particularly twentieth century mode of seeing, archiving, and manipulating the moving body—an unnoticed, but ubiquitous, style that reached from the gestures of ballet dancers to the stride of corporate executives to the whirring of military robots. And, as Noë predicted, Labanotation was ultimately employed as a tool to ensure that behind every “spontaneous, free, and untutored” movement lay a vision of a perfectly ordered world.

⁶ Alva Noe, *Strange Tools: Art and Human Nature* (New York: Hill and Wang, 2015), 43.

⁷ *Ibid*, 31.

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