The Stage as Organism: Liveness, Dynamics and Expression in Early Twentieth Century Scenography

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Abstract The histories of liveness entwining theater and media technologies have traditionally emphasized the tension between the mediated (not real time) and the live (that which takes place in its moment of presence). These arguments have been well rehearsed, with performance studies scholars like Philip Auslander and Peggy Phelan debating the body's disappearance into Baudrillardian image simulacra to more recent studies who view electronic images as the central technology for performance. An alternative history that is largely unknown to new media scholars and practitioners, however, is that of theater scenography: the technological fusion of scenery, lighting, costumes and media which has been exemplified in the radical work of early 20th century artists like El Lissitzky, Moholy-Nagy, Kiesler, Tatlin, Svoboda and more recent projects from architects like Herzog/De Meuron and Coop Himmelb(l)au. This paper will survey the historical practices of three specific early twentieth century artists/designers (Vsevolod Meyerhold, Lyubov Popova and Frederick J. Kiesler) who sought not only to re-conceive the stage as hybrid machine and organism with the new technologies of their time but also have redefined liveness through the transformation and folding of the human performer into novel assemblies of mechanical and material expression; machines that exhibit behaviors and dynamics that, while ìlive,î are decidedly not human.

Keywords: performance, machine, biotechniques, organism, scenography

In his 1947 lecture ìMachine and Organism,î the French philosopher of science Georges Canguilhem passionately argued for a biological understanding of machines. ìNearly always, the organism has been explained on the basis of a preconceived idea of the structure and functioning of the machine; but only rarely have the structure and function of the organism been used to make the construction of the machine itself more understandableî (1992, 45). Unlike the machineís restricted degrees of freedom, uniform movement designed for ìpurposivenessî and ìstrict adherence to rational, economical rulesî (56), the functions in an organism are ìsubstitutable,î plastic and adaptable to the external environment. The organism is dynamic in that it is ìless bound by purposiveness and more open to potentialitiesî (58).

As both trained philosopher and physician, Canguilhemís argument aimed to reverse the wellaccepted Cartesian mechanistic weltanschauung. Biological organization could be seen as the ìbasis and necessary condition for the existence and purpose of a machineî (45). According to Canguilhem, ethnologists and anthropologists may be the ones to really understand the continuity between machines and organisms in their studies of how early tools and techniques operated on and transformed nature. Technical inventions are thus none other than potential extensions of ìhuman behaviors and life processesî into the natural environment (63).

Canguilhemís understanding of the technical is one imbued by dynamism and change. Unlike Cartesian mimicry, representation or reduction of human behavior and movement to pure mechanics in which ìevery aspect and every movementî can be represented and calculated a priori, the organism is subject to transformation; in short, to a living experience. ìLife is experience, meaning improvisationî (58). What is at stake for us in Canguilhemís argument is what philosopher Bernard Stiegler has labeled ìthe pursuit of the evolution of the living by other means than lifeî (Stiegler 1998, 135). Stiegler refers here to the essential technicity that lies at the core of all human existenceóa technicity that, despite its common understanding as rational and teleological outside of the forces of nature, can be seen as improvisatory and mutable in and through time.

From a cultural and artistic perspective, Canguilhemís understanding of the machine appears to forge a continuity between two of the twentieth centuryís key paradigms: the mechanical age ushered in by the explosion of industrial modernism at its start and the end of century shift towards the biotechnological. This paper examines the tension between these two epistemes through one specific site of artistic practice, namely the stage. In many ways, the theatrical stage is an ideal site for exploration since ontologically, the

theater has always been dealing with the tension between human performers and spectators and technical apparatuses that condition perception, sensation and experience. Indeed, machines on the stages of Greek, Roman, Byzantine or Renaissance European civilization all play transcendent and immanent roles simultaneously; human constructed devices and apparatuses that at the same time stand in for and embody forces beyond humans in the guise of God, nature or other entities. The deus ex machina, automata, the architecture of the Renaissance perspective stage that controls the eye and privileges the sovereignís (and hence, Godís) ideal point of view and increasingly, the silent, hidden forces of computation to control the interplay of multisensory media, all extend human technicity from the stage and into the world.

Despite this long history of human bodies meeting mechanical matter, many recent attempts to explore the historical relationship of new technologies to the stage have relied mainly on the framework of media representation (usually visual) as the central technological influence. In his oft-cited book Liveness: Performance in a Mediatized Culture, Performance Studies scholar Philip Auslander intimates that ìthe history of live performance is bound up with the history of recording mediaî (Auslander 1999, 58). The live is that which is brought to us in real time by technologies of recording and reproduction versus the mediated, which is not real time. Although Auslander recognizes that performance has both been occupied with technologies over its history, he claims it is ìonly since the advent of mechanical and electric technologies of recording and reproduction, however, that performance has been mediatizedî (1999, 58).

The ìliveî is that temporal manifestation at the moment of its occurrence which makes performance unique and singular. In this sense, one of the central things that technology in the guise of media brings to the stage is a confusion of presence, something that deeply haunts theater and performance scholars and artists. The famed Polish director and theorist Jerzy Grotowski once described a ìrich theaterî of technologies borrowed from film as ìnonsenseî (Grotowski 1968, 19). More recently, performance studiesí theorists like Peggy Phelan have also sought to defend theaterís unique ìmarkingî of human bodies against the encroachment of mediation. ìPerformance implies the real through the presence of living bodies,î writes Phelan, discounting the importance of other bodies; the dynamism of technics that play along side and with human bodies on the stage (Phelan 1993, 148).

This paper proposes an alternative examination of the relationship among technology, the stage and the history of media arts that is materialized in the practice of scenographyówhat Czech designer Josef Svoboda described as the fusion of dramatic action and stage time and space itself through the means of dynamic and kinematic scenery, lighting, costumes and media. My aim is to show through the work of three exemplary practitioners of machine age scenography, the Russian theater director Vsevolod Meyerhold, the Russian painter and scenographer Lyubov Popova and the Austrian architect and designer Frederick J. Kiesler, how the continuum between the mechanical and the organic that Canguilhem describes is articulated in these creatorsí approach to the stage as a hybrid machineorganism, a novel assembly of mechanical-material expressions. As the theoretical discourse and artistic practices of what constitutes ìlivenessî that increasingly permeate this conference and the history of the media arts in general shift away from questions of static representations, of code or image, and towards examining the interrelationships and interactions among the biotechnical, the organic, the ecological and the performative, I argue that we need to re-examine the technological histories of performance outside of the paradigm of ìmediatizationî (Baudrillard) to grasp their material enunciations and repercussions. In this sense, I propose a reading of the histories of new media and performance away from the technical image confronting a strictly human-subject and instead, an examination of the stage event as a dynamic, spatiotemporal act constituted through the co-production and interaction of both organic and inorganic subjectivities.

The Bio-Mechanical Stage: Meyerhold, Popova and Bioconstruction

It is well known that the machine age was embodied in the core avant-garde artistic movements of the early twentieth century like Cubism, Futurism and Constructivism. Of all of these artistic trends, however, historically it is Constructivism that has been viewed as the core aesthetic expression of the foment surrounding the dawning of socialism across Russia and other parts of Europe between 1917- 1933. Despite the fact that differing Constructivist principles were argued out among warring factions and spread across more than a half dozen disciplines ranging from theater, painting, typography, cinema, industrial design,

architecture, and sculpture, the movementís central tendencies gravitated around the unification of art, science and industry in service of a new world of socialist-driven progress and an integration of such cultural production into everyday life.

Within the imaginary and ìsyntheticî realm of theatrical performance, Constructivist creators viewed the stage as an ideal laboratory to test out social experiments within a totalized, artificially designed technological environment that would have proved impossible to recreate within the turbulent economic and socio-cultural urban environment of post October Russia. Embracing the birth of a new industrial age, the stage became a material re-imagining of socio-technical life with scenographic environments composed of skeletal frameworks of exposed wood and steel, freely suspended staircases and precipitously perched girders, hanging projection screens and searchlights, ladders, cranes and ramps, jungles of blinking displays, signs, posters, slogans and text, moving walls, wheels and gears, and, in some cases, real cars, motorcycles, and trucks.

Although many theatrical experiments from 1918ñ1928 featured such architectural tropes, the most radical originated in the work of Russian theater director Vsevolod Meyerhold. Arguably one of the most influential twentieth-century directors, Meyerholdís work from the period between 1919 and 1927 radically transformed stage performance. In 1913, Meyerhold already spoke of a cinefication of the theater ñ not by putting the cinema image on stage (projection technology was too crude in Russia at the time) but rather through the use of theatrical lighting and fluid, choreographed staging to create a dynamic event that would parallel the cameraís transformation of space and manipulation of time.1 Even though Meyerholdís productions already flirted with Constructivist principles already around 1920, it was not until his fabled 1923 production of The Magnanimous Cuckold, a nineteenth century boulevard farce from the Belgian playwright Ferdinand Crommelynck done in collaboration with the Constructivist painter Lyubov Popova, that the directorís technical-scientific transformation of the stage environment was ushered in at full force.

Popovaís stripped-down scenography for the play bid farewell to earlier illusionistic stage design, instead bypassing fake painted scenery and representational 2D surfaces and replacing them with a gigantic machine-like apparatus. Consisting of a labyrinth of ramps, steps, ladders, painted wheels with the words CR-ML-NCK (the authorís last name) that rotated by way of the actors and sails that at times appeared as windmill blades and at other times, as abstracted mechanized forms, Popovaís scenography resembled more of an installation than a typical theatrical set. While Popovaís functional, skeletal scenographic environment transformed the stage into a machine, Meyerholdís virtuoso actors who were trained in a technique the director labeled ìbiomechanics,î treated the environment as a something of a giant, expressionist play-space for their own physical inventiveness; a machine for acting .

A series of twenty rigorous études, biomechanics comprised a set of physical exercises that aimed to organize the kinesthetic machinery of the actorís body in close connection with musical principles such as rhythm, dynamics, and tempo while simultaneously developing his agility, coordination, and expression in relationship to other performers on stage. Derived from circus and commedia dellíArte vocabularies, exercises like running, ìshooting the bow,î ìthe dagger attack,î ìslap on the face,î ìthrowing a stoneî and other static and dynamic poses built up an awareness of the component parts of a gesture, the relationship to the center of gravity and stage space and a general level of physical stamina to bring the actor up to the position of dancer . More importantly, as a ìmethod of physical actions,î biomechanics brought the body into the role of expresser; ìthe body as the producer of external wordî (Rudnitsky 1981, 296).

Historians have continually dwelled on biomechanicsí inspiration in the mechanization of the body taking place in Constructivist practices at the time as well as from the scientific management theories of the American psychologist Frederick Taylor, where a workerís body was subjected to indepth analysis of a given set of tasks around a particular set of jobs (cutting of metal, pig iron handling, bricklaying) in order to establish a given taxonomy of gestures that management could then teach workers in order to conserve bodily efficiency. Yet, within Meyerhold and Popovaís technoscenographic mise en scene, the tension between a technology external to the performerís body in its appearance and the machine as Canguilhemís ìextension of life processesî is rigorously played out. Popovaís scenography shapes the behavior of the performers by integrating them into the constraints of a machine while simultaneously the actors explode

the limited movement possibilities and predictable behaviors ìvirtuallyî contained within the apparatus through the irrational, improvisational dynamism of their own bodies. An economy of biological excess, of improvisation and adaptation, thwarts the simple assimilation of the body into the machine; a ìsubordination to the mechanical.î (Canguilhem 1992, 63). Instead, through Meyerholdís agile performers bouncing on and off of Popovaís static contraption, the mechanical becomes inscribed into the organic and the bodyís technicity is expressed in both the environment and in its improvisational possibilities; new creative material practices aimed at creating a new human being or what the Constructivists called life construction (Rudnitsky 1981, 294).

Frederick Kiesler: From Archi-Scenography to Biotechniques

The fact that Meyerhold and Popovaís machine vision can be said to harbor an underlying concept of the organism may strike one as strange, particularly since the scenography does not feature the ìsoftî visual hallmarks of biomorphic form at the level of its visual appearance. In his provocative article ìWhen Architecture Meets Biology,î architectural historian Detlef Mertins perceptively analyzes the strong interest that machine age artists/designers had with biological constructs through what he terms ìbio-constructivism;î the interest in a ìnew cosmology of world reconstructionî propagated by Constructivist architects, designers and scenographers like El Lissitzky, László Moholy-Nagy or even Mies van der Rohe who sought a new techno-scientific vision of man in relation to his environment (Mertins 2007, 115-117).

A key figure in this story is the Austrian trained architect, scenographer and designer Frederick J. Kiesler. Trained in architecture and painting in Vienna, Kiesler exploded onto the avant-garde scene in 1923 with an infamous electro-optical-mechanical scenography for Karl Capekís robot play R.U.R. in Berlin. As part of Kieslerís desire to destroy the legacy of ìpainting on the stage,î Kieslerís ìcontrol wallî consisted of a large contraption that covered the entire stage frame and whose surface consisted of a dizzying array of both painted and real objects: electrical machinery, metallic forms, doors and screens that opened, wheels and gears, measurements devices and other abstracted techno-emblems. The fixed ìelectro-mechanical scenery,î according to Kiesler, ìhas become alive, an active part in the play. De la nature morte vivante. The means to fill the stage with life are: movement of lines, sharp contrasts of colors, the transformation of surfaces towards reliefs and curved human formsî (Kiesler, n.d.). Indeed, Kiesler would already claim as early as 1932 that ìthe stage,î despite its mechanical glory, ìis a completely independent organism with its own theatrical laws of its timeî (Lesak 1988, 42).

It would not be until his emigration to the United States in 1926, however, that Kieslerís interest in the organization of biological form would increasingly shape his scenographic, design and thought practice. During his tenure as the head of the scene design department at the Juilliard School from 1934-1956, for example, Kiesler experimented with multi-screen projections, ìfigure-enlargingî costumes and more unusual geometric-biomorphic forms for stage objects. Even Kieslerís use of media in the form of film projection departed from the typical representation of images and towards the goal of creating a more dynamic stage environment that would co-evolve alongside the human performers.

It was also during this same period that Kiesler solidified his theories of ìbiotechniqueî through the establishment of the short lived Laboratory for Design Correlation at Columbia University where he worked on projects focused on a scientific approach to design. As described in the 1939 text ìOn Correalism and Biotechnique: A Definition and Test of a New Approach to Building Design,î correalism expressed ìthe dynamics of continual interaction between man and his natural and technological environments;î what Kiesler termed an ìexchange of interacting forces Ö and the science of its relationshipsî (Kiesler 2007, 68). Whereas for Kiesler the traditional architectural modernist notion of form follows function expressed an obsolete design formula where ìnew forms had been wrapped around conventional ways of living,î biotechnique would explore the manner in which the technological environment would ìdevelop the possibilities of specific actions contained in any nucleus of human physiologyî (76). Derived from the ìevolutionaryî and ìinventiveî potential of man, biotechnical design imagined a technological environment that would be a ìliving organismî by definition of it fulfilling human need. ìAnything of natureís creation which fulfills a need is a living organism. Every creation of manís technology is a living organism, whether it be a pillbox, a house or a motor (77). Components of the biotechnical environment would regulate the

human environment through an ìinterplay of action with one another and with nature.î Through its continual interaction between natural and artificial environments, technology thus would aim to develop ìnew functions within the old framework of what was considered human nature, sustained by inventionî (78).

Conclusion: The Animation of Matter

It is clear that Kieslerís scenographic practice was bound up in this broader conceptualization of the biotechnical forces expressed in the interaction loop among man, technology and nature. In artistic and design terms, Kiesler was already far ahead of his time in exploring the manner in which natural processes could extend into human practices through tools and techniques. Movement and animation, those characteristics by which we attribute whether something is ìaliveî is, according to Kiesler, ìchiefly the result of optical observationî (77).

ìAt what point does inanimate matter pass over and become alive?î wrote Kiesler in ìOn Correlation,î referring to a 1912 experiment in which cells from the heart of a developing baby chick were removed by Rockefeller Institute researchers and healthily grown and sustained inside the technically constructed environment of a test tube. ìThe experiment confirms the view that, while life only comes from life, it is also dependent on its technological environmentî (75). In Kieslerís view, the goal of biotechniques is indeed the bridging of two kinds of life: human and technical. ìFinding the bridge between man and artificial, man-built, technological environments must become the grand quest of future buildingî (75). In their examination of and practice constructing scenographic environments that challenged the concept of representation and fixity, Meyerhold, Popova, Kiesler and other early twentieth century scenographers thus paved the way for our current age in which new materials and matter changes shape, color and size and renders possible the potential for action in material form. Indeed, as our understanding of liveness becomes increasingly hybridized by our new twenty-first century technologies of ìlife construction,î Kieslerís formulation of biotechnical life will increasingly become more resonant.

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Notes 1 Meyerhold, along with German director Erwin Piscator, was among the earliest theater directors to integrate the cinema screen within three productions starting in 1923. Yet, cost and resource factors prohibited the director from ever using film in the way he imagined it. **Haunted profiles: *Social networking sites and the crisis of death***