

## Disintegrated Circuits: Rethinking the Score in the Postwar ‘Aesthetics of Indeterminacy’

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### ABSTRACT

Anyone who has read John Holzaepfel’s work on David Tudor cannot fail to be struck by a number of paradoxes surrounding this performance practice, not the least of which is Tudor’s emphatic effort to reintroduce *control* into “experimental” compositional forms, based on chance and indeterminacy, seemingly predicated on its renunciation.<sup>1</sup> This apparent contradiction is, I think, symptomatic of a larger redistribution of functions between composer, performer and listener in postwar musical practice, in which the “deskilling” of traditional compositional expertise would occasion a “new virtuosity” on the part of the performer. As Holzaepfel’s painstaking reconstruction of Tudor’s preparatory procedures makes clear, the utopian “liberation” of the performer paradoxically imposed extreme demands of physical dexterity, technical rigor, and conceptual invention. The “indeterminate” scores of Earle Brown, John Cage, Morton Feldman and Christian Wolff necessitated unprecedented degrees of interpretive intervention “to make the notation...yield information necessary for performance.”<sup>2</sup>

If a postwar “aesthetics of indeterminacy” often fetishized the abstract/graphic score as an independent visual object, the emphasis on the performer’s co-creation of the work also came hand in hand with a curious *ambivalence toward written notation*. In his 1972 essay “From Piano to Electronics,” Tudor invoked Ferruccio Busoni’s suspicion of written forms: “There is a paragraph in Busoni which speaks of notation as an evil separating musicians from music, and I feel that everyone should know this is true.”<sup>3</sup> Bolstered by readings of Artaud, who called for the immediacy of the bodily live performance beyond the “dead signs” of language, this stance seems contradicted by Tudor’s meticulous devotion to the written scores he performed.<sup>4</sup>

Complicating the expected relations between the fixity of writing and “openness” of live enactment, Tudor’s “realizations” would strive to eliminate spontaneity and contingency, for instance suppressing the improvisatory aspects of Earle Brown’s compositions,<sup>5</sup> and subverting programmatic unpredictability of Christian Wolff’s *For Pianist* (1959) by methodically *working out every single permutation in advance*. Although the piece was designed to prevent Tudor’s characteristic methods of preparation, by introducing variables triggered by chance occurrences arising during performance, Holzaepfel argues, “Tudor made a realization in which he prepared himself for all contingencies that could arise in performing it.”<sup>6</sup> Thus a supposedly “indeterminate” composition is transformed into an almost mechanistic flow chart for the purposes of live performance.

<sup>1</sup> John Holzaepfel, *David Tudor and the Performance of American Experimental Music, 1950-1959* (City University of New York, 1994); and “The Tudor Factor,” in *John Cage: Anarchic Harmony*, ed. Stefan Schädler and Walter Zimmerman (Mainz: Schott, 1992). As will be clear in what follows, I am enormously indebted to Holzaepfel’s research and analysis of Tudor’s work. In his “Epilogue,” Holzaepfel addresses this quandary: “For in spite of the composers’ numerous pronouncements about spontaneity, unpredictability and freedom, here was the music’s first and most important performer working it out in advance with a rigor that is little short of astonishing... Do the aesthetics of indeterminacy stand at odds with Tudor’s systematic means of ensuring it in performance?” Yet he argues that this apparent conflict between compositional “indeterminacy” and performance control is not so great as it may initially appear, given, for instance, Cage’s insistence on discipline and early reliance on extraordinarily arduous and complex methods of “chance generation,” concluding that “Tudor’s working methods were congruent to, even paralleled, the exactitude of Cage’s own” (p. 314).

<sup>2</sup> Holzaepfel, p. 100. To articulate the intensive translation/transcription entailed in “the production of meaning which is performance,” Holzaepfel differentiates between what he terms “text 1” (the composer’s score, instructions, etc) and “text 2” (Tudor’s realization and performance materials).

<sup>3</sup> *Music and Musicians* 20 (August, 1972), p. 24; cited in Holzaepfel, pp. 12-13.

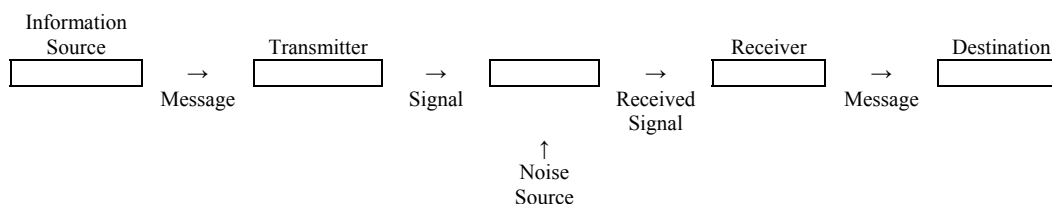
<sup>4</sup> Again paradoxically, Tudor’s meticulous procedures of measuring, plotting, and transcription, producing his own performance materials, would effectively translate all manner of unorthodox graphic “scores” back into something roughly resembling conventional musical notation.

<sup>5</sup> As Holzaepfel argues, “Tudor’s realization freezes Four Systems by removing most of its improvisatory aspects” (p. 131).

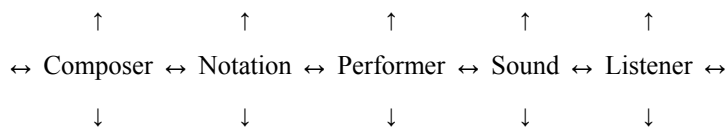
<sup>6</sup> Holzaepfel, p. 166.

To unravel some of these contradictions, I would like to read Tudor's practice (and the larger "Cagean" project) in terms of the *changing function of the score*, understood in relation to nascent models of communications systems. Cage's postwar practice, I will argue, established a functional independence between composition, performance and listening, de-linking operations - production, transmission and reception - which had been systematically fused in accounts of "message transmission." Yet the "anarchic harmony" of postwar experimental musics cannot be neatly opposed to instrumental theories of "information transmission," initially generated by WWII-era research into acoustics, telephone circuit design and missile targeting. Claude Shannon's "mathematical theory of communication," developed to ensure faithful, efficient, unidirectional transmission of signals by minimizing interference ("noise"), nonetheless diagrams and makes explicit the potential autonomy and *dis*-integration of these circuits. This correlation is confirmed by Tudor's subsequent work, since the 1960s, with all manner of transducers, loud-speakers, amplifiers, and analogue electronic devices, in which he essentially set in motion electronic phase shifting and feedback situations in which series of linked components would start to interact, until the network would take on "a life of its own."<sup>7</sup>

Long critiqued for the linear, functionalist assumptions it imparted to American studies of mass communication, Shannon's "Fig. 1.- Schematic diagram of a general communication system"<sup>8</sup> nonetheless provided a tremendously influential postwar model of "information" transmission:



In his notes from Cage's "Experimental Composition" class at the New School in 1959, the artist George Brecht analyzed musical performance as such a system, diagramming components in a manner which references - and rewrites - Shannon's model, as follows.<sup>9</sup>



Cage's own project was avowedly anti-instrumental, embracing sounds as "things in themselves" rather than as vehicles for human sentiments or ideas. Yet his understanding of music as "organized sound" arguably draws on the decomposition of acoustic phenomena made possible by new audio technologies, and on emerging systems/information frameworks which decomposed "communication" into series of potentially autonomous functions. If musical interpretation and performance traditionally entail the ordered transmission of information from "source" to "recipient," regulated at every stage, Cage re-envisioned composition as "an act the outcome of which is unknown." Thus we can read indeterminacy - "accepting what occurs," rather than suppressing what was not intended - as predicated on allowing "communication systems" to operate freely without controlling their outputs. As Brecht suggests, such processes are the sources of *structure* in contemporary music, based on the necessity of internal relationships between composition, performance, and perception. I would like to use Brecht's very provocative work in the *Notebooks* to examine the reconfigured role of the score in postwar experimental music in light of these concerns.

<sup>7</sup> "An Interview with David Tudor by Teddy Hultberg," Dusseldorf, May 17-18, 1988; The David Tudor Pages, [www.emf.org/tudor](http://www.emf.org/tudor).

<sup>8</sup> Claude E. Shannon and Warren Weaver, *The Mathematical Theory of Communication* (Chicago: University of Illinois. 1949). p. 34.

<sup>9</sup> George Brecht, *Notebook III (April, 1959-August, 1959)*, ed. Dieter Daniels, with Hermann Braun (Cologne: Walther Koëinig, 1991) July 22, 1959, p. 120. Brecht further proposes: "When sounds arise consistent with the nature of their source, there is music," elucidating: "Each defines 'consistency' and 'source': with Stockhausen, the source is the composer, the consistency, conformance to his intention; for Cage, the source is where the sounds come from, the consistency ('naturalness')."

## FULL PAPER

[I wish to declare my status as a non-specialist in music who brings perspectives from art history and comparative literature at the outset.]

### Introduction:

My interest in Tudor's "work" (however we may define that term) initially arose out of my research into the pre-Fluxus (1959-1961) "word pieces" or short "event scores" of La Monte Young and George Brecht, with their curious use of language as something both *autonomous* — as words to be read — and *instrumental* — as things to be done, as a set of directions or instructions for something else, which could be "realized" as a performance, as an object or sculpture or environment, or, more internally, as a kind of attention or awareness brought to pre-existing phenomena:

Brecht:

MVSE #1 (1960) MVSE #2 (1960)

Lamp Event (1961) Three Telephone Events (1961)

Three Drip Events (1959-62) Flux Hall performance (1964)

Two Durations (1961) Word Event (1961)

Young:

Comp 1960 #7 Comp 1960 #10

Comp 1960 #9 Paik, Zen for Head (1962)

I found myself interested in several intersecting questions:

- 1) An apparent shift from a more identifiably "Cagean" practice of multi-centric simultaneity or dispersion, of many things going on at once, to the gradual paring down to a single, isolated action or event — as in Brecht's shift from the early, more instruction-like scores composed in Cage's class to the later, more focused events like "exit"
- 2) The strange potential of these extremely simple and compressed forms to permit multiple and heterogeneous "realizations" — both in the potential for transmutation between media, in which a shared structure (e.g. the line) could be said to exist as language, sustained sound, graphic inscription, or physically enacted performance (e.g. Young's 1961 realizations of "drawing a straight line" with Robert Morris) — and in their capacity to permit highly "original" and unorthodox realizations, as seen for instance in Paik's celebrated realization of Young's "Composition 1960 #10" at one of the early Fluxus festivals in Weisbaden.

One doesn't have to be a genius to understand that such projects propose a model of "performance," or "performance art," quite different from the essentially "theatrical" models — of staged live interpretation before an audience — still predominant in performance studies — since they implicitly align, for instance, the temporality of objects or natural process with that of linguistic or graphic inscription as well as with performed public enactment.

- 3) The vexing question of what it meant to employ text as a kind of musical "score," with all the indeterminacy that entails as to temporality, notation, and to the nature and identity of the "work." Although the very word "score" suggests certain implicit connections between counting, marking and physical inscription which themselves lie at the "roots" of written language, available literature on poetics rarely seems to engage these questions, nor to connect them with musical practice — except for, say, on the most banal levels of rhythm, meter and the oral delivery of poetry (either in older lyric traditions or more contemporary "performance poetics"). Likewise, despite the provocative 1960s writings of Roland Barthes and Umberto Eco, which attempt to link "open form" work in music and literature, the musicological discourse on notation and the score rarely appears to question certain assumptions about the communicative and representational efficacy of notation nor engages deeply with the myriad problems of textuality.

- 4) The myriad effects of the entry of text into the space of the musical score (which is not an "entry" per se, since written language as supplementary annotation has long appeared alongside musical notation). This introduction of text somehow seems premised on, or happens to occur when "music" itself is being voided of its own linguistic

underpinnings, the integrated system of discrete “notes” and rhythmic/metric time structures, in favor of noise, quantitatively-derived sonic continuities, and externally-derived time structures such as clock time and recording time — in effect, the historical paradox that this introduction of language into the space of the score occurred in the wake of a certain pulverization of musical language under the pressures of the mechanical and electronic production, recording and transmission of sound (technically, the shift from the “discrete” semiotic units of conventional languages to the “continuous” signs generated by indexical processes). Thus these “word pieces” or “events scores” occur as the function of notation moves from the *representation of sound* — “something to hear” — to an *operational definition, a direction of action* — “something to do.”

### The “Crisis” in Composition

This shift from the “composition” of a work to the “specification” of a process as a set of physical/technical parameters, procedures, gadgets, etc, perhaps occurs most paradigmatically in the collective, proto-minimal project of the Theatre of Eternal Music (1962-65) in which the apparently “simple” structure of “two notes sounding together” generates series of complex sounds over extended durations. Paring sound down to basic elements of timbre, tonality and instrumental technique, the music of Young, Tony Conrad, John Cale and other collaborators bypassed the communicative and structuring functions of written notation to focus on music as a kind of *practice*, a discipline, something *done* — precisely as an ongoing activity that weirdly defies or resists available mechanisms of archiving or representation (including trying to determine the identity of the “author,” “work,” etc.) Conrad would later claim that “at their core, the hundred or so recordings of *Dream Music* emblematically deny ‘composition’ its authoritarian function as a modern activity,” and that the mechanism which made the collaborative merging of composer, performer, and listener was “attention to, and preoccupation with, the sustained ‘sound’ itself.”

It is probably not surprising that the ongoing public controversies over the “composition” (and legal ownership) of this project, between Young, Conrad, Cale and others, provides a kind of “test case” for theories of “authorship” (with all the temporal priority that implies) versus a more expanded notion of collaboration or collective production entailed in the real-time generation of music around a set of pre-established and highly-specified parameters. [While I would not attempt to take a stand on this controversy, it does seem unfortunate that Young buttresses his account on legal definitions of “composition” — e.g. the claim that Cale’s and Conrad’s activities did not constitute “copyrightable contributions” — given the undeniable limitations of such criteria].

Indeed part of the difficulty of this conference, and the historical importance of Tudor’s work, lies in establishing critical vocabularies that allow us to approach this highly-disciplined practice of sound generation and execution that exceeds what we usually understand as “performance” or “interpretation” — a generative function which becomes visible, in Tudor’s case, (as Ron Kuivila proposes) only in the *absence* of another composer’s score, however indeterminate, but which has arguably been there all along. For Young, in particular, it is striking to what extent Tudor (as much as and perhaps even more than Cage) serves as a model for an expanded notion of music, one which will go beyond the previous segmentation of composition, notation and performance, one which will permit, for instance, Young’s notion that you could “play another kind of process,” a poem of concept or graphic inscription or imagery, ... “something other than just a score.” Despite the absence of the constraints provided by conventional musical notation, such realizations are far from “open” or formless; such “scores” instead entail a different kind of discipline, grounded in conceptual invention and “problem-solving” and often physically taxing enactment.

Tudor’s sustained sound-generating activities apparently permitted both Young and Brecht to re-conceive music as a series of discrete processes and events no longer exclusively based in sound or audibility. Just as Young insists on the enormous importance of watching Tudor perform at Darmstadt in 1959, for his subsequent production, Brecht, in his notes on Tudor’s three concerts of “new piano works” at the Living Theater in March/April of 1960, carefully decomposes pieces such as Wolff’s “for piano with preparations” (1958) or Cage’s “solo for piano with Fontana mix” (1959) into extended lists of discrete actions, objects and sounds: “recorder snap piano cover reverberation bass struck strings... recorders voice shift pages, off on, low piano cluster sustaining pedal wedge piano case struck voice, rickety, voice (fragments) rata-tata-rata-tata (lobby glass breaking)... high sound density shrieks, roar, tapes, voices, loops.” On the program for the third concert on April 11, which featured works by Christian Wolff, Toshi Ichiyangi, Cornelius Cardew and Young’s “Poem for Chairs, Tables, Benches, etc (or other sound sources),” all played twice, Brecht has scrawled “Auto-horn piece” with a star — the first mention of what would become “Motor Vehicle Sound Event.”

## Tudor's Practice

What are we to make of Tudor's role in the articulation of early performance/process strategies? What contradictory models did he provide? Anyone who has read John Holzaepfel's work on David Tudor, or looked at Tudor's meticulous score realizations, cannot fail to be struck by a number of paradoxes surrounding this practice, not the least of which is Tudor's emphatic effort to reintroduce *control* into "experimental" compositional forms, based on chance and indeterminacy, which were seemingly predicated on the renunciation of such control.

In his "Epilogue," Holzaepfel addresses this quandary: "For in spite of the composers' numerous pronouncements about spontaneity, unpredictability and freedom, here was the music's first and most important performer working it out in advance with a rigor that is little short of astonishing... Do the aesthetics of indeterminacy stand at odds with Tudor's systematic means of ensuring it in performance?" Yet he argues that this apparent conflict between compositional "indeterminacy" and performance control is not so great as it may initially appear, given, for instance, Cage's insistence on discipline and early reliance on extraordinarily arduous and complex methods of "chance generation," concluding that "Tudor's working methods were congruent to, even paralleled, the exactitude of Cage's own.

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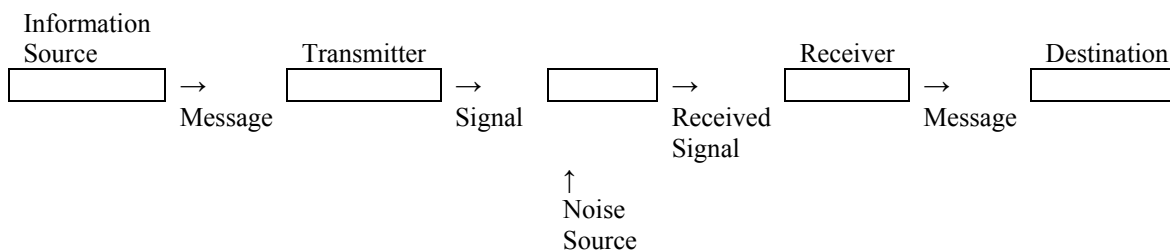
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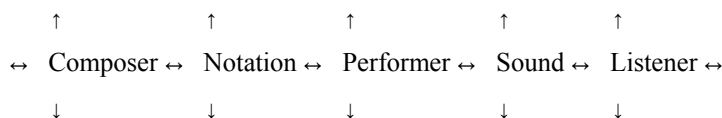
communication,” developed to ensure faithful, efficient, unidirectional transmission of signals by minimizing interference (“noise”), nonetheless diagrams and makes explicit the potential autonomy and *disintegration* of these circuits. This correlation is confirmed by Tudor’s subsequent work, since the 1960s, with all manner of transducers, loud-speakers, amplifiers, and analogue electronic devices, in which he essentially set in motion electronic phase shifting and feedback situations in which series of linked components would start to interact, until the network would take on “a life of its own.”

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Shannon’s “Fig. 1. - Schematic diagram of a general communication system”:



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In his notes, Brecht further proposes that, “When sounds arise consistent with the nature of their source, there is music,” elucidating: “Each defines ‘consistency’ and ‘source’: with Stockhausen, the source is the composer, the consistency, conformance to his intention; for Cage, the source is where the sounds come from, the consistency (‘naturalness’).”

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