JOHN CAGE'S JOURNEY BACK TO THE FUTURE:
THE CURIOUS CAGE

Ellen M. Baize
Falks Seminar--Spring, 1986
Christopher Newport College
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History itself seems to show that by the end of the nineteenth century Western music was headed toward aleatory music. John Cage's interests and his developing philosophy were such that he became a major influence in this development, the "New Esthetics" prophesied by Ferruccio Busoni in his Sketch of a New Esthetic of Music (1907).

Beginning with his prepared piano experiments, Cage progressed by degrees first to indeterminacy in composing and, finally, in performance. I see the period 1951-52, when he composed Music of Changes, Imaginary Landscapes No. 4, and 4' 33" as a crucial period in his development. They were the connectors leading him towards music that is "purposefully purposeless."

Considering the development of music at the turn of the century, John Cage emerges not so much as a revolutionary as a fulfiller who takes music to the next logical step. That step is opening the way for future possibilities.

Ellen M. Baize
Christopher Newport College
20 minutes
of view, that I threw them away. Later, when I got to California, I began an entirely different way of composing, which was through improvisation, and improvisation in relation to texts: Greek, experimental writing from transition
JOHN CAGE'S JOURNEY BACK TO THE FUTURE:
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In an interview at age 70 John Cage (1912-present) was asked what he considered his most important piece of music. He replied that 4' 33'', his silent piece, was his most important music:

Because you don't need it to have it. You have it all the time. And it can change your mind making it open to things outside it. It is continually changing. It's never the same twice. In fact, and Thoreau knew this, and it's been known traditionally in India, it is the statement that music is continuous. In India they say: Music is continuous, it is we who turn away."

The development towards the acceptance of all sounds in music is both a stepping forward as well as a reaching back to the past in the development of Western music. All through the history of Western music, elements from the past have been combined with the elements of the present to give us music of the future. Possibly the greatest contribution of John Cage to the development of Western music is his inclusion of all phenomena of sound in the field of music--an idea that was not original with him.

Until the 1600's music was composed using Pythagoras' concordant intervals. The voice, the primary instrument of that time, is capable of adjusting as needed to keep intervals consonant. With the development of the keyboard with its fixed intonation and meantone temperament,

concordance existed only at the octave, third and fifth. The resulting dissonance introduced tonality. When equal temperament replaced meantone, around 1800, the octave was the only remaining concordant interval. The diatonic keys now all contained the same discordant intervallic relationships. Dissonance became more acceptable to the ear and chromaticism more common in composing. By 1900 it was recognized that the twenty-four major and minor diatonic keys had been replaced by a single key of 12 tones. (Table I illustrates this progression in the field of temperament from consonance to dissonance.) It is evident that the next step forward is toward noise.  

Music had first to be freed from dissonance, then any and all sounds had to be admitted into accepted music. The dissolution of the twenty-four major and minor diatonic keys into a single key of twelve tones was first formulated as a principle by Schoenberg (1874-1951) although Charles Ives (1874-1954) had already put it into practice in his music.

Ferruccio Busoni, in his Sketch of a New Esthetic of Music, 1907, predicted scales of microtonal division and a music of sound as well as electronic music. The futurists of the late 1800's advocated the use of environmental sounds in composition. Peter Hansen, in his book An Introduction to Twentieth Century Music, discusses a manifesto written by Luigi Russolo (one of the many manifestos written during this period) in


(3) Yates, Twentieth Century Music, p.270.

which Russolo argues that since "life in the ancient is silent" but with the invention of machines "noise is born," therefore noise should be admitted in musical compositions. Russolo writes:

We must break out of this narrow circle of pure musical sounds, and conquer the infinite variety of noise-sounds.... Let us wander through a great modern city with our ears more attentive than our eyes, and distinguish the sounds of water, air, or gas in metal pipes, the purring of motors (which breathe and pulsate with an indubitable animalism) the throbbing of valves, the pounding of pistons, the screeching of gears, the clatter of streetcars on their rails, the cracking of whips, the flapping of awnings and flags. We shall amuse ourselves by orchestrating in our minds the noise of the tall shutters of store windows, the slamming of doors, the bustle and shuffle of crowds, the multitudinous uproar of railroad stations, forges, mills, printing presses, power stations, and underground railways."

Charles Ives had admitted noise sounds into his music, but it was Henry Cowell (1897-1965), one of John Cage's teachers, and Edgard Varèse (1883-1965), a pupil of Busoni, who first broadened the concept of music to include all phenomena of sound. John Cage took the ideas and explored more fully these concepts of sound. Cage himself says of Varèse:

"...more clearly and actively than anyone else of his generation, he established the present nature of music. This nature does not arise from pitch relations (consonance-dissonance), but arises from an acceptance of all audible phenomena as material proper to music."

Cage became very interested in noise through Oscar Fishinger, who

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"Nicholas Slonimsky, Music Since 1900, p.642, as quoted in Hansen, An Introduction to Twentieth Century Music, p.90.

"Yates, Twentieth Century Music, p.199.

made abstract films. Fishinger made the remark that "everything has a spirit and that spirit can be released by setting whatever it is into vibration." Thus began Cage's interest in percussion and noise. Observing that the materials of music consist of sound and silence and that the only parameter of sound shared by silence is duration, Cage replaced tonal structure with rhythmic structure. His first efforts were in percussion music. In his lecture "The Future of Music: Credo", delivered in 1937, he says:

Percussion music is a contemporary transition from keyboard-influenced music to the all-sound music of the future. Any sound is acceptable to the composer of percussion music; he explores the academically forbidden "non-musical" field of sound insofar as is manually possible.

Methods of writing percussion music have as their goal the rhythmic structure of a composition. As soon as these methods are crystallized into one or several widely accepted methods, the means will exist for group improvisations of unwritten but culturally important music. This has already taken place in Oriental cultures and in hot jazz.

Cage's experience in the anechoic chamber at Harvard, where he heard his nervous system and circulatory system, had a great impact on his esthetic development. He realized that there is no such thing as empty space or an empty time. "Until I die there will be sounds. And they will continue following my death." Cage realized that instead of sound

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"*"Montague, "Cage at Seventy", p. 209.

"**"Cage, Silence, p.7.

"***"Cage, Silence, p.5.

"****"Cage, Silence, p.8.
and silence, there existed intentional and nonintentional sound; that in music, silence is actually unnotated nonintended sound.  In Cage's 1937 lecture on the future of music, he said,

I believe that the use of noise to make music will continue and increase until we reach a music produced through the aid of electrical instruments which will make available for musical purposes any and all sounds that can be heard.

In Cage's Imaginary Landscape No. 1 (1939), followed by No. 2 and No. 3 (both written in 1942), percussion is combined with electrical and mechanical devices. These are his first use of the sine continuum (see Table I) and the subsequent source of electronic composition.

With his invention of the prepared piano, 1938 (an extension of Cowell's earlier work) Cage turned the instrument into a precussive instrument "capable of microtonal variability". He also demonstrated that a note could be read as instructions to strike a certain key, the sign having little relationship with the pitch actually produced. This

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(13) Cage, Silence, p.3.
(14) Yates, Twentieth Century Music, p.309.
(15) This date is questioned by Paul Griffiths, Cage (London: Oxford University Press, 1981, p.13. He says that the score is dated March, 1940 and that Cage thinks this is the more likely date. However, Cage in earlier writings gives the date as 1938. For example in the brochure accompanying the recording of the 25 year Retrospective Concert, 1950.
emancipation of music from its notes was another step towards the acceptance of all sounds in music.

During the 1940's Cage became interested in oriental philosophy. From the music of India and, he claims, from the isorhythms of the Middle ages and from Satie and Webern came his rhythmic structuring of music. His first Construction in Metal, 1938, is his first extended piece using durational structures. There are sixteen sections, each section containing sixteen measures divided proportionally 4:3:2:3:4. The longer sections are grouped in this same ratio. (Table II.)

As a result of his studies of Zen philosophy with Dr. Daisetz T. Suzuki, Cage learnt a philosophy of acceptance. Talking about its application to music, Cage said:

And what is the purpose of writing music? One is, of course not dealing with purposes but dealing with sounds. Or the answer must take the form of a paradox: purposeful purposelessness, or a purposeless play. This play, however, is an affirmation of life—not an attempt to bring order out of chaos nor to suggest improvements in creation, but simply a way of waking up to the very life we're living, which is so excellent once one gets one's mind and one's desires out of its way and lets it act of its own accord.

To achieve this "purposeless art", Cage used charts similar to those of the I Ching (the coin oracle of the Chinese Book of Changes), but instead of having numbers, the charts had single sounds, intervals, and aggregates; the aggregates and intervals being made on either one

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(17) Paul Griffiths, A Concise History of Avant Garde Music, (London: Oxford University Press, 1978), p.127, quotes Cage: "It took a Webern and a Satie to rediscover this musical truth, which by means of musicology, we learn was evident to some musicians in our Middle Ages, and to all musicians at all times...in the Orient."

(18) Cage, Silence, p.12.
instrument or several. These charts were used to compose The Sixteen Dances (1951) and the Concerto for Prepared Piano and Chamber Orchestra (1951). Given a copy of I Ching Cage began using it in his composing. In his Music of Changes (1951) Cage's method for composing was chance operations. The structure was planned using the series of numbers: 3, 5, 6 3/4, 6 3/4, 5, 3 1/8. These numbers became the number of units within each section, the number of measures of 4/4 within each unit. Chance operations determined whether the tempo changed or remained stable at each section. Cage uses space to indicate rhythm, with two and a half centimeters equal to a dotted quarter note. In this composition, Cage realized that structure had become unnecessary. Previously the structure had indicated units of time; now it indicated units of space, the "speed of travel through this space being unpredictable."

Cage's aim was to compose music "free of individual taste and memory ... so that sounds could be themselves in a space of time." Cowell criticized Music of Changes as still reflecting Cage's taste. In response Cage composed Imaginary Landscape No. 4, using 12 radios so that no one would be able to discern his taste in this composition.

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(1)*Cage, Silence, p. 57.
(2)Cage, Silence, p. 25.
(3)Cage, Silence, p. 57.
Here, planned structure is again used based on the ratio 2:1:3 and the I Ching was consulted to determine the stability of the tempo at each section. A study of this score reveals that the durational structure apparently serves no purpose other than as a compositional means for tempo markings. This explains Cage's realization that structure was no longer necessary, though sometimes useful. (Table III.) In this composition, a half inch equals a quarter note. Notation is used with frequency numbers written above to indicate when the frequency is to be changed. Once again notation is used to give instructions not relating to pitch. I was able to chart out this music on graph paper indicating the frequency changes on the corresponding points on the graph. (Table IV.) The lack of notes was not a problem. In fact I found it easier to determine the rhythms of the music. This composition admits sounds of indefinite pitch produced by non-conventional instruments into music. Sounds from life (the radios) are the sole sources of sound.

Cage's next composition, 4’33" (1952) was the final step towards liberating sound from notation. Notation has no function and is not used. The sounds of the environment become the sounds of the composition. In essence, with sound freed from notation, the entire field of sounds is opened to both intentional and nonintentional use.\(^\text{24}\) As Cage said, in a brief statement written for an exhibition of graphic music notation at the Honolulu Academy of Art, April, 1964,

\[
\text{The material of music, sound, is now understood not as a limited number of conventional pitches (those of the major and minor European scales) but as a}
\]

field phenomenon. This understanding has introduced new kinds of notations. Some are graphic in character." (25)

Thus Cage opened his music to all sounds and all continuities. In composition Cage's music was indeterminate but with respect to its performance, his music was still determinate. Cage realized that this created a work more inhuman than human; chance operations brought it into being; those sounds come together to control the human being—the performer. This led Cage to:

...create situations or processes that maximize the possibility of the unexpected by composing works indeterminate with respect to performance...I try to keep my curiosity and awareness with regard to what's happening open, and I try to arrange my composing means so that I won't have any knowledge of what might happen. (26)

Cage's efforts to blend music with "the life we live" led to the inclusion of activities in his compositions, a blending of the arts. This dimension of sound, concerned with the nature of sound as an agent of group relationship, has its roots in the ancient use of sound for any musical, ritualistic or dramatic purpose. (27)

Cage's first "happening" (an unstructured performance) was at Black Mountain College, North Carolina in the summer of 1949. HSPCHD (co-composed in 1968 with Lejaren Hiller) can be seen as a completion of Charles Ives unfinished effort to compose the Universe Symphony.

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(25) Kostelanetz, John Cage, p.149.

(26) Quoted by Richard Teitelbaum, "'Live' Electronic Music", (the note to the Columbia recording of Variations II, MS7051) as cited in Kostelanetz, John Cage, p.141.

(27) Yates, Twentieth Century Music, p.16.
Ives imagined groups of players around the countryside on hills and in valleys "sounding a joyful disorder." Cage and Hiller used technology, unavailable to Ives, to distribute their joyful disorder over an enormous space. (28)

Cage himself is very modest about his contributions to the development of music:

If I performed any function at all, it's one that would have been performed in any case: to take us out of the notion of the mainstream of music and into a situation that could be likened to a delta or field or ocean, that there are just countless possibilities. (29)

His opponents recognize his influence and impact on the development of music, especially here in the United States. (30) Cage has been accused of trying to destroy Western music. His achievements have often been the target of ridicule. With the continuing growth of electronic and computer knowledge, new possibilities are being presented to musicians. More is being learnt about sound in our universe. John Rockwell, in his book All American Music, predicts that Cage will seem an extension of the established mainstream of Western art music from the perspective of a musicologist 200 years from now. "But his inspiration can even now be seen as a form of renewal." (32) Cage says of his music:

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(28) Kostelanetz, John Cage, p.177.

(29) Gagne and Caras, Soundpieces, p.81.


(31) For example, see the comments of Richard F. Goldman, Musical Quarterly 37 (1951): 580.

(32) Rockwell, All American Music, p.47.
I don't see why my music, even granting that I may have some sort of property right over it, should replace existing music or dominate music to come! Sounds have always existed. They will continue to emerge after my death. They have always co-existed with different kinds of oral, written or electronic music. All I am doing is directing attention to the sound of the environment. The music world shouldn't disappear just because I am trying to restore dignity to these sounds. I hope that in the future Beethoven will continue to be celebrated—celebrated with less gravity than 20 to 25 years ago. 

In his review of the performance of Imaginary Landscape No. 4, Henry Cowell states that Cage was more interested in the concept than the result of any performance of his music. However, Cage believes his music to be as important as his esthetics. It is through his music that Cage invites us to alter our way of perceiving the arts and the life we live.


[^34]: Henry Cowell, "Current Chronicle", p.126.

**TABLE I**

**WHITE SOUND**

The unharmonized vocal spectrum corresponding to white light

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**TABLE II**

*First Construction in Metal*

<table>
<thead>
<tr>
<th>Scale</th>
<th>4a-3a-2a-3a-4a</th>
<th>4a-3a-2a-3a-4a</th>
<th>4a-3a-2a-3a-4a</th>
<th>4a-3a-2a-3a-4a</th>
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<tbody>
<tr>
<td>4a</td>
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<td>4a</td>
<td>4a</td>
<td>4a</td>
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<td>4a</td>
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<td>4a</td>
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**TABLE III**

*Imaginary Landscape No. 4*

<table>
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<tr>
<th>Measure</th>
<th>128-8m</th>
<th>128-4m</th>
<th>128-12m</th>
<th>100-8m</th>
<th>100-4m</th>
<th>100-12m</th>
<th>172-8m</th>
<th>172-4m</th>
<th>172-12m</th>
<th>136-8m</th>
<th>136-4m</th>
<th>136-12m</th>
</tr>
</thead>
<tbody>
<tr>
<td>88-8m</td>
<td>144-4m</td>
<td>124-12m</td>
<td>136-8m</td>
<td>96-4m</td>
<td>148-12m</td>
<td>148-8m</td>
<td>88-4m</td>
<td>168-12m</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[*Tempo markings; m=measures*]

[Taken from Yates, *Twentieth Century Music*, p. 12]
BIBLIOGRAPHY

BOOKS


PERIODICALS AND OTHER SOURCES

Brooks, William. Manuscript provided by Paul Hoffman.


PERFORMERS

Cyra-no excerpts (Walther Damrosch)

violinist: Diane Nobles
pianist: Ruth Winters
vocal ensemble: Sandra Fox, Jeannette Raney, Karen Earls, Tamara Thomas, Lois Dick, Dana Phipps, Betty Nobles, Clyde Brockett, Jr., Robert B. Jones, John A. Stutts

Imaginary Landscape No. 4 (John Cage)

Radio # 1 Dr. Clyde Brockett
Bucky Mirmelstein
Radio # 2 Dr. James Hines
-----------
Radio # 3 Steve Pruitt
Robert Knopp
Radio # 4 Jeannette Wall
Kathryn Haynes
Radio # 5 Debbie Stalter
Dean Robert Durel
Radio # 6 Arthur Samet
Debbie Downes
Radio # 7 Cathy Gaherty
Eva Garner
Radio # 8 Anne Haynes
Janet Miran
Radio # 9 Bob Jones
Sandy Fox
Radio #10 John Stutts
Dr. John Hoaglund
Radio #11 Betty Nobles
Annie Snow
Radio #12 Pat Silvis
Dr. David Alexick
QUOTATIONS

Because you don't need it to have it. You have it all the time. And it can change your mind making it open to things outside it. It is continually changing. It's never the same twice. In fact, and Thoreau knew this, and it's been known traditionally in India, it is the statement that music is continuous. In India they say: Music is continuous, it is like the wind or water.

Stephen Montague, "John Cage at Twenty: An Interview", American Music, V.3, No.2; Summer 1985, p.213

We must break out of this narrow circle of pure musical sounds, and conquer the infinite variety of nonmusical sounds....Let us wander through a great modern city with our ears more attentive than our eyes, and distinguish the sounds of water, air, or gas in metal pipes, the purring of motors (which breathe and pulseate with an indubitable animalism) the throbbing of valves, the pounding of pistons, the scratching of gears, the clatter of streetcars on their rails, the cracking of Whipps, the flapping of awnings and flags. We shall cause ourselves by orchestrating in our minds the noise of the tall shutters of store windows, the slamming of doors, the bustle and shuffle of crowds, the tumultuous uproar of railroad stations, forges, mills, printing presses, power stations, and underground railways.

(Russo)


...more clearly and actively than anyone else of his generation, he established the present nature of music. This nature does not arise from pitch relations (consonance-dissonance), but arises from an acceptance of all audible phenomena as material proper to music. While others were still determining "musical" tones from noises, Varese moved into the field of sound itself, not splitting it into two by introducing into the perception of it a mental prejudice. That he fathered forth noise—that is to say, into twentieth-century music—makes his ears relative to present musical necessity than even the Vienna masters, whose notion of the number 12 was some time ago dropped and their notion of the series will be seen as no longer urgently necessary.

(Cage)


Percussion music is a contemporary transition from keyboard-influenced music to the all-sound music of the future. Any sound is acceptable to the composer of percussion music; he explores the academically forbidden "non-musical" field of sound insofar as is manually possible.

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(Cage)

John Cage, Silence, p.12

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And what is the purpose of writing music? One is, of course not dealing with purposes but dealing with sounds. Or the answer must take the form of a paradox: purposeful purposelessness, or a purposeless play. This play, however, is an affirmation of life—not an attempt to bring order out of chaos nor to suggest improvements in creation, but simply a way of living up the very life we are living, which is so excellent once one gets one's mind and one's desires out of its way and lets it act of its own accord.

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(Kostelanetz, John Cage, p.141)

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(Cage)

John Cage and Daniel Charles, For the Birds: Conversations with Daniel Charles, (Boston: Marion Boyars, English version prepared by Richard Sarnoff, edited by Sam Choy and John Qwyer, p.91)
TABLE I

<table>
<thead>
<tr>
<th>Musicial Temperament</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUST INTONATION</td>
<td>music composed around the human voice all intervals concordant</td>
</tr>
<tr>
<td>acoustically correct</td>
<td></td>
</tr>
<tr>
<td>relationship of tones</td>
<td></td>
</tr>
<tr>
<td>MEANTONE TEMPERAMENT</td>
<td>music composed around octave, fifth and third are the concordant intervals</td>
</tr>
<tr>
<td>relatively fixed</td>
<td></td>
</tr>
<tr>
<td>uneven intervals</td>
<td></td>
</tr>
<tr>
<td>EQUAL TEMPERAMENT</td>
<td>music composed around octave the remaining concordant interval</td>
</tr>
<tr>
<td>octave divided evenly</td>
<td></td>
</tr>
</tbody>
</table>

[Information for this table from: Peter Yates, Twentieth Century Music, New York: Pantheon Books, 1967, Chapters 1-2.1]

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TABLE II

[Diagram: Field of Temperament, with examples of intervals and intonations]

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TABLE III

<table>
<thead>
<tr>
<th>First Construction in Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>4m-3m-2m-3m-4m</td>
</tr>
<tr>
<td>4m-3m-2m-3m-4m</td>
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<tr>
<td>4m-3m-2m-3m-4m</td>
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</table>

[Imaginary Landscape No.4]

![Diagram: Imaginary Landscape No.4 with tempo markings and measures]