Art Is in The Process, Not The Object

The process to understanding indeterminate music through creating a realization of John Cage’s ‘Solo for Piano’ with Praxis and Poieses

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-David Tudor and Phillip Thomas.

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Research Project, Research Paper, Word Count (without quotes)- 3,533 words
Dada was a movement set up after World War I that rejected the materialistic and militaristic focus of modern society. Artists of the movement believed that art was not an “object” but rather a “process”. Recently I have undertaken the study of indeterminate music. Specifically, working on the score of John Cage’s Solo for Piano from his Concert for Piano and Orchestra. When creating a realization for indeterminate music, the challenge lies in interpreting ambiguous graphic notations. I was always aware of the need to respect the composer’s intentions, despite added freedom. When creating my realization this Dada “process art” became the heart of my project. The method I have chosen to outline and clarify my process has been the application of both praxis and poieses, the two spheres that encompass the creative palate. The final product involved 3 main parts: first, the research and historical background of the 20th century (praxis); second, the understanding and development of indeterminate music (poieses); and finally, the in-depth analysis of noteworthy past realizations by David Tudor and Phillip Thomas (praxis and poieses).

“Concert for Piano and Orchestra”

The Concert for Piano and Orchestra was John Cage’s attempt to “compose many independent pieces for various media, each of which could be played as a self contained work in its own right, or performed together with any number of others”. It was piece of music that marked Cage’s shift towards expressionless music that abdicates control and reflects a natural respect for individual sounds. It is a score that breaks boundaries and is “an encyclopedic summary of his compositional development”.

The Solo for Piano, consists of 84 different notation techniques, 63 pages, and a key. This work is an extreme challenge and a compositional puzzle. “You’re not listening to it, you’re looking at it”.

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1 Iddon, Martin. New Music at Darmstadt: Nono, Stockhausen, Cage, and Boulez. Cambridge, UK: Cambridge UP, 2013. Print. (107)


I am drawn to graphically notated music for a few reasons:

- I enjoy the concept of a score that involves puzzle solving and research, as opposed to sight reading and traditional performance preparations;
- I was raised a Buddhist and grew up practicing the IChing, an ancient document that incorporates a Taoist philosophy that Cage has based much of his compositional techniques on.
- An interest in understanding the creative approach. Identifying the praxis and the poiesis that could be connected to create a philosophical and artistic response to the score.

**Step 1- Philosophies and influence**

History is important when studying Cage, because his work is so reflective of his time and was specifically meant to embody the philosophies that were growing during the course of the 20th century. The Concert for Piano and Orchestra was written between 1957 and 1958. Although the World Wars did great damage, they did one curious thing for our planet: after World War II the world became a smaller, more culturally interested place. There was a mass influx of immigrations to America by many notable artists, musicians, and philosophers, and with this, a greater blending of cultures. We have in effect the melding of philosophies specifically forming a hub in the New York artistic community. This would prove to be one the largest driving factors for the evolution of contemporary American
music; and the subsequent freedom for Cage to become the man that he is remembered today.  

_The Perilous Night_ was a prepared piano suite written in 1944 that changed Cage’s outlook on composition. After this work he turned to expressionless music, reflecting the natural world, creating a spirituality to homage life itself. By the time of the writing of the _Solo for Piano_, these major philosophies would have become an important part of Cage’s compositional style.

Influential philosophies for Cage’s composition that are important for thought when realizing the ’Solo for Piano’ -

1. Gira Sarabhai, an Indian singer, teaches “Music is to sober and quiet the mind, making it receptive to divine influence”. Here I learned the importance of egoless performance. Cage’s music is about the shared celebration of life itself, and not about personal goals.

2. Oskar Fischinger, the film maker, taught “everything in the world has its own spirit, which can be released by setting it into vibration”. Similarly, Luigi Russolo the author of the “Art of Noises,” advocated respect for all natural sounds. These teach the importance of respecting sounds unconnectedly and opens the possibilities to sounds previously not considered ‘musical’.

3. The New York School was a group of creatives that formed a collaborative process for realizing contemporary art’s ideals. They pushed for challenging the need to preserve art, in accordance with Dada, and followed reform already made in Europe.

4. D.T. Suzuki brought Buddhism, Zen, and the IChing to America; and Marcel DuChamp taught Cage about how to use chance operations to relinquish control over art. Cage adopted the IChing as his chance operation for composition.

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6 John Cage, Autobiographical statement, JohnCage.org

7 *Arnold Schornberg*, composer, creates the 12 tone scale, that all advocates ‘all notes are created equal’
As a pianist, I have found it crucial to ensure that I evoke and understand these philosophies behind my realization. A pianist playing John Cage must commit to “giving up control, so sounds can be sounds”8, they must “listen to sounds in themselves, disregarding their possible relationships to each other”9, and most importantly, “music must be open to the sounds in the environment”.10 This is crucial to being able to give a performance that respects the composer’s intentions, which I find of the utmost importance when playing music evoking spiritual and philosophical reasoning. Through my research I have attempted to follow Cage’s request that I “give up the desire to control sound, clear his mind of music, and set about discovering means to let sounds be themselves rather than vehicles for man-made theories or expressions of human sentiment”.11

**Step 2- Understanding indeterminate music**

Indeterminate music was first approached by Morton Feldman, one of Cage’s colleagues and a contemporary of the New York School. Since public interests were moving towards more culturally influenced philosophy, their was a change in society’s values of music. “We are living in a period in which many people have changed their mind about what the use of music is or could be”.12 Cage describes this shift and how he applied it to his composition by describing, “I was to move from structure to process, from music as an object having parts, to music without beginning, middle, or end, music as weather”13. This model for music creation formed an entirely new relationship between composer, practice and performance. “The composer is no longer the sole source of anchorage and becomes the initiator”.14 This abdication of power on the composer’s part with such variable interpretive

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8 Iddon, Martin. *New Music at Darmstadt: Nono, Stockhausen, Cage, and Boulez.* Cambridge, UK: Cambridge UP, 2013. (102)

9 Bernstein, David W., and Peter Nelson, eds. *Cage (re)considered.* 5-6 ed. Vol. 33.

Print. Ser. 2014.


notation creates “a peculiar balance between performer, freedom and non-expressivity”.15 “The pianist is forced, (knowingly or otherwise) into the role of composer, as opposed to merely the interpreter of Cage’s Notations”.16 This is a role I found important when undertaking the Solo and recognized the multi-faceted approach that would be required. The approach requires an exchange between both the practical knowledge, and a deeper poetic understanding of the philosophical goals. Christian Wolf describes this network as “the Score is one element in a conversation”17. In this model, the practice itself becomes a part of the work. “In practice the goal became the practice itself, the process rather than the end result”.18

The fundamental difference between indeterminate scores and traditional music can be marked by the separate processes needed for ‘doing’ and ‘creating’. This essential distinction is what creates the difference between Praxis and Poiesis and the two “spheres” of artistic activity.19 Understanding the differences between the two is crucial because although indeterminate scores demand praxis they “neither contain that praxis, nor its limits… instead…. they reveal, a poietic space, within which truthful forms of praxis can in turn be revealed”.20 Praxis is ‘doing’ and the “manifestation of a will that produces a concrete effect”.21 In contrast, poiesis is not a practical activity, but “rather to do with a sort of truth process, an unveiling”.22 In this study of the separation of praxis and poiesis we can better apply and recognize our application of ‘doing’ and ‘creating’, which thus allows for mindful creation while creating a realization of indeterminate music.

It is important to understand the root of much of the resources for the score of Solo for Piano. “At least half (of the 146 pieces) could be said to be related to notations of music for

20 Iddon, Martin, John Cage, and David Tudor. John Cage and David Tudor: Correspondence on Interpretation and Performance. (214-215)
21 Iddon, Martin, John Cage, and David Tudor. John Cage and David Tudor: Correspondence on Interpretation and Performance. (213)
22 Iddon, Martin, John Cage, and David Tudor. John Cage and David Tudor: Correspondence on Interpretation and Performance. (213)
piano, winter music, or variations” 23 also by Cage. This cross refereeing was present in all indeterminate music being produced. This new compositional technique was created by a collaborative process of those in the New York School. Subsequently none of these works can be viewed entirely on their own.

Specific references of the “Solo for Piano” ‘key’ in other indeterminate music:

“Graph A= Conlon Nancarrow like counterpoint.
Graph F= Derived from music of changes.
Graph Y= Reminiscent of Christian Wolf’s newly developed notation of 1957 (sonata for 3 pianos, duo for two pianists)
Graph BT= Cornelius Cordew’s “Memories of You”

In the present day, the only hope for creating a realization of indeterminate music that respects the composer’s intentions, without being able to speak to the composer, is to study these cross references between indeterminate works and to study, in depth, the past realizations and recordings from other notable musicians.

Step 3- Past realizations/Case studies

David Tudor

“David Tudor was present in everything I was doing” 24.

There can be no proper study of any of John Cage’s works for piano without reference to David Tudor. David Tudor was not only Cage’s close friend and favorite pianist, but also a huge influence on his music. Because of his meticulous and dedicated approach to music, he allowed Cage to continue down his more explorative paths of notation. Cage’s “compositional style changed due to Tudor’s interest and personality and attention to detail”. 25 Because of Tudor’s abilities, Cage had the freedom to compose his music to the full


extent, without fear of losing translation or effect. “The world is immense through him, has no limits, has only inviting horizons”. 27

Tudor shared many of Cage’s beliefs and “was drawn to unpredictable sounds that took on a life of their own” 29, much like Cage’s wishes to respect sounds unconnectedly. Yet another important factor of the Cage/Tudor duo, was their specific differences. “Tudor had a much more romantic soul than Cage and was quite shameless (his word) about deploying very traditional music gestures”. 30 This provides a certain space for a pianist to stray slightly from Cage’s objection to non-traditional sounds and self expressionless depiction. Instead, Tudor proposes the possibility of combining the spiritual with the sensitive self of a pianist. Tudor stated that this combination “for me exists as a spiritual reality which will continue to exist after every page of notes and dynamics are destroyed and every performer must struggle to make the positive facts of this reality audible to a listener, otherwise, what excuse has the poor pianist for existing”? 31 While gaining confidence and guidance by understanding the conceptual efforts behind Tudor’s work with Cage, I have been able to create personal boundaries in attempt to honor Cage’s intentions.

My first step to study Tudor’s approach to Cage’s Solo for Piano began with listening. There are 4 versions of David Tudor’s recordings of the Solo for Piano: 32 These provide an overall look at the evolution of Tudor’s understanding of the work over the course of his lifetime, and outline how a modern musician also may develop with the score.


29 Isac Schankler. “Cage = 100: Tudor and the Performance Practice of Concert for Piano and Orchestra.” NewMusicBox, New Music Box, 05 Sept. 2012. Web. 01 Dec. 2015.


31 Iddon, Martin. New Music at Darmstadt: Nono, Stockhausen, Cage, and Boulez. Cambridge, UK: Cambridge UP, 2013. (173)

32 David Tudor Recordings of the ‘Solo for Piano’

1958- Town hall premier

1959- indeterminacy album

1982- Solo for Piano, made in Amsterdam

1992- With ensemble modern
Rather than reading from the score, David Tudor wrote out his own specific realization. This was the first time a pianist had re-written a composers score for performance. There are two of Tudor’s realizations to which I have had access, via high resolution photos of the original manuscripts from the Getty’s Research Institution. I gained access to these scores through contact with Laura Kuhn of the John Cage Trust.

Tudor read the piece in complete disorder, playing only single ictus\(^{33}\). This process makes it almost impossible to follow while listening and therefore it is necessary to have a copy of his realization in order to understand his process.

David Tudor made specific decisions during his realization that affected my understanding of the performance of this work, chiefly to do with his reading of Cage’s concepts of time. “Tudor was the first pianist among the contemporaries, to be able to play without time and counting”.\(^ {34} \) He often described this as “I was watching time rather than experiencing it”.\(^ {35} \) What he means is that ‘time’ becomes something less rhythmical and more visual; this resulted in his use of a stop-watch during performances. This precision resulted from complex mathematical renderings of Cage’s score. “Starting from space=time”\(^ {36} \), Tudor literally measured the blank space in the Solo to calculate exact timings he called ‘attack points’, revolving around 1mm=1second. This was a method I adopted, but altered as Tudor’s performance of the Solo was 90 minutes in length and mine was 15. I adopted 1cm=1second. A page in Tudor’s score is always equal to 1 minute, and vertical lines across the page represent 30 seconds.

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\(^{33}\) Lesson with Phillip Thomas, February 1\(^{st}\) 2016, Sheffield

\(^{34}\) Isac Schankler. “Cage = 100: Tudor and the Performance Practice of Concert for Piano and Orchestra.” NewMusicBox. New Music Box, 05 Sept. 2012. Web. 01 Dec. 2015.


I have found one problem when investigating Tudor’s mathematical method. The only available score available is from Peters Editions, yet the score is badly copied and often cuts off sections of Cage’s writing. These minuscule inaccuracies would vastly throw off calculations made on the minute and dedicated scale of David Tudor.

One of the more famous aspects of David Tudor’s recordings of the Solo for Piano, and a big influence on my own performance of the work, is his interpretation of some of Cage’s more ambiguous markings for auxiliary “noises”. One of the only unifying themes throughout the recordings is an interpretation with a slinky. “Not until I recently saw Tudor performing did I realize that one of the most ‘abstract’ sounds…is produced by hanging a slinky toy from a microphone stand, manipulating it by hand, and amplifying the sound as a result.”37 This creates a wonderful long lasting effect that is variable and uncontrollable.

Tudor’s input on the Solo for Piano has made it possible for present day pianists to have a reliable basis for study. We understand Cage approved of Tudor’s performances and therefore his recordings are a solid source to beginning one’s own realization. Tudor’s impact on the indeterminate music is such an important part of contemporary music history, as he lay the ground work for all further study. “For example, the kinds of measurement Tudor made to determine the ordering of individual sounds in his second realization of Cages Solo for Piano provide the contemporary performer with performance sensibility which is guided by discipline and rigor, as well as encourage to think creatively with interpretative possibilities regarding structure and material.” 38

Phillip Thomas

“What to determine

How to determine it

What not to determine”\textsuperscript{39}

Mr. Phillip Thomas invited me down to Sheffield for a free lesson. He is currently a part of a “three-year project [that] explores the historical context of the work, undertakes close analytical examination of the notations, and takes in approaches to performance, both historical and contemporary. The findings of the research will be articulated in a major book publication, through conference papers, performances and, crucially, by means of an interactive website”.\textsuperscript{40}

In my realization, in which I had referenced both Phillip Thomas and David Tudor’s original writing, I had chosen notation Y to represent from Phillip Thomas. Aside from helping me understand each specific graph, like Y, he elaborated on the extended piano techniques necessary for each of the graphs. Y elaborates on many of these techniques.


\textsuperscript{40} "John Cage and the Concert for Piano and Orchestra." \texttt{Hud.ac.uk}. Huddersfield University
He explained that these extended techniques are indispensable when creating a good realization of the *Solo*, because some are more variable than others, and thus result in a unique performance.

- Plucked notations can either be plucked within the upper body of the strings towards the keyboard or plucked further into the instrument. Both practices provide a different sound quality and can be used separately or together in performance.
- Harmonics can be prepared in advance with the sostenuto pedal, (played but not sounded notes), or de-pressed with the finger much like on a string instrument.

These, and other extended techniques create different atmospheres variable to the decisions of the pianist. Phillip Thomas encouraged me to challenge these decisions by using chance. He urges that “Though I enjoy and frequently practice improvisation, through chance procedures I find that I am able to learn more about my instrument and my technique” .

“Cage consulted the IChing in order to ascertain whether a notation would represent an entirely new method, or a duplication or variation of an earlier notation” , thus, Phillip Thomas uses chance to determine his realization.

**Phillip Thomas Questions for Chance**

1. Which page to realize (numbers from 1 to 63, repetition of pages already used allowed at any time);

2. Whether or not the page should be realized over the entirety of the forty-five-minute duration (following Tudor), or whether it should be realized within a more limited timeframe succeeding the previous event;

3. The duration of each time-frame;

4. Whether any piece on a page should be omitted (allowing for the possibility of all pieces on a page to be omitted);

5. Whether the pieces should be notated in succession or superimposed, each lasting the duration of the time-frame;

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6. Whether the page is to be read vertically or horizontally;

7. Whether all the material of each piece is to be used or whether the pieces may be fragmented or played in part only;

8. Whether or not dynamics and/or ways of playing, if not already determined, should be determined for each event."\(^{43}\)

Upon working with me through some of my realization Mr. Thomas showed me how I could improve my work; Through his encouragement to use even more chance operations to pin down more exact decisions for performance, it will be easier for me to respect sounds in themselves. Although I had done much to attempt to relinquish control, I did inevitably slip into traditional musical technique. I realize that I had left much undetermined, most importantly the pedal, something I often rely on my ear for. I will now attempted more chance operations for future realizations. Musicians naturally try to group sounds, and chance determinations for dynamics, durations, and varied use of extended techniques relinquishes the natural want to create melodic phrasing.

**Step 5- Creating my own realization**

"in many ways it should be considered less a score and more as a resource of a portfolio from which material may be generated".\(^{44}\)

I finally began to formulate my own process for the portfolio of my realization after completing my research. In the style of Phillip Thomas I adopted chance methods in order to answer many questions I had for my score. My chance operation was the IChing.

**Questions for Chance, Maria Donohue**

- What graphs to use? (i.e which traditional and which radical)
- Do I play continuation of graphs from page to page?
- What pages should I choose each graph from?
- How many pages?
- What Dynamics should be chosen if not given?
- Do I overlay graphs?


• How will my score relate to the orchestra and the conductor?
• What length of time does each graph require?
• What order?
• What tempos?

“The pianist works independently of the conductor, creating realizations of necessarily limited duration so as to be compatible with the ensemble material”.

Through chance I determined each of my graphs would be assigned to one time unit of the conductor’s score. My conductor provided me with the list of times he had chosen from Cage’s original score to be used in the 15-minute performance for my midterm.

(Nicholas Olsen’s Conductors Score for Maria Donohue’s realization for Concert for Piano and Orchestra 2016)

I then used David Tudor’s calculations in order to ascertain specific timings within each graph, relating to time and space of the score. This led to complex and exact entries and was difficult to practice with a stop watch alone.

(Page from Maria Donohue First realization of “Solo For Piano” below)


46 The original conductor’s score provides for a 20-minute performance.
As the cues became more exact, I wanted something more visual in accordance with David Tudor’s “watching time”. I decided to use a MAX computer software patch designed to specifically input separate timing needs.  

![Max Patch designed to Queue performers’ specific timings, above](image)

My conductor, harpist, and singer, also used patches that I altered to their specific scores while the orchestra follows the conductor who acts as a giant clock. This lead to an interesting battle between “real time” and “clock time” between harp, singer, piano, and the rest of the orchestra.

![Max patch circle view during performance, above](image)
In each area, a specific timer can be input to control a bang to cue the effect of a timer filling up the circle. This means it is possible to start from any cue and allows for easier practice as increased chance in the ordering of the performance.48

Another major portion of my realization was the homage to David Tudor’s slinky technique. Although it was not mentioned how he amplified his slinky, I hand-made my own contact microphones. I was able to control the sound of the output by a mix desk set up beside my piano. I have been working on a process to further this use of electronics in my following performances. Future performances will use nano-controllers to better control the sound of the slinky and other aspects of the orchestra. I have also constructed a mic on off switch control pedal in hopes of mic-ing the inside of the piano, and amplifying softer plucked and muted sounds.

Preparations are not mentioned in the score, yet performances of the Solo for Piano by David Tudor were often prepared. I had originally intended not to prepare the instrument but ran into trouble when interpreting notation B. Notation B describes the use of harmonics as “prepared in advance”. I found it hard to make harmonics ring over played chords that accompanied them, and ended up using blue-tac to prepare those strings that needed harmonics. This allowed harmonics to sing through long chordal passages.

48 Using computer assistance is based on the suggestion from “Interpretation and computer assistance in John Cage’s Concert for piano and orchestra” by Benny Sluchin and Mikhail Malt. They are currently in the process of creating a computer program that can randomly output certain scraps of the score to performers to ensure a completely chance operated performance.
My Realization of B1 from John Cages score for ‘Solo for piano (below’)

I am aware that this first realization I have created is very much in its early stages and I am currently in the process of creating a second realization. I have now performed this first realization a few times, in separate combinations.

1. 10 piece Orchestra and Conductor
2. Bridge week “John Cage Electronic Ballet” as the Solo for Piano with Aria.

The Concert for Piano and Orchestra is “to be performed alone, or in combination with Solo for Voice 1, Solo for Voice 2, Fontana Mix, Aria, Indeterminacy, Song Books, and/or other related indeterminate pieces such as Variations I and II”. I hope to perform it in as many of

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49 To be played in the piano festival in March, as well as represented in the RCS New York showcase.
50 JohnCage.org Solo for Piano, December 2015
these combinations as possible, as each combinations provides a different result and experience for both performers and audience.

Since my first realization was written for a graded exam, it was written to be easily understood and as traditional as possible. This led to certain restraints and limited my ability to respect all of Cage’s intentions. For example: large moments of silence were not possible, so I altered my interpretation to show both my understanding of the score and pianistic abilities. In the next realization, I am hoping to encourage more of the un-traditional aspects of Cage’s philosophy. Additions will include elements of electronics such as, Fontana Mix51 and further amplifications and sound engineering as previously mentioned. This is in hopes of creating a modern updated realization based on my understanding of the historical research now completed.

The main difficulty with this work is that the “performance opportunity is still in its infancy.”52 This music is based on understanding and listening to past realizations, but it is still so uncommonly attempted that there needs to be a bigger resource of realizations for understanding. Hopefully the work that Phillip Thomas is currently doing will encourage more young musicians to take on indeterminate works. Cage himself never considered this piece to ever be in its final state and viewed it very much as a work in progress. I have also felt this during my own work, and realize the importance of sharing the process as well as the product, to assist those who may wish attempt it.

“Experimental music can…easily slip into a historical genre which musicians seek to present in a manner not dissimilar to aspects of early music”53, and Cage in himself is an even bigger niche market than other contemporary music. Throughout the course of my work with the Solo for Piano and the multiple performances I have given of it now, I have realized the importance of the exposure for this music. As a young musician, it has taught me much more about myself and my instrument than much of my traditional repertoire. I have learned the value and importance of research, and the lack of authenticity without it, and have been

51 “This is a composition indeterminate of its performance, and was derived from notation CC from Cages “Concert for Piano and Orchestra” It is an electronic composition for tape. JohCage.org- Fontana Mix, December 2015


humbled by Cage’s philosophies. To surmise the performance of this work would be impossible, as I am still in the process of ‘creating’ and ‘doing’. Most importantly, I have learned to be aware and critical over this poetic understanding of the philosophical and emotional context a musician gathers, and guide my application of it during the process for performance. This combination, highlighted by my study of indeterminate music, is crucial to respecting and interpreting any composer’s notation.
Bibliography


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