

## Reflections on Creative Processes in Fredric Lieberman's *Ternary Systems*

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**Abstract:** My research concerns the relationship between the performer and improvised music with the focus on indeterminate aspects of compositions and with a specific focus on flute performance. Within this field I explore forms of composition and notation that offer the performer a significant creative role: scores that are not fully notated, but that define a context (in different ways) in which the performer can act creatively and musically; this includes verbal, graphic and scores with other non-conventional notations. Within these categories, I have, for this project, concentrated on graphic scores of contrasting approach for exploration with the flute. Many of these scores reveal their interest, their creative potential and limitations, only through active practical exploration. The exploration of these scores has been process-oriented – rather than focusing on creating an explicitly prescribed product – which introduces a certain amount of indeterminacy regarding the results obtained. I have chosen to work with a broad range of scores in order to get different perspectives of the field. For this exploration, I have used Lieberman's *Ternary System* (1965). How can I as a performer approach graphic scores without being limited to my instrument and creativity? Is there a way of following the creative process and perhaps making an impact on it? Using stimulated recall methodology I have found a way of documenting and unlocking the creative process. This may help the performer with the deciphering/interpretation of the score and increase the creativity by seeing possibilities and not limitations. I will demonstrate how the resistance between score, instrument and performer will impact on artistic choices.

**Keywords:** Creativity, Stimulated Recall, Resistance, Flute, Graphic Notation

This paper examines some of the creative processes that I explored and documented while performing graphic scores. This exploration is a part of a larger research project focusing on experimental music and the investigation of forms of composition and notation that offer the performer a significant creative role: scores that are not fully notated, but that define a context (in different ways) in which the performer can act creatively and musically. Many of these scores reveal their interest, their creative potential and limitations, only through active practical exploration. My research so far has led to questions concerning the instrument – for me, the flute – acting as a limiting or inspirational factor to creativity when performing in this experimental field. A performer's imagination and prior experience could limit the creative output when encountering unconventional scores. Perhaps for me, as a classically trained flutist, this is a fact. My training included little practice of these kinds of scores, and improvisation was something you did in the jazz program. I am trained to follow a score and to see the score as something that is not altered or manipulated in any way. I played for the most part Western art music and, as Bailey (1992, p.98) states, "the standard Western instrumental training produces non-improvisers". Johnstone (1981, p.77) also mentions this when he writes about artists' education: "to create something means going against your education". Western society has perhaps always given priority to sense rather than play. Can I as a performer somehow transform or extend my education and training through different kinds of performances and collaborative contexts? What is the status of the score in a performance with many decisions left open or a degree of improvisatory content? What is the relationship/ between performer, instrument and score in these contexts? With these kinds of questions, the research is an exploration of what happens in practice.

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Lieberman's *Ternary Systems* (1965) acts as a point of departure. The score is graphic and experimental. Due to the imitations of the paper, I will not try to define (which I do not think is possible) experimentalism and how it relates to improvisation. Thus, throughout the paper I use improvisation and experimentalism quite interchangeably and apply the terms in their broadest sense. However, I will try to map out some general ideas of experimentalism. According to Gottschalk, experimental music is hard to define because "it is not a school or a trend or even an aesthetic. It is instead a position – of openness, of inquiry, of uncertainty, of discovery" (Gottschalk, 2016, p. 1). Gottschalk continues:

Facts or circumstances or materials are explored for their potential sonic outcomes through activities including composition, performance, improvisation, installation, recording and listening. These explorations are oriented toward that which is unknown, whether it is remote, complex, opaque, or falsely familiar.

Gottschalk identifies five conceptual arcs that cross each other in experimental music: indeterminacy, change, experience, research and non-subjectivity. However, Gottschalk remarks, these arcs "do not mark boundaries ... but they wind through various regions of work as recurring features" (Gottschalk, 2016, p. 1). Piekut mentions that "to explain what experimentalism has been, one must attend to its fabrication through a network of discourses, practices, and institutions". Piekut states that "the continuing performance of this network – and not an experimental 'ethos' or 'spirit' – explains the extensions of experimentalism through time" (Piekut, 2011, p. 7). We may conclude, then, that experimentalism cannot and should not be defined; that would defeat its purpose. Instead we must look at everyone and everything that makes up a particular network of experimentalism: performers, composers, scholars etc.

During my work with the project I have reflected over my own practice as outlined by the questions above. I have used stimulated recall methods - a procedure of reflecting upon one's practice using recordings, which, for this kind of performer-researcher exploration, is advantageous - combined with a theoretical framework consisting of Aden Evens' term resistance, and Kathleen Coessens & Stefan Östersjö's subsequent employment of that term 'resistance' in different contexts coupled with their particular uses of the concepts of "habitus" and "hexis". As I will explain, the resistance between score, performer and instrument impacts upon artistic and creative choices, forcing the performer into taking new approaches to the music and finding new possibilities.

## Resistance

What is it in the instrument that makes the performer play a certain way? The possibilities and limitations of the instrument form key aspects of my research. That the instrument acts as a distinct agent is key to this, and here I draw on the work of Aden Evens and his use of the term "resistance". One aspect of the resistance is the physical force one applies to the instrument, but the "instrument does not mediate, does not stand between the musician and the music" (Evens, 2005, p. 160). Rather, the instrument is an integral part of the music, offering "to the musician a *resistance*; it pushes back" and the force that is applied to the instrument is conveyed by the instrument (Evens, 2005, s. 160). There are, then forces at play which create a relationship of resistance. Norman (2013, p. 279) states that: resistance suggests a state or act that is energetically loaded with respect to the context in which it is manifest, i.e. the force that it withstands. In other words, since resistance presupposes and arises at the interface of a given and an opposing—albeit emerging—state, it creates an energy differential.

It is in this "energy differential" that interesting, creative moments occur between performer and instrument. Alperson's discussion of musical instruments and the performer's body relate to this:

“It is misleading to say simply that musical instruments are discrete, self-subsisting objects held or manipulated by the performer. In some cases it is hard to tell where the body ends and where the instrument begins”. Alperson gives an example: “the tone and timbre of a woodwind player’s sound is as much a function of the way the player opens her throat as it is of the physical instrument” (2008, p. 39). The physical connection between instrument and performer is, thus, strong and manifests itself in the form of a resistance that can generate an “energy differential”. We might consider that there are, however, other aspects of resistance, for instance forms of cultural or educational resistance or the resistance between performer and score. The concept of resistance is thus complex, including many variables.

### *Habitus and hexis*

When a performer plays something he or she uses his practices and training to produce sound and interpret the music. Östersjö and Coessens states that these practices ‘function as frames of how to behave and, act in, and interfere with the outer world’. These practices are named (after Aristotle, Marcel Mauss and Pierre Bourdieu) habitus, “a general, mainly tacitly and socially acquired whole of embodied patterns for action and behaviour—how to sleep, how to eat, how to play, how to be a man or a woman” (Coessens & Östersjö 2014, p. 333). The performer acts within his social and cultural context which “lead[s] to a specific discipline- and culture-related habitus” and the performer “will acquire an artist’s expert habitus” (Coessens & Östersjö, *Habitus and the Resistance of Culture*, 2014, p. 333). This habitus “enriches the expertise and the potential of the artist” but “it also implicates a space of resistance”. The resistance could be between, for instance, performer and score or “the cultural space with which he or she interacts” (Coessens & Östersjö, *Habitus and the Resistance of Culture*, 2014, p. 333). The performer is situated in different instances and his “expert habitus will be reshaped by these experiences” (Coessens & Östersjö, *Habitus and the Resistance of Culture*, 2014, p. 333). The performer will, then, develop skills connected to his own artistic field, it could be, for instance, performance practice, how to play the style he is involved with. What this artistic field is made up of depends on the performer’s “cultural context” and is “embedded in a tradition of education” (Coessens & Östersjö, *Habitus and the Resistance of Culture*, 2014, p. 336). I, as a performer, then, operate in the field of my artistic habitus. Coessens and Östersjö develop their argument and states that “the artistic habitus is inscribed in corporeal experiences of excellence, in a hexis” which is a “disposition of the body toward the outer world that is related to artistic virtue by way of purposeful training and perseverance instead of by everyday social and cultural influence and imposition” (Coessens & Östersjö, *Habitus and the Resistance of Culture*, 2014, p. 336). Coessens and Östersjö argue that “in performance, a hexis rather than a habitus appears, sustained in the background by a broader habitus” (Coessens & Östersjö, *Habitus and the Resistance of Culture*, 2014, p. 336). Infused with artistic values, “hexis is the performative aspect of habitus” (Throop & Murphy, 2002, p. 188). Habitus and hexis are, then, connected where the “artistic virtue that is embodied in the musician’s hexis is reflective of a broader aesthetic context” (Coessens & Östersjö, *Habitus and the Resistance of Culture*, 2014, p. 336). Coessens and Östersjö conclude that “hexis is [for the musician] constitutive of artistic choice, reflection and action” (*Habitus and the Resistance of Culture*, 2014, p. 336).

For my research, these terms are very useful as a means to understanding how I as performer operate within different contexts. I will argue that the resistance between my being a classically trained flutist and the experimental tradition could challenge the habitus, generating a resistance of score, tradition and instrument.

### *Training and education*

I refer to my training as classical and I need to give an account of what that entails because my background and my experiences, that is my habitus, influences the way in which I perform. This will be a very brief and limited account of my education which comes from the classical world of flute playing. Much of the focus of this training was on developing a rich, full sound able to penetrate the orchestra. Other aspects were technique, being able to play the most challenging repertoire for the flute; articulation, producing tones with clarity in various ways. The music comprised of, mostly, the standard pieces such as Mozart concertos, Bach sonatas and the French conservatoire pieces. In addition to the solo pieces there were also orchestral excerpts and playing in different ensembles such as symphony and wind orchestras and smaller chamber groups. Focus on the pieces in the ensembles was on the more classical, standard music: Grieg, Sibelius Holst etc. There were also regular assessments of the standard of playing. The locations for these performances and assessments were standard concert halls and other conventional venues such as churches. I have also performed in the Northern Band of the Royal Swedish Army, an ensemble focused on playing march music and figurative programs (marching and playing at the same time in various ways). All this training and performing has influenced me and is feeding into the work I am doing now. A form of educational resistance takes place when I am approaching some of the new pieces. If I have had more training in, for instance, different ways of performing verbal scores this resistance would not be as apparent. However, as a performer I do not think this is bad because much excitement lies in this resistance, in learning new things. In fact, I think this kind of resistance is vital to the way we learn, a challenge for the habitus.

### **Stimulated recall methodology**

The uniqueness that characterizes performances of experimental music – every performance sounds different and could be hard to define – makes the task of analyzing the creative process challenging. For this type of exploration recordings are essential and the methodology known as Stimulated Recall offers a way into reflecting upon one’s practice. Lyle (2003, p.861) states: “Stimulated recall (SR) is a family of introspective research procedures through which cognitive processes can be investigated by inviting subjects to recall, when prompted by a video sequence, their concurrent thinking during that event”. Fox-Turnbull identifies a number of areas where stimulated recall has been used and how it has been employed: the study of classroom practice and interaction, the use of both audio and video recording, photographs taken by the subjects and then used as stimuli in interviews, stimulated recall used together with “interviews, videotaping, observation and field notes, thus providing a comprehensive range of data” (Fox-Turnbull 2009, p.205). De Smet et al describes the research method as a possibility to “elicit decision-making, beliefs, dilemmas, and goals which are vital to understand what they [peer tutors] do ... and why they do so” (De Smet 2010 p. 649). Fox-Turnbull (2009, pp.205-206) continues and identifies how you can avoid certain pitfalls (memory, instructions etc.) associated with stimulated recall: clear guidelines, carrying out the Stimulated Recall interviews as soon as possible after the actual incident, audio taping each Stimulated Recall interview (there are incidences of participants using observation field notes) and transcribed participant conversations, stimulus should be as strong as possible.

My investigations employed stimulated recall in this way: record a performance; write down initial thoughts in the form of a mind map; investigate the recording and develop the mind map, and repeat the steps if necessary. One option is to also record the response to the recording and review the process with an external researcher. I did not have access to such a researcher and therefore did not record my responses other than via mind map, but, as noted by Fox-

Turnbull, the use of field notes has been employed instead of audio recordings. The important thing is to consider the key issues with the investigation throughout the procedure, for instance, sense of creative engagement with the score, the instrument as a limitation/inspiration. As with other methodologies, stimulated recall could have both negative and positive aspects. In this study one of the positive aspects is that I, as a performer, can go back and review my decision making; for instance, why did I interpret the score in this way? Regarding this investigation's employment of stimulated recall, Lyle (2003, p.873) mentions that stimulated recall intended to encourage reflection does not have the limitations often encountered in other stimulated recall instances. The important thing is the "consonance between the methods employed and the focus of the study". Östersjö (2008, p.14) made important discoveries while recording his artistic work: "An important observation was how the procedure of documentation increased the efficacy of interpretation-finding, thus influencing it as well. When I reviewed the material, structuring it thematically, etc., the close acquaintance with the material also affected my artistic work". Stimulated recall seems, then, to be a valid methodology for this kind of experimental work since the focus lies on reflecting upon a specific artistic practice.

### **A note on the recordings**

I want to emphasize that the recordings I made are in no way "professional" but act as references for my exploration of different aspects of graphic scores. There could be several problems with recording improvised music and Bailey (1992, p.103) describes the "technical illusions" and recording devices that usually "serve only to fillet out and disturb quite important elements". Bailey continues and raises the problem of "loss during the recording process of the atmosphere of musical activity". The recorded sound is decontextualized and it may be impossible to discern subtle changes and choices made by the performer. Could my recordings, then, be justified as proper versions of the piece? Could that be decided somehow? Considering that there are no real instructions for the piece, perhaps any recording could be justified. If I employ this thought, that there is no version which is better or more authentic than another one, I as a performer is liberated and the recording is satisfying. For my recordings, then, I have taken a practical approach; they are simply references for my own use.

### **Results**

*Ternary Systems* is in a way easy to understand as it contains many parameters that are used in conventional Western art music. This choice was quite deliberate since I wanted a score that was somehow rooted in traditional notation, so that the transition between traditional Western notation and a more abstract, graphic notation was not difficult to perceive. I did not want the resistance between the two traditions, in terms of notation, to be exceedingly significant. As a performer, I did not have a lot of experience playing graphic scores, this way of notating was not firmly embedded in my artistic habitus, thus the choice of a score in between traditions was a choice of making the transition for me easier. The score itself is made with regular staff lines and the performer could perceive pitches, there are however no key signature or clef. The pitches are connected both horizontally and vertically by straight lines. There are then several routes to the same pitch. The score looks like a coordinate system:

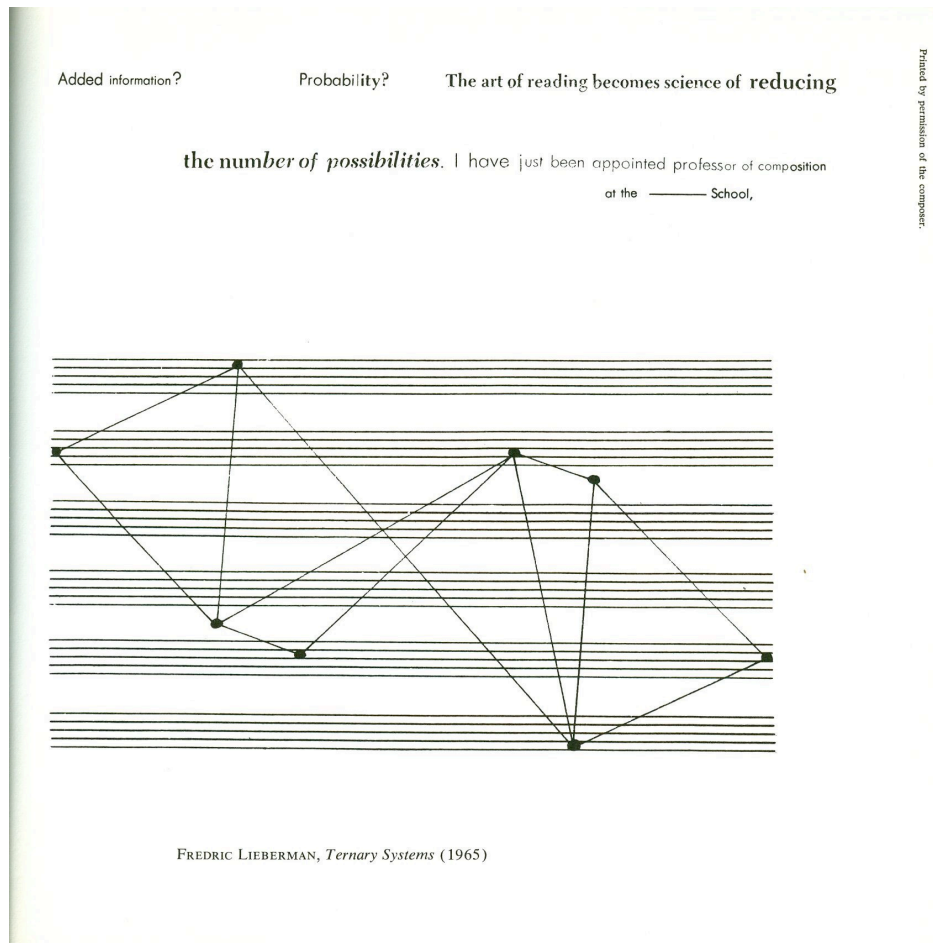


Figure 4: Ternary Systems by Lieberman

When I prepared the score, my initial thoughts were at first to follow the score as much as possible, that is, have the flute in mind, use the pitches available and have a kind of order. For the second round of recordings I had a different approach and used the instrument in another way. I allowed the instrument more the role as the leader of what was happening, treating it as a distinct agent and let the resistance be a part of the performance. The instrument thus forms a vital part in the realization of the music. In that respect the relationship between the score and the instrument is perhaps not that distinct in the first recording; the resistance is not that significant because the way I am playing, the style already exists in my artistic habitus and therefore my artistic field will not be expanded a great deal. For the second recording, then, a focus is on the flute and its extended techniques and less focus is on the actual score, it is used more as point of departure or inspiration.

For the first recording, I looked at the score and planned on how to play. I decided to use the pitches the same way as when playing the flute conventionally. I then made a dynamic choice: the higher placed notes were to be played at a stronger dynamic level than the lower ones. Thus, the highest placed note was the loudest. The notes are connected by straight lines making the movement between notes as straight as possible, that is, no pitch bends etc. I did not decide anything else before-hand, for instance the duration between different notes, exactly how loud each pitch was to be played.

I began playing from the left; I could perhaps also have started on the first system were the loudest pitch is placed. I started at the left because the a natural is an easy pitch to play on the flute, so a bit safe. The loudest pitch is an e natural which is quite hard to get loud without

splitting so you often make an unconventional fingering for this tone. My classical training proved very useful in this instance since the first time I played the alternative e was in a Bach sonata. The only downside with the fingering I chose is that the timbre is changed to a hollower tone, however you can play very loud. Thus, the choice here was dynamic power instead of *égalité* of the tone. This whole concept is dependent on the performer having an understanding of the intricate correlation between the instruments capabilities and limitations—resistance—as well as his or her own capabilities—*habitus*—and how this correlation work in performance, *hexis*. But as stated I did not want to start on this pitch because of the unconventional fingering, which could go wrong. This goes wrong despite my precautions. I try to play too strong and the tone splits to a higher octave. Evens states: “These feedback mechanisms [between instrument and performer] preclude a wholly preconceived performance” (Evens, 2005, s. 83). Even though I tried to get rid of the risk the instrument decided on something else. This is a good example of the resistance of the instrument; in this case I am limited to the mechanics of the flute (or perhaps my flute) and cannot play in the dynamic power I want without changing something. I was aware of the risk and also know what happens with the sound when this occurs. This is perhaps reflected in the recording as I make no attempt of correcting the airspeed at once just at the end of the tone to get some connection with the other musical material. This occurs, I think, also since I played there once before in the recording with good result and the second time around I probably got excited and tried to much dynamic power. In a way, I perhaps was trying to deny my own *habitus* to get more power.

For this first recording I did not focus much on the paths to the new tone but rather just the new tone itself. The sustained sounds are therefore quite organic in respect to, for instance, vibrato. For another recording, I probably would focus on the process to the new tone and perhaps play non-vibrato in accordance with the straight lines. I could also use the lines between the notes as a help with the dynamics; when a line goes up a crescendo is building, for instance. My thoughts before the exploration evolved during the process of the first recording. The classical training I have undergone informed much of the first stage; I approached the score from a well-known perspective and the result was quite expected.

The second stage of recordings are perhaps more intuitive or improvisatory because I tried to be free from any preparations and instead just go with the instrument. Having played the score before I had prepared it at some point and, so, it existed as an internalized object, which I had experienced, it was in my artistic *habitus*. You can probably never be completely free from your own experiences, however with graphic scores you can push yourself into new directions which you did not think of before, a form of resistance induced by the encounter between score and performer that results in a reshaping of the *habitus*. Why would I, then, take this more improvisatory approach at all? One answer is that I wanted to develop my own practice and creativity with this piece. The first reading was perhaps very literal and faithful to the score, however, nothing suggests that another approach is wrong as there is no instructions on how to play the lines between the notes for instance. They could be represented in a myriad of ways of which I have tried a few. Nyman states, in reference to Cardew’s *Treatise*, that “the performer may choose to realize...as a circle, some sort of circular sound” but could also choose a “non-representational way”. “Each performer is invited by the absence of rules to make personal correlations of sight to sound” (Nyman, 1999, p. 10). This is an artistic exploration to which I was invited by the absence of rules. I want to clarify that my intention with this approach was not just shifting from one convention to another but rather exemplify how you can critically challenge

your own playing. The score may provoke a wide range of possible responses and I have explored some of the sonic responses I found interesting.

One of the main questions I had in mind when making the new recordings was how I can play so the flute extends into something that it is perhaps not associated with in normal circumstances. With normal circumstances I mean the classical Western art music that perhaps most people associate the flute with, for instance, Mozart concertos, Bach sonatas and Romantic symphonies; a flute with a polished tone soaring above the accompaniment. I tried to use the voice as an additional agent and also in one recording tapping the flute against a table. I also used other extended techniques such as multiphonics, jet tones, breathy tones, Sciarrino inspired trill patterns and different approaches to the mouthpiece. The focus on other techniques was much higher in these new recordings and the result is, perhaps in some perspective as a performer and flutist, quite exciting to listen to. If I also compare the preparation phase of the two instances of recordings I find this second instance more exciting. For the first recordings, I prepared perhaps too much and over analyzed the score. Even though I knew the score for the second instance of recordings I think I was able to take a fresh approach to the score via the use of extended techniques. Coessens and Östersjö describes this where a “playing technique ... allowed a way out of the resistance of culture, not by conforming with but by denying expectations from tradition—and was therefore an expression of hexis that led ... toward a more experimental approach” (Coessens & Östersjö, *Habitus and the Resistance of Culture*, 2014, p. 345).

My classical background was a form of resistance to the score, but by using different playing techniques I could continue the exploration in a creative way.

This musical exploration was a challenge. There was resistance between score, instrument and performer as well as between my background and training and the experimental tradition. Was there a way of working with these instances of resistance to make informed creative choices? I think I managed to resolve this issue by inviting my habitus into new modes of playing, thus embodying new skills, and consequently the manifestation of hexis altered. “We argue that the hexis of a musician may constitute the springboard for musical experimentation” (Coessens & Östersjö, *Habitus and the Resistance of Culture*, 2014, p. 346). It seems, then that a work of art, in a way, is not complete and invites me as beholder/performer to co-creation. The identity of the work of art is flexible and appears in many variants. In this sense, my work on the recordings and the variety they present is a part of the work of art that this music is. The indeterminacy of the score is performed through my habitus, a habitus that is just as flexible as the tradition that the work of art constitutes.

### **Recording of Lieberman’s *Ternary Systems*:**

<https://soundcloud.com/christian-fernqvist/sets/lieberman-ternary-systems>

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