

Marcel Bouvrie 4069277 | *Beyond Aerial Boundaries* (1984): Michael Hedges and the De/reterritorialization of the Steel-String Acoustic Guitar

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Introduction

In 1984, acoustic guitar virtuoso Michael Hedges released his second album, *Aerial Boundaries*, which many describe as the genesis of a new solo acoustic guitar movement:¹ a movement where guitarists expand the sonic and musical palette of the acoustic guitar by optimally combining its melodic, harmonic, timbral and percussive potential. This, in order to develop the acoustic guitar as a fully-fledged solo instrument, rather than its more typical role of accompanying instrument. Before Hedges, there were already several acoustic guitarists who challenged the convention that the steel-string acoustic guitar's primary function is that of an instrument for accompaniment. John Fahey, Leo Kottke, Will Ackerman and Preston Reed were the most prominent guitarists to try to validate the steel-string acoustic guitar as a solo instrument. They all had their own unique idiosyncratic approach within this self-proclaimed mandate, but none had the disruptive impact that Hedges had, and still has.

Today, this new acoustic guitar movement – often described as Fingerstyle or Percussive Guitar – is larger and more popular than ever. Especially through YouTube, many of these Fingerstyle guitarists have gained a wide international audience. Leading guitarists in what we may call the second golden age of Fingerstyle guitar, are Andy McKee, Don Ross, Tommy Emmanuel, Thomas Leeb and Kaki King. All of them expressed their respect and their creative, artistic debt to Michael Hedges in a recent documentary about Fingerstyle guitar, *Acoustic Uprising* (Drew Roller, 2017).² At one hand, the legacy that Hedges has left consists of his innovative use of guitar techniques. His right hand tapping on the fretboard in tandem with left hand legato, as well as the percussive slaps and thumbs on the guitar have become almost standardised in today's Fingerstyle *modus operandi* and aesthetics. But more importantly, it is his refined compositional skill driven by a wide musical eclecticism which makes him the most pivotal figure of the Fingerstyle genre.

Hedges has always considered himself more as a composer than as a guitarist. This is reflected in his choice to study composition at the Peabody Conservatory in Baltimore, Maryland, after experiencing creative limitations within the classical guitar realm. He often stated that he sees the guitar primarily as a vessel through which his compositions flow. He sees the acoustic guitar as an instrument, in the definition of a means through which

¹ See, for example: "Michael Hedges," *Acoustic Magazine* 2015, accessed July 2018, <http://www.acousticmagazine.com/features/michael-hedges/>

² "Hedges the new path," YouTube video 2:29, posted by "Acoustic Uprising," January 1, 2018, <https://www.youtube.com/watch?v=8gyW3ds--nE>.

something is achieved; an instrument with which he develops his own innovations in order to achieve his compositional ends. Hedges strikingly expresses this notion in his liner notes of the album *Aerial Boundaries* (1984):

“The telescope was invented in 1608 by a Dutch lens grinder, Hans Lippershay. One day Lippershay discovered accidentally that by putting lenses at both ends of a tube and then putting the tube to his eye, he could view things ‘close up’. He called his device a looker, and thought it would be useful in war. Galileo got hold of one, improved it a little, and then used it himself to challenge prevailing ideas about the solar system. This music is dedicated to the spirit of Galileo.”³

We can see this story as an outstanding allegory for Hedges’ approach to the guitar, and we can draw an interesting comparison between Hedges and Galileo. Both men did not invent the tool, but they used it to achieve a certain, higher purpose. Galileo, father of modern astronomy, used the tool to contest the dominating view that the Earth is the centre of our solar system, causing a paradigm shift in astronomical knowledge. Hedges, father of modern Fingerstyle guitar, improved several aspects of conventional guitar playing to achieve his compositional ideas, and in doing so, he realized an acoustic guitar paradigm shift. Galileo, with his telescope, broke through the imagined aerial boundaries. Hedges maintains his spirit as he breaks through the boundaries of conventional guitar playing in his revolutionary album, with its metaphoric title *Aerial Boundaries*.

But even though Hedges sees himself as a composer rather than a guitarist, we cannot deny that he in fact composed idiomatic compositions for the newly imagined acoustic guitar. Then, to call it a mere vessel for the composition would be to deny the guitar’s own idiosyncrasy, agency and influence within the shaping of the music. Therefore, we have to take into account the elements of the acoustic guitar together with those of Hedges as a composer if we want a complete understanding of his music. And more importantly, we have to consider how all these elements are dynamically connected in the realisation of the compositions. Therefore, the aim of this thesis is to

³ Michael Hedges, Liner notes for *Aerial Boundaries*, Windham Hill Records, Will Ackerman, WD-1032, 1984, compact disc.

analyse the multiplicity of elements that contribute to *Aerial Boundaries*, to understand why this album established such a paradigm shift in the fingerstyle guitar movement.

Methodology

The methodology that I will apply in this thesis draws for a large part on the conceptual framework of the famous collaboration between French philosopher Gilles Deleuze and French psychoanalyst Félix Guattari. The concepts that are invented in their book *A Thousand Plateaus* (1980), the second volume in their 2-volume theoretical work *Capitalism and Schizophrenia*, will prove to be particularly useful in this thesis. For it is in this book, mainly in Plateaus 10 and 11, where they particularly shed their light on the phenomenon of music. In doing so, they develop their unconventional understanding of music as the “creative, active operation that consists in deterritorializing the refrain.”⁴ My aim is to show that this is exactly what Hedges realizes, and that this is a key factor in understanding the paradigm shift. But in order to fathom their definition of music, we obviously are in need of a certain familiarity with the Deleuze-Guattarian conceptual apparatus.

In *What is Philosophy?*, Deleuze and Guattari propose that the purpose of philosophy is to create new concepts.⁵ Readers that are familiar with the work of Deleuze and Guattari will agree that their concepts are not easily defined or isolated. Often in their explanation of their concepts, they refer to their other invented concepts and show how they are related, instead of providing fixed definitions. One might say that their concepts are organized in their own rhizomatic kind of way. Therefore, the concepts might also be understood as practical and methodological tools for analytical processes. And of course, in embarking on a Deleuze-Guattarian methodological journey, the knife always cuts two ways: the concepts help to understand the subject matter, and the subject matter helps to understand the concepts.

In this thesis, I will use concepts that I think are most relevant to analyse the music of Hedges as my methodological framework. I will mainly focus on three big concepts within their catalogue: (i) assemblage, (ii) the rhizome and (iii) de/reterritorialization. These concepts also determine the structure of my thesis as they form more or less a linear path that helps

⁴ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia II*, trans. Brian Massumi (London and New York: Bloomsbury Academic, 2016), 300. Originally published as *Mille Plateaux: Capitalisme et Schizophrénie II* (Paris: Éditions de Minuit, 1980).

⁵ Gilles Deleuze and Félix Guattari, *What is Philosophy?*, trans. Hugh Tomlinson and Graham Burchill (London and New York: Verso, 1994), 2. Originally published as *Qu'est-ce que la Philosophie?* (Paris: Éditions de Minuit, 1991).

answer the main question of my thesis: how do the input and output dynamics of Michael Hedges shape the album *Aerial Boundaries* as such a paradigm shifting fingerstyle album?

The basis for my choice, and structure, of concepts is largely inspired by Edward Campbell's exegesis of Deleuze and Guattari's philosophy of music. In his seminal monograph *Music after Deleuze* (2013), he proposes that musical works should be "considered in terms of dynamic assemblages of multiple and heterogeneous forces, rhizomatic lines of flight that are deterritorialized and reterritorialized from various milieus."⁶ I propose that the music of Michael Hedges is best analysed using this mode of thought, and within this lies the key to understand the revolutionary aspects of *Aerial Boundaries*. Therefore, the structure of this thesis will be as follows.

The first chapter, on assemblages, focusses on the multitude of heterogeneous forces that helped shape the music on *Aerial Boundaries*. Here, the focus is mostly on the *input* side of Hedges and how he organizes the diverse elements into his compositions and eventually in the album as a whole.

The second chapter deals with the concept of the rhizome to explain how all these multiple forces are connected in a non-hierarchical manner to the technique, technology and repertoire that make up Hedges' guitar style. Here, we shift the emphasis to the output side to analyse how all the elements dynamically interact with each other in the realization of the music.

The final chapter concerns deterritorialization, and functions as an overarching thread that will answer the question why *Aerial Boundaries* is such a ground-breaking album. In short, with the concept of deterritorialization Deleuze and Guattari provide a framework to understand the constant and dynamic processes of transformation as reorganizations of different assemblages into a new assemblage. This concept forms a bridge between the other concepts, and I will use it to demonstrate how Hedges restructures the conventions of the acoustic guitar into a new configuration of acoustic guitar playing.

Before discussing these concepts, it is already important to note here that Deleuze and Guattari's chief aim is to "situate music within the processes of the natural world and conceive of it as a specific mode of engaging patterns of action, relation and development."⁷

⁶ Edward Campbell, *Music after Deleuze* (London & New York: Bloomsbury, 2013), 164.

⁷ Ronald Bogue, "Violence in Three Shades of Metal: Death, Doom and Black," in *Deleuze and Music*, ed. Ian Buchanan and Marcel Swiboda (Edinburgh: Edinburgh University Press, 2004), 95.

In other words, music is not merely an independent and self-referential phenomenon but “an open structure that permeates and is permeated by the world.”⁸ In *A Thousand Plateaus*, the most extended treatment of this idea of music is Deleuze’s discussion of Oliver Messiaen’s musical adaptation of birdsong, especially in the cycle of solo piano pieces *Catalogue d’oiseaux*. The word adaptation here is especially important, since it demonstrates the human, musical intervention in the natural world. For it is not pure mimesis or imitation that is at stake, but a certain ‘translation,’ that connects the natural world and music. This is also important in the music of Hedges, as he also provides a certain musical, or more accurately a guitaristic translation of certain elements to his music.

So, in this thesis, the subject of analysis is the music of solo steel-string acoustic guitar virtuoso Michael Hedges.⁹ The main focus will be on the solo steel-string acoustic guitar compositions on his most influential album *Aerial Boundaries*.¹⁰ As I intend to demonstrate, the Deleuze-Guattarian concepts are valuable tools to understand the shaping of the music, and to understand why this is such a pivotal fingerstyle album. To do this, I will scrutinize Hedges’ compositions in terms of (i) the compositional influences, (ii) the (extended) guitar techniques, (iii) the altered guitar tunings, (iv) the philosophical utterances of Hedges, (v) the implication of composing for solo acoustic guitar, (vi) the extra-musical influences and (vii) the role of sound technology. These forces are, as I will demonstrate, all connected to each other and are mutual influential in the final shaping of the revolutionary fingerstyle music. It is important to note that, while certain elements might be more significant for a specific composition, they are in essence non-hierarchical when taking the album as a whole and I will discuss them wherever they seem most applicable.

I am convinced that using Deleuze and Guattaria’s conceptual apparatus to analyse the music of Hedges is a valuable contribution for two reasons. First, as far as I know, there haven’t been any analyses like this within the scholarly canon of guitar studies.¹¹ Second,

⁸ Ronald Bogue, *Deleuze on Music, Painting, and the Arts* (London: Taylor and Francis, 2003), 14.

⁹ While this thesis will focus mostly on Michael Hedges himself, I want to quickly address here that this rhizomatic approach to the guitar is also exemplary in the new acoustic fingerstyle movement that Hedges spawned.

¹⁰ Besides solo acoustic guitar compositions, the album consists of a guitar and fretless bass, played by Michael Manring, duet cover of Neil Young’s *After the Gold Rush*; an ensemble piece with acoustic guitar, fretless bass and flute *Ménage à Trois*.

¹¹ A selection of the canon of guitar studies: Frederic V. Grunfeld, *The Art and Times of the Guitar: An Illustrated History of Guitars and Guitarists* (Westport, CT: Bold Strummer, 1969); David George, *The Flamenco Guitar; From Its Birth in the Hands of the Guitarrero to Its Ultimate Celebration in the Hands of the Flamenco Guitarist* (Madrid: Society of Spanish Studies, 1969); Harvey Turnbull, *The Guitar: From the Renaissance to the Present Day* (Westport, CT: Bold Strummer, 1977); Tom and Mary Anne Evans, *Guitars:*

there has been surprisingly little scholarly attention to Michael Hedges in this same scholarly canon. The only scholarly interest that exists is a thesis by Donovan E. Raitt, a fingerstyle guitarist himself.¹² Raitt's thesis, much like mine, evaluates Hedges' musical elements, performance techniques and compositional style. It is therefore a useful companion for my scrutiny, but it does not emphasize enough how all these components interact with each other in the process of the realisation of the music. Furthermore, it does not situate *Aerial Boundaries* in a tradition of the deterritorialization of the acoustic guitar, which I claim is the key factor for the paradigm shift it has caused.

Music, History, Construction and Players: from the Renaissance to Rock (London: Oxford University Press, 1977); Later studies focussed on the social, cultural and technological settings of the guitar: Steve Waksman, *Instruments of Desire: The Electric Guitar and the Shaping of Musical Experience* (Cambridge, Mass: Harvard University Press, 1999); Richard Chapman, *Guitar*. (New York, NY: Metro Books, 2000); Andy Bennett and Kevin Dawe, *Guitar Cultures* (Oxford: Berg, 2001); Victor Coelho and Victor Anand, *Performance on Lute, Guitar, and Vihuela: Historical Practice and Modern Interpretation* (Cambridge: Cambridge University Press, 2003); Jeffrey Noonan, *The Guitar in America: Victorian Era to Jazz Age* (Jackson: University of Mississippi Press, 2008); Kevin Dawe, *The New Guitarscape in Critical Theory, Cultural Practice and Musical Performance* (London and New York: Taylor & Francis Group, 2016).

¹² See Donovan E. Raitt, *The Music of Michael Hedges and the Re-Invention of Acoustic Fingerstyle Guitar*, Master Thesis, University of Southern California, January 2011.

Chapter 1. Assemblage

“We will call an assemblage every constellation of singularities and traits deduced from the flow – selected, organized, stratified in such a way as to converge (consistency) artificially and naturally; an assemblage, in this sense, is a veritable invention.” – Deleuze and Guattari

“An assemblage is not a randomly selected collection of things, but a whole that expresses identity and claims a territory.”¹³

In the book *Dialogues* (1977), which consists of a series of discussions between Deleuze and journalist Claire Parnet that provides an accessible introduction to his philosophy, Deleuze says about assemblages that it is a “multiplicity which is made up of heterogeneous terms and which establishes liaisons, relations between them.”¹⁴ This provides a good start for using the concept as a part of a methodological toolkit. The aspect of establishing liaisons and relations is essential, because the assemblage must be understood as an *active* operation. To best understand this, it is useful pay attention to the slightly problematic translation of the actual term Deleuze and Guattari used. The original word they use for the concept is *agencement*, which is a common word French that means ‘division’, ‘construction’ or ‘compilation’, and is thus used to refer to either an ‘arrangement’ or ‘fitting’, ‘fixing’.¹⁵ The term is thus used for both the arrangement itself, as for the *act* of fixing, arranging or assembling. The translated term assemblage, thus, might appear to mean something too radically static, while in fact it is very much the *process* of organizing, assembling and arranging that is also at stake. This also fits better to Deleuze and Guattari’s assertion that – as the editors of the introduction to *Musical Encounters with Deleuze and Guattari* (2017) eminently paraphrase – “everything in existence, all phenomena, thoughts and categories are formed as relations in constant processes of becoming.”¹⁶

In my interpretation, we can best understand the entire album *Aerial Boundaries* as well as the individual compositions as an assemblage. The album is an organisation of heterogeneous forces, actively and creatively assembled by Hedges into a coherent

¹³ J. Macgregor Wise, “Assemblage” in *Gilles Deleuze Key Concepts*, ed. Charles J Stivale (London: Routledge Taylor & Francis Group, 2014), 91.

¹⁴ Gilles Deleuze and Claire Parnet, *Dialogues*, trans. Hugh Tomlinson and Barbara Habberjam (New York: Columbia University Press, 1987), 69. Originally published as *Dialogues* (Paris: Flammarion, 1977).

¹⁵ See Phillips, J. “Agencement/Assemblage,” *Theory, Culture & Society*. 23 (2-3): 108–109: <http://journals.sagepub.com/doi/pdf/10.1177/026327640602300219> (accessed June 2018). The word is also related to the Latin word *agens*, meaning ‘to set in motion, drive, lead, conduct’.

¹⁶ Pirko Moisala, Taru Leppänen, Milla Tiainen and Hanna Väättäin, “Introduction,” in *Musical Encounters with Deleuze and Guattari* (New York: Bloomsbury Academic, 2017), 2.

conglomeration. Important to note is that we should not see the album as a static entity with a static meaning, but as something that is always in relation with other forces. The album, for example, may be picked up by another artist who incorporates certain elements of it in his/her own music, ultimately establishing a new assemblage.¹⁷ With this, the meaning of the album slightly changes as it is now related to another assemblage.¹⁸ It can now have a multitude of meanings which are ultimately established by the different relations it may experience. This however, largely deals with the reception side of the album. In this thesis, we are more concerned with the relations between the heterogeneous elements that Hedges himself organized in his assemblage, these which will be the aim of this chapter.

One final thing to understand about the concept of assemblage, is that they create *territories*.¹⁹ In Deleuze-Guattarian's thinking, territories are not just places: "they have a stake, a claim, they express (my house, their ranch, his bench, her friends)."²⁰ Therefore, we might also speak of *Aerial Boundaries* as being a territorial assemblage. And then, we may follow the words of Deleuze and Guattari which provides us with a methodological plan: "the first concrete rule for assemblages is to discover what territoriality they envelop" and "[i]t is necessary to ascertain the content and the expression of assemblage."²¹ This is exactly what this chapter will do, first on a more general basis with the album as a whole, and then more specifically on the level of the album's title track "Aerial Boundaries."²²

In the only academic enquiry of the music of Michael Hedges, Donovan E. Raitt did a good job describing the wide-ranging influences that come together in the music of Hedges. He mentions diverse composers and musicians and which elements of them are taken up by Hedges: Steve Reich's minimal music techniques in "Aerial Boundaries", Arnold Schoenberg and his idea of Klangfarbenmelodie in "Rickover's Dream", Pat Metheny's use of chorus and

¹⁷ This formation of a new assemblage is what Deleuze and Guattari call de/reterritorialization, and this will be the main focus of chapter 3.

¹⁸ For example: Upon release *Aerial Boundaries* could be seen as a disruption of the mellifluous yet sometimes rather bland New Age guitar music of the Windham Hill label. But as more and more fingerstyle players arranged elements of *Aerial Boundaries* in their assemblage, the album obtains a different meaning. It can now be seen, for example, as the album that ignited the musical careers of several prominent fingerstyle guitarists and thus as the album that sparked a whole new acoustic guitar movement.

¹⁹ Deleuze and Guattari, *A Thousand Plateaus*, 585-6: "Every assemblage is basically territorial."

²⁰ Macgregor Wise, *Assemblage*, 92.

²¹ Deleuze and Guattari, *A Thousand Plateaus*, 586.

²² To avoid confusion, I will use italics when referring to the album as whole and quotes to refer to the individual compositions. So "Aerial Boundaries" is the title track of *Aerial Boundaries*.

echo effects to add depth to the sound of the guitar, Joni Mitchell and her use of non-traditional tunings.²³

To this I can add: the mixture of folk music and Indian rhythms in “Ragamuffin”, the sound manipulation techniques inspired by Hedges’ study of electronic music at the Peabody conservatory in “Spare Change”, the music of fellow-acoustic fingerstyle guitarist Pierre Bensusan in the tribute piece “Bensusan”, and of course the song “After the Gold Rush”, of which Hedges plays an instrumental version with Michael Manring on the fretless bass (a sonic guitar and bass combination that was inspired by the well-known collaboration between Joni Mitchell and Jaco Pastorius). Then there are some extra-musical inspirations which can also be considered part of the heterogeneous forces as they helped shape the meaning and sound of the compositions through their titles: Hedges’ fascination with submarines and in particular those of lieutenant Hyman G. Rickover in “Rickover’s Dream”, the reverie of a IBM typewriter that has gone funky in “Hot Type”.

Now that we have discovered some of the other territorial assemblages the album *Aerial Boundaries* envelops, we have to ask what the relations between these heterogeneous forces are. The obvious answer to this, is that it happens through Hedges’ process of organizing the elements into his idiosyncratic solo fingerstyle guitar territory. Hedges brings all these forces together and expresses them in his compositions. And by assembling the compositions into one album, the relation between all the diverse elements becomes visible. There is now a relation between the forces of Steve Reich’s minimal music and the those of Joni Mitchell’s altered tunings, between a typewriter and a funky guitar riff. The guitar, in the hands of Hedges, is the mediating force between the various components.

By looking at an individual composition, we can get a more detailed view of how Hedges assembles heterogeneous forces. For this, the title-track of the album is particularly interesting. For “Aerial Boundaries” is perhaps the most iconic and influential pieces on the album. This composition is a striking example of how Hedges relates several elements with each other in a fingerstyle guitar territory. These consists primarily of the rhythms of the

²³ Raitt, *Michael Hedges*, 22-30.

*doumbek*²⁴ for the basic groove, and the compositional strategies of minimalist composer Steve Reich for the overall structure of the piece.²⁵

Hedges stated at several occasions that this piece is a product of his interest in Minimal music, most noticeably that of Steve Reich.²⁶ Most relevant is Hedges' statement that he wanted to compose a piece where "the idea was to make things change over a certain period of time, but not too noticeably."²⁷ This, interestingly, is not exactly in line with Reich's minimalistic approach. Although Reich is interested in composing music that changes gradually over time, he actually emphasizes that for him, this process should be very noticeable: "I am interested in perceptible processes. I want to be able to hear the process happening throughout the sounding music."²⁸ The definitive example of this are the pieces where he creates his famous "phasing" effect, where identical musical patterns gradually move in and out of time with one another. This musical, phasing process becomes perceptible, only because it happens extremely gradually. And with that, he truly means gradually: "a process happening so slowly and gradually that listening to it resembles watching a minute hand on a watch – you can perceive it moving after you stay with it a little while."²⁹

So here we find a small discrepancy between Hedges' rendition of minimal music and the ideology of Steve Reich. The point is not necessarily that Hedges' piece is too short to achieve a phasing effect, because 4:41 minutes should be enough to realise the perceptible effect of music as a gradual process on a short scale. It is rather that the patterns that Hedges introduces succeed one another at a fairly quick rate. Almost throughout the entire piece, he introduces new patterns which he then develops by adding more material. The most clear example of this is in the opening section, where he lays down a rhythmic foundation, to which he gradually develops a melody. But after the introduction of this pattern, he immediately moves on to another pattern, to which he again plays gradually progressing material. The entire piece, thus, exists as a chain of these blocks wherein a certain pattern, usually created with the left hand, is juxtaposed with a gradually developing passage. At best, we could call

²⁴ Doumbek, or debuka, or goblet drum is a hand percussion instrument mostly used in the Middle East, North Africa, South Asia and Eastern Europe.

²⁵ See: "Michael Hedges Interview – Aerial Boundaries," YouTube video, 1:45, posted by "Andrés Rojas," February 16, 2014, <https://www.youtube.com/watch?v=6kJ-G8GW0UA>.

²⁶ He even went as far as to thank Reich in the liner notes of the album.

²⁷ John Stropes and Michael Hedges, *Michael Hedges: Rhythm, Sonority, Silence* (Racine: Stropes Editions Ltd, 1995), 24. This book, currently out of print, is part transcriptions of the music of Hedges by John Stropes and part interviews about the music.

²⁸ Steve Reich, *Writings about Music* (Halifax: The Press of the Nova Scotia College of Art and Design, 1974), 9.

²⁹ *Ibid.*, 11.

this a fairly cosmetic notion of Reich's music of gradual process. So it is probably only the repetitive element of "Aerial Boundaries" is where we best witness the influence of Reich.

This is, however, exactly what is at stake in the assemblage. The point is not to imitate certain elements, but to relate them with other elements and to keep those together in a new assemblage.³⁰ In the case of "Aerial Boundaries", Hedges relates the influence of Reich and the rhythm of the doumbek with his own style of guitar playing and composition. The extended guitar techniques and altered tunings, which are also part of the compositional techniques are all just as much part of the assemblage as the elements of Reich etc. These components work together: the doumbek rhythmic motif, which Hedges realizes with the physical gesture of repeated hammer-ons and pull-offs of the left hand, becomes the repetitive element to throughout the entire piece. It is worth here to recall that the assemblage is both the arrangement of various components as well as the *act* of assembling them. The "assemblage is a becoming that brings elements together."³¹ In short, the concept of assemblage is a good starting point to decipher the complexities of the myriad heterogeneous forces that help shape the album *Aerial Boundaries*. And the broad catalogue of the diverse, sometimes surprising, elements to which Hedges gives expression might be one of the factors that makes *Aerial Boundaries* such a paradigm shifting album within (what has become) the fingerstyle canon.

It is of course an open door to say that nobody works in a vacuum. Every musician and/or composer must always work with a multiplicity of heterogeneous forces, which he or she may or may not shape into a new musical piece. The concept of assemblage is a particularly useful concept to structure these elements, to see how they are organized and how they are related to each other in the work of a specific musician. For this is what ultimately gives the work its identity, its territory. In my introduction I mentioned that this chapter mainly deals with the input side of Hedges' music. This has largely been the case due of the summary of the different elements that helped shape the music. But of course, active aspect of assemblage also already determines the output of Hedges. These forces are unavoidably in connection with each other. In the next chapter, I will scrutinize how the diverse forces and Hedges' guitar playing are dynamically connected to each other in the actualization of the musical output. For this, I will use what is probably Deleuze and Guattari's most well-known concept, the rhizome.

³⁰ This is actually the second, next to territoriality, vital aspect of the assemblage and this is what Deleuze and Guattari call deterritorialization, see *A Thousand Plateaus*, 587. I am not going to go into this concept yet, for it will be the main focus in chapter 3.

³¹ Macgregor Wise, "Assemblage," 91.

Chapter 2: The Rhizome

“As we pass from the assemblage to the rhizome we shift our concerns from the plane of organisation to the plane of consistency.”³²

The main concept that I will use in this thesis will be that of the Rhizome. In the introduction to *A Thousand Plateaus*, Deleuze defines the rhizome as a mode of thought that allows principles of connection, heterogeneity and multiplicity.³³ They oppose it to the arborescent mode of thought, where a central root diverges in binary categories. This tree-like conception of knowledge emphasizes hierarchical centralization, while the rhizome allows the idea that everything is non-hierarchically connected:

“A rhizome has no beginning or end; it is always in the middle, between things, interbeing, *intermezzo*. The tree is filiation, but the rhizome is alliance, uniquely alliance. The tree imposes the verb ‘to be,’ but the fabric of the rhizome is the conjunction, ‘and... and... and...’³⁴

To fully understand the concept, it is worth providing a summary of the six principles, that according to Deleuze and Guattari, constitute the rhizome.

1 and 2: “Principles of *connection* and *heterogeneity*: any point of a rhizome can be connected to anything other, and must be (...) A rhizome ceaselessly establishes connections between semiotic chains, organizations of power, and circumstances relative to the arts, sciences, and social struggles. A semiotic chain is like a tuber agglomerating very diverse acts, not only linguistic, but also perceptive, mimetic, gestural, and cognitive.”³⁵

3: “Principle of *multiplicity*: it is only when the multiple is effectively treated as a substantive ‘multiplicity,’ that it ceases to have any relation to the One as subject or object, natural or spiritual reality, image and world. Multiplicities are rhizomatic ... there is no unity to serve as a pivot in the object, or to divide in the subject.”³⁶

³² Ian Buchanan, “Introduction,” in *Deleuze and Music* ed. Ian Buchanan and Marcel Swiboda (Edinburgh: Edinburgh University Press, 2004), 12.

³³ Deleuze and Guattari, *A Thousand Plateaus*, 5-7.

³⁴ *Ibid.*, 26. Their italics.

³⁵ *Ibid.*, 5-6. My italics

³⁶ *Ibid.*, 7. My italics.

4: “Principle of *asignifying rupture*: against the oversignifying breaks separating structures or cutting across a single structure. A rhizome may be broken, shattered at a given spot, but will start up again on one of its old lines, or on new lines.”³⁷

5 and 6: “Principle of *cartography and decalcomania*: a rhizome is not amenable to any structural or generative model (...) [the rhizome] is a *map and not a tracing* (...) It fosters connections between fields (...) Perhaps one of the most important characteristics of the rhizome is that it always has multiple entryways.”³⁸

One might argue that every type of music can be seen as a rhizomatic amalgam of influences and inspirations to a certain extent. Any process of making music might be defined as a dynamic interplay between myriads of ideas, decisions, structural frameworks, influences, coincidences, instrumental techniques, sonic experiments and so on. Therefore, we need a tool that allows us to think about music as this connected interplay of elements and does justice to these complexities at the same time. The rhizome, with its emphasis on connection, heterogeneity and multiplicity, does exactly this. It permits a cautious understanding that any aspect, however big or small, may play a role within the trajectory from genesis to final product of a musical composition/recording. To give a clear view of this, I will scrutinize how compositional strategy, influences, guitar technique, the affordances of the guitar, altered guitar tunings and his utterances of the music in several interviews connect and interact with each other in the shaping of his composition “Rickover’s Dream”, because this piece is exemplary in Hedges’ rhizomatic music making.

To begin, it is fruitful to discuss the tuning, since this is, as in all of Hedges’ compositions, a vital framework that helps shape the music. From low to high, the tuning is C2G2D3G3B3C4. This is not so much an open, chordal tuning, although the four inner strings do facilitate a G major triad and the outer two strings constitute an added fourth. In this manner, one could read the tuning as a Gadd4/C chord. The semitone tension between the B (the third of the chord) and the C (the fourth) characterizes this chord, and is exposed in the bottom two strings. The specific added-fourth chord colour is an essential ingredient for the harmonic, melodic and thematic content of the piece. This is already heard in the opening gesture, where the Gadd4 chord is melodically spelled out with natural harmonics. Later on, he transposes it to Cadd4 by simply barring all strings on the fifth fret, to which he adds more tone colours.

³⁷ Ibid., 8. My italics.

³⁸ Ibid., 11-12. First italics are mine, second are theirs.

Here we also see the potential of a tuning to facilitate certain chord shape. This gesture of barring the fifth frets, together with the chord shapes that start the second movement of the piece are fairly easy to execute. In fact, we could summarize the entire middle section of the piece as a continuous moving of fairly simple executable chord shapes that interact with the bass notes that pulsate almost exclusively in an eight note pedal-point manner.³⁹ This perfectly demonstrates that this dynamic interplay between the bass notes and harmonies quite heavily depends on the pragmatic power of a specific tuning. Without altering the tuning, these chord shapes would be almost impossible to perform. And, of course, the low C bass note is not achievable in the standard tuning.⁴⁰ The altered tuning also has direct consequences for the natural harmonics that can be played on the open strings, which is an essential ingredient throughout the entire piece.

One of the most interesting aspects of the piece “Rickover’s Dream” is the technical as well as musical way Hedges incorporates the natural harmonics within the piece. Before discussing this, it is necessary to spend a few words about natural harmonics in general. Harmonics, or overtones, on the acoustic guitar exist in two main categories: (i) *natural harmonics*, or open-string harmonics, which are played by pressing the finger lightly at a specific place over the string and then plucking or strumming it; (ii) *artificial harmonics*, where a guitarist frets a note with the left hand and then plucks it with the right hand while also placing its first finger on the desired node of the string. The harmonics, especially the natural, provide a perfect way to demonstrate how tuning, technique and musical ideas are dynamically related to each other. The tuning depends on the relationship between the strings, and thus the open-string harmonic potential. The most used natural harmonics are those on the twelfth (octave), seventh/nineteenth (octave + perfect fifth) and fifth (double octave) frets. The way these harmonics are played depends on the technique of the player. The most straightforward way is to pluck the string while placing the finger lightly on the corresponding position. But as I will demonstrate, Hedges shows a variety of techniques to deploy the natural harmonics. And these techniques have their own sonic qualities and are thus essential factors to the overall texture of the composition. In the next thread I will

³⁹ The general form is: A – B – A’.

⁴⁰ To be able to tune the string as low as a C, Hedges uses a much thicker bass string than the normal bass string of a guitar. This makes sure that the normal tension of the string is maintained.

demonstrate how this interplay between natural harmonics, technique and tuning is at work and how it gives shape to its extra-musical content.

There is one specific gesture that immediately stands out as it disrupts the seemingly calm and serene surface of the piece. It is at the beginning of the middle section, where Hedges slaps the neck at the twelfth fret, the middle point of the strings, in order to play the octave overtone that is located there. It is in fact another rendition of the Gsus4 chord, an octave higher than the open strings. However, it is the percussive effect rather than the clear harmonic constellation that directly demands attention. This is a vital function of these so-called *slapped harmonics*, a technique that Hedges popularized. The guitarist slaps the strings parallel to the fret at the specific node on the string to stimulate the harmonics. And this gesture combines the ethereal sound of the harmonics with the percussive attack of the slap.

Although, as I mentioned, it is primarily the percussive attack that captures our attention, its subtle harmonic function is worth to briefly mention as well. The beginning of the middle section provides a perfect opportunity to demonstrate this. Here, Hedges slaps the harmonics on twelfth fret of the bottom four strings (DGBC) and thus playing a Gadd4 chord. He combines this slapped Gadd4 chord with triads on C and D while the bottom string, the low C, serves as a pedal point. Then, after briefly changing the bass notes of the chord shapes to a B and an A, he plays another combination of harmony with slapped harmonics. Here he plays a straightforward F chord around the fifth fret, to which he slaps the strings twice at the 17th fret (12 frets above the fifth), and during the second slap he changes his left hand to bar all the strings at the fifth fret (see example). This results in the chord change of an F to a C/F, or Cadd4/F. This simple gesture is in line with the gist of the middle-section of the piece with its constant dynamic between bass notes and harmony to which the slapped harmonics form a distinct counterpart. In short, the slapped natural harmonics serve a connected percussive and harmonic purpose which only the specific guitar technique can realize.

The opening gesture of “Rickover’s Dream” is another example that natural harmonics have an important function within the composition. And also here, they are a consequence of a specific guitar technique. Here, he gently places his first finger of his right hand on the strings parallel to the twelfth fret, making sure that any open string that is played will sound as its first overtone (octave). Then, similar to “Aerial Boundaries”, Hedges uses a continuous left hand motion of hammer-ons and pull-offs to realize the natural harmonics. This results in a very specific texture that combines the percussive attack of the hammer-on and the ethereal sound of the natural harmonics that are realized with the pull-offs. There is one, very subtle,

addition to the sound stew and is the result of the left hand independent hammer-on. Because, when hammering-on, there actually emerge two notes: the fundamental note, which is a result from the vibration of the string between the fingered fret and the bridge. But also what John Schneider calls the bi-tone, which subtly sounds because the string also vibrates between the fretted note and the nut.⁴¹ This is a very delicate sound that is hardly recognized as a stable pitch, but is still part of the total timbre of the opening movement of “Rickover’s Dream”.

Timbre is actually a vital part of this opening sequence. The specific sound colour discussed above gradually changes because Hedges slowly moves his index finger upwards, which makes the open strings ring instead of the natural harmonics. So starting from the bottom string, the pull-offs now result in the open strings, which gradually opens up the spectrum to a fuller sound. This is a clever way to diversify the timbre of the acoustic guitar, but also to facilitate a certain compositional development using sound colour as a pivotal parameter. In his thesis, Donovan E. Raitt relates Arnold Schoenberg’s compositional technique *Klangfarbenmelodie* to the opening of “Rickover’s Dream”.⁴² The concept behind this technique implies that “timbral transformation of a single pitch could be perceived as equivalent to a melodic succession, that is, that one could *invoke tone-colour as a structural element in composition*.”⁴³ However, Hedges does not apply this notion to a single pitch, but rather to the Gadd4 chord which is, as discussed, the consequence of the particular tuning. We might say that the opening gesture is a sonic exploration and expansion of this Gadd4 chord, and the gradual change of tone colour is indeed a structural element to this.

This structural element in turn forms a vital part of the compositional strategy that characterizes the opening: the growth of a humble motif that organically evolves into a more fully-fledged musical statement. Hedges’ tactic of gradually moving his index finger up is a clever technical way to realize this, as it gradually broadens the sonic spectrum. In addition to this, he also moves his left hand legato motion upwards to slowly shift towards the lower tuned strings. So, with this upward motion of both hands, he not only shifts from the ethereal sound of the natural harmonics to the louder sound of the open strings, he also expands the ambitus of the entire gesture. This, in combination with the gradual crescendo, is an ideal strategy to realize a sense of organic growth within an introduction of a piece. Important to

⁴¹ John Schneider, *The Contemporary Guitar* (Berkeley: University of California Press, 1985), 126.

⁴² Raitt, *Michael Hedges*, 25-6.

⁴³ See Julian Rushton, “Klangfarbenmelodie,” in Grove Music Online, accessed March 15, <http://www.oxfordmusiconline.com/search?q=klangfarbenmelodie&searchBtn=Search&isQuickSearch=true>. My italics.

notice is that while his hand show a physical movement upwards, the movement of the music actually goes downwards. The opening starts with the high-pitched notes of the natural harmonics, and then gradually plays lower notes, until he reaches the lowest string, tuned to C, which he then strums repeatedly. This gesture, in my view, might tell us something about how Hedges symbolizes the explorations of the submarine, the extra-musical influence, into the piece.

Already briefly mentioned above, the inspiration comes from Hedges' fascination with submarines, and specifically the developments of lieutenant Rickover.⁴⁴ We could consider the composition as a reverie about an exploration of the nautical life beneath the surface of the sea. The opening almost mimics the dive of the submarine from the surface of the sea to the subsea territories. The coda, where Hedges returns to the opening motif but in a reversed manner might then symbolize the return of the submarine to the surface after the exploratory adventure. The tonal ambiguity of the piece might also be a musical translation of the submarine exploration of the unknown sea. The three-finger chord shape comprises a major triad in root position, which Hedges moves up and down the neck while keeping the low G string as a pedal point. This result in the following combination of chords: G, B/G, A/G, F/G. These chords do not follow any conventional tonal harmony or diatonic conventions, but are best seen as a result of moving that particular chord shape along the pedalling bass note, as if he is exploring the neck by moving the same chord shape.⁴⁵ Furthermore, the ethereal sound of the natural harmonics sort of resemble the sonar pulse that the submarine sends out in order to navigate during its exploration. And again, it is not a mere imitation of the sound of the sonar pulse, but a guitaristic adaption within a musical context.

To conclude, all of the elements discussed above are interconnected and influence each other in the shaping of the music. And some of the components might be dropped or altered or put in a continuous process of variation. The different tunings that Hedges uses for

⁴⁴ Hedges was particularly attracted to Rickover's achievement of using nuclear power instead of fuel oil to give submarines almost limitless range under water without having to come up to refill their tanks. Hedges, being a pacifist, was interested in the exploratory potential of these nuclear submarines, and not in the more actual military function. Hedges' ideal of a submarine might thus be closer to the *Nautilus*, the investigative submarine in Jules Verne's *Twenty Thousand Leagues Under the Sea* (1870) than the warships of lieutenant Rickover. It would thus not have been unfitting if the title of the piece would have been a Vernian reference.

⁴⁵ That specific hand gestures on the guitar might have meaning behind them is a tricky subject as it is hard to validate. But nonetheless, it is interesting to consider it in this analysis and I am strengthened in the idea that specific gestures can indeed have symbolic meaning thanks to Timothy Koozin. He wrote, convincingly about how the gestures in the guitar playing of Nick Drake symbolized certain messages in the lyrics. See "Musical Gestures in the Songs of Nick Drake," in *The Cambridge Companion to the Singer-Songwriter*, ed. Katherine Williams and Justin A. Williams (Cambridge: Cambridge University Press, 2016), 144-158.

each composition is a great example of constant variation, as is the variety of (extra) musical influences that help shape the musical ideas. And to quote Deleuze and Guattari:

“By placing all its components in continuous variation, music itself becomes a superlinear system, a rhizome instead of a tree, and enters the service of a virtual cosmic continuum of which even holes, silences, ruptures and breaks are a part.”⁴⁶

And with this, a rhizome finds natural ways to stratify and organize multiple varied forces into a connected whole:

“Every rhizome contains lines of segmentarity according to which it is stratified, territorialized, organized, signified, attributed etc., as well as lines of *deterritorialization* down which it constantly flees.”⁴⁷

And this process of deterritorialization, the reorganization of (rhizomatic) assemblages into new ones, will be the prime focus of the next chapter.

⁴⁶ Deleuze and Guattari, *A Thousand Plateaus*, 111.

⁴⁷ *Ibid.*, 8. My emphasis.

Chapter 3. De/reterritorialization

*“Music is a creative, active operation that consists in deterritorializing the refrain.”*⁴⁸

Probably one of the essential concepts in Deleuze and Guattari’s work is that of deterritorialization, and is particularly connected to the concept of assemblage. In chapter 1, I have put the emphasis on the territorial, including the content and expression, aspect of the assemblage, but this “is only a first aspect: the other aspect is constituted by *lines of deterritorialization* that cut across it and carry it away.”⁴⁹ These lines of deterritorialization are vital in Deleuze and Guattari’s understanding of the constant dynamic processes of transformation. In the processes of deterritorialization, elements of an assemblages break down and can get reorganized into a new assemblage, which Deleuze and Guattari call reterritorialization. These two processes are always connected to each other.⁵⁰ And, as Edward Campbell also mentions: “we can trace the lines of deterritorialization as they fragment an assemblage only to reassemble themselves in ever-new configurations in the process of reterritorialization, thus forming new, and equally transient, assemblages.”⁵¹ This is exactly the aim of this chapter. I argue that Michael Hedges’ creative endeavours on the acoustic guitar is a prime example of the process of de/reterritorialization and that this is essential for the reason why *Aerial Boundaries* is such a pivotal fingerstyle album. And this establishes my main claim of this thesis, that *Aerial Boundaries* is Hedges’ pivotal album in his de/reterritorialization of the acoustic guitar.

First, it is important to introduce another concept of Deleuze and Guattari, that of the *refrain*. The refrain, in short, is what gives a territorial assemblage a form of consistency: “The problem of *consistency* concerns the manner in which the components of a territorial assemblage hold together... the refrain... assures the consistency of the territory.”⁵² Deleuze and Guattari deliberately, and not for the first time in their oeuvre, use a musical term to structure the philosophical implications of their concept. For in music, the refrain (or ritournelle/ritornello/chorus) is a recurring passage that becomes an essential benchmark within a certain type of musical piece or song. This is a potent strategy to maintain a sense of consistency within a song or a musical piece. The fact that it is a recurring passage is vital, for

⁴⁸ Deleuze and Guattari, *A Thousand Plateaus*, 350.

⁴⁹ Ibid., 587.

⁵⁰ See Deleuze and Guattari, *A Thousand Plateaus*, 9: “How could movements of deterritorialization and processes of reterritorialization not be relative, always connected, caught up in one another?”

⁵¹ Campbell, *Music after Deleuze*, 39.

⁵² Deleuze and Guattari, *A Thousand Plateaus*, 381.

this generates a more coherent and recognisable structure. But of course, the refrain needs different surrounding material to which it forms the stable centre. So in short, the refrain creates a stable sense of order, or familiarity, in its interaction with different musical material that surrounds it, in order to ward off possible forces of chaos.

With this, we see that the function of the refrain in the broader meaning that Deleuze and Guattari propose is threefold: it organizes a sense of order (i), as it demarcates a consistent territory to keep out forces of chaos (ii), yet at the same time opens itself up to “the forces of the future, cosmic forces” (iii).⁵³ Deleuze and Guattari emphasize that “these are not three successive moments in an evolution... the refrain has all three aspects, it makes them simultaneous or mixes them: sometimes, sometimes, sometimes.”⁵⁴

Essential quote:

“So just what is a refrain? *Glass harmonica*: the refrain is a prism, a crystal of space-time. It acts upon that which surrounds it, sound or light, extracting from it various vibrations, or decompositions, projections, or transformations. The refrain also has a catalytic function: not only to increase the speed of the exchanges and reactions in that which surrounds it, but also to assure indirect interactions between elements devoid of so-called natural affinity, and thereby to form organized masses.”⁵⁵

With this quote in mind, I propose that we see the acoustic guitar as a refrain. It acts upon, and increases the speed of the exchanges between itself and its players, and it assures the interaction of heterogeneous forces into organized musical output. The instrument is an assemblage of several diverse elements (different kinds of wood, strings, frets etc.) in itself and conveys a sense of consistency through its basic shape and musical affordances. With its distinctive shape and affordances the guitar keeps out forces of chaos, because (like any other physical instrument) it has certain limitations to it in terms of physical and thus musical possibilities. And finally, the guitar always opens itself to future forces. It allows every individual with his/her own idiosyncrasies, innovations, limitations and ideologies to interact with it within any musical context. It also opens up itself to interactions with new

⁵³ Ibid., 362-3.

⁵⁴ Ibid., 363.

⁵⁵ Ibid., 405.

technologies, something that contributes greatly to the ultimate shaping of musical output. The acoustic guitar (itself of course already a product of technology) also has dynamic interactions with new technologies that largely determine the musical practice of artists. This is, as I intend to show, also the case with Hedges.

All of these interactions mentioned above may uncover certain *terra incognita* of the guitar and form a new set of conventions and ultimately establish a new sonic field. Michael Hedges does exactly this with his creative operations on the acoustic guitar. He deterritorializes the acoustic guitar by means of his innovative techniques, tunings, eclectic compositional style and by incorporating advanced amplification and sound technologies. In the previous chapter, my analytical focus was primarily on Hedges' technique and repertoire. In the following chapter, the emphasis will be on the technological aspects, as these are essential in the process of de/reterritorializing the acoustic guitar into a new sonic field.

There are two aspects in the discussion of technology in Hedges' guitar style that are essential to discuss, as they are decisive factors in the shaping of his music. First, the use of different sound processing devices in recording and performance expand the sonic palette of Hedges. Second, the improvements in amplification technology of the acoustic guitar have facilitated Hedges to play certain extended techniques in a live setting and granted him the sonic authority to fill entire venues with overwhelming, 'acoustic' sound. The reason for these quotations marks is to indicate the problematic use of the term 'acoustic' when referring to the amplified acoustic guitar of Hedges. The act of amplifying an acoustic guitar always changes the 'natural' and 'acoustic' sound qualities, and this may diminish the sense of immediacy and authenticity of the instrument. It is therefore useful to hint upon this rather ambivalent relation between the acoustic guitar and technology.

Obviously, the acoustic guitar is a product of human technology, but it has certain 'natural' and 'authentic' connotations, especially when comparing it to the electric guitar. Peter Narvaez addresses this issue in his essay on the Myth of Acousticity:

"This myth pits the supposedly superior, authentic, 'natural' sound of the traditional wooden guitar, as perceived by sensory media (ears and eyes), against the inferior amplified sounds of guitars employing electronic magnetic pick-ups, sound processors, and amplifiers. In part, the 'tonal-purity-of-the-acoustic-guitar' argument may be understood as a legacy of cultural hierarchy, a well-worn High

Culture aesthetic for instruments used in the performance of cultivated art music.”⁵⁶

The acoustic guitar does have more a sense of immediacy than the electric guitar, as it can produce its true sound without the aid of amplification. And in terms of authenticity, one is reminded of the uproar that happened when Bob Dylan played the electric guitar in a band setting rather than the acoustic guitar in a solo singer-songwriter situation at the Newport Folk Festival. This is another chief act of de/reterritorialization within the history of the guitar and its significance should not be undervalued as this is one of the most written-about performances in the history of popular music. There might still exist claims that the acoustic guitar is the more ‘natural’ and ‘authentic’ one in the acoustic/electric binary, but they began to share more and more fundamental features throughout the years.⁵⁷

One of those features is the attention devoted to the quality and character of amplified sound. Shaping sound itself, in addition to the music, has been a chief concern within the twentieth century. From the emancipation of sound of Edgar Varèse to the digital sound technologies that started to dominate popular music, it is clear that there is “an outgrowth of the tendency to treat musical sound as an increasingly autonomous and manipulable element.”⁵⁸ For the electric and acoustic guitar, this concerns both the sound of performance and recording.

It is not surprising that Hedges, as a graduate of electronic music at the Peabody conservatory, showed a special interest in the shaping of sound. One direct outcome of this, is the composition “Spare Change”, which largely consists of playing back recorded track backwards. This type manipulation of sound is of course a chief preoccupation in electronic music and it is perfectly reasonable that this sparked Hedges’ interest in innovating his acoustic sound. There is, however, a fundamental difference between these endeavours which are products of meticulous manipulations done inside a studio, and the immediacy of a live

⁵⁶ Peter Narváez, “Blues Guitarists and the Myth of Acousticity,” in *Guitar Cultures* ed. Andy Bennet and Kevin Dawe (Oxford: Berg, 2001), 29.

⁵⁷ See Kevin Dawe: “Acoustic or Electric: Notes on the Politics and Poetics of Hybridity,” in *The New Guitarscape in Critical Theory, Cultural Practice and Musical Performance* (London and New York: Taylor & Francis Group, 2016), 82-85.

⁵⁸ Steve Waksman, *Instruments of Desire: The Electric Guitar and the Shaping of Musical Experience* (Cambridge, Mass: Harvard University Press, 1999), 8. Waksman paraphrases Paul Théberge, see: Paul Théberge, *Any Sound You Can Imagine: Making Music/Consuming Technology* (Hanover: N.H.: Wesleyan University Press, 1997), 185.

setting.⁵⁹ But, apart from “Spare Change”, the compositions on *Aerial Boundaries* all carry out a sense of immediacy. They do not contain any major sonic treatments that could not otherwise be done in a live setting, and moreover, his recording set-up is almost exactly the same as that during his performances.⁶⁰ This mirrors his preference of having a ‘live connection’ through his music:

"I think you always have to keep that live connection going because that's what music is all about - it's communication between human beings, so try not to get too much garbage in between. Music goes from human soul to human soul; if you want to patch it through a machine, make sure that the machine represents your soul and that it's a full representation, or at least an accurate expression, of what you want to communicate."⁶¹

So Hedges does favour a ‘live connection’ within music, but has an approving attitude towards intervention of some sort of machine. And here it is still very much the acoustic guitar that plays the music, and not some sort of synthesizer. And this is exemplary in his use of sound technologies. The acoustic guitar is the driving force, but the advanced technologies bring forth new possibilities to shape the sound and opportunities to expand and enter new territories with the acoustic guitar. But these technologies are rarely foregrounded, as which certain electronic music discipline, which gives the acoustic guitar still a rather natural quality. Hedges, and his legacy, foreground the immediacy of the performance, the technology is usually a sonic expansion and/or embellishment within this.

But I would claim that technology is nonetheless a very decisive factor within Hedges’ deterritorialization of the acoustic guitar. Especially the improvements in amplification technology had a great impact in Hedges’ guitar playing, as it facilitated him to reach a wider dynamic and to incorporate his iconic extended techniques into a live setting. Hedges’ searched for a ways to amplify the acoustic guitar without losing its natural and acoustic quality and still make it as loud as possible. For this, Hedges found a system called the ‘Flat

⁵⁹ Interestingly, thanks to new technologies, the backwards guitar parts can nowadays be realized in a live performance the aid of a looping machine: See for example “Sergio Altamura – Luna,” YouTube video, 6:30, uploaded by “Candyrat Records,” July 25, 2011, <https://www.youtube.com/watch?v=GaGwblJJH8Y>.

⁶⁰ See Michael Hedges, “Rooting for the New Age,” interview by Scott Wilkinson. *Music and Technology*, November 1991. Quoted from: Mu:zines, music magazine archive, accessed June 2018, <http://www.muzines.co.uk/articles/rooting-for-the-new-age/898>

⁶¹ Ibid.

Response Acoustic Pickup.⁶² This extremely sensitive system not only picks up the sound of the strings, but also of the hits and slaps on the body of the guitar. He combined this with another, magnetic pickup to expand his sonic palette, and especially to drive up the volume.⁶³ This allowed him to incorporate much of the extended techniques in a live setting in which the acoustic guitar was loud enough had to fill the entire venue.⁶⁴ This desire for a wider dynamic range is undoubtedly the consequence of the influences of rock in Hedges' life. And without these technological aspects, Hedges could not have performed certain extended techniques live, and would have probably not incorporated them in his compositions. Thus, technology in interaction with the musician has a certain agency in the shaping of the music.

Nowadays, this way of amplifying the acoustic guitar has become standard within the new acoustic movement that Hedges spawned. As Kevin Dawe mentions, "these musicians tend to make use of microphones and contact pick-ups in strategic places on and off their guitar in order to emphasize and amplify the tonal qualities of the guitar as both a melodic and percussive instrument."⁶⁵ Additionally, acoustic guitarists are using more and more effect pedals, similar to those that electric guitarists commonly use, to expand their acoustic sound. Hedges can be seen as igniting this spark of giving the acoustic guitar a more decorative sonic palette and a wider dynamic range. As Dawe mentions: "The percussive acoustic guitar techniques ... sometimes rely upon quite complex performance set-ups, with sound sensor plates, contact microphones and pick-ups attached to various parts of the inside of the guitar

⁶² For a detailed overview of Hedges' live sound set-up see: "Michael Hedges' Stage Rig," Naked Eye Press, 1996, accessed June 2018, http://www.nomadland.com/Stage_Rig.htm.

⁶³ See Michael Hedges, "Rooting for the New Age," in which he talks about the set-up in his recording studio. While he talks especially on how he records his acoustic guitar, it also sheds some light on the way he amplifies the guitar in a live setting:

"On the guitar I often use one mic because I have two pickups that I always record as well. One of them is called a FRAP, which stands for Flat Response Audio Pickup (...) which is a very high-impedance, low-level device, so the preamp needs to be especially quiet. I use a magnetic pickup for the low end. (...) Then I take the signal from the magnetic pickup and process it - that's how I get the killer low end (...) I usually expand the magnetic pickup into a stereo signal and digitally delay either the mic or the FRAP. That's how I get my stereo image."

⁶⁴ See Alex de Grassi, "Remembering Michael Hedges: The Inside Story of a Guitar Revolutionary," *Acoustic Guitar*, July 1998 No.67, quoted from "Wayback Machine: Internet Archive," accessed on June 2018,

<https://web.archive.org/web/20070303054052/http://www.acousticguitar.com/issues/ag67/coverstory.shtml>

There are some remarks here concerning the reception of his performances that demonstrate the overwhelming force of the solo acoustic guitar in Hedges' hands:

Tom Larson (tour manager 1995 and 1997): "I probably saw Michael in concert for the first time in 1988 or 1989. I was blown away by the bigness of his live guitar sound. At that point, I thought, 'This is someone I would be interested in working with.' He played voicings that you didn't normally hear on guitar. Also the color and the sonorities were part of what attracted me to his music in the first place (...) It ended up working really well, and the guitar sound in the front of the house at the Baltimore Artscape Festival [1997] was the biggest sound I ever heard from any acoustic guitar in my life. I just remember sitting there and thinking, 'This is really fun.' There were probably five to eight thousand people out on the hill that day."

⁶⁵ Dawe, *The New Guitarscape*, 69.

(registering high- and low-frequency sounds that are then fed to the performer's mini mixing desk, sometimes through a multi-core cable).⁶⁶ The most elaborate sound signal processing of a fingerstyle player I have encountered is that of Finnish guitarist Petteri Sariola, who also at several times expressed his creative debt to Hedges.⁶⁷

It is clear now that since Hedges, acoustic guitarists make use of all sorts of sound manipulating devices in order to enrich their guitar playing. With this, their processes of shaping sound truly resembles that of electric guitarists which were already greatly preoccupied with sound manipulations and experimentation. Hedges was a pivotal figure within this deconstruction of the dualism between electric and acoustic guitar practices. And nowadays, the binary is getting more and more obscured, as Dawe also notices: "In practice, the two sides of the guitar could not be closer together than they are at the beginning of the twenty-first century. Acoustics, like electrics, draw on advanced technologies in their making and may well be supported by a range of 'gear' in performance."⁶⁸ Hedges, again, was one of the decisive acoustic guitarists who started to deconstruct the acoustic/electric binary.

Even though the discussion above largely deals with the sound during his performances, it is directly translatable to the sound of his recordings on *Aerial Boundaries*, which explored different sonic territories than the typical acoustic recordings of that time. Together with sound engineer Steve Miller (not to be confused with the musician Steve Miller), Hedges used pretty much the same set-up of his live performances during the recording sessions. In the post-production process however, Miller was responsible for the further enhancement and embellishment the acoustic guitar sound. This is best heard on the title track of the album, where the use of reverb, echo and delay effects greatly contributed to the wider sonic spectrum and dynamics of the acoustic guitar. This disrupted the fairly vapid sound of the New Age label Windham Hill Records to which Hedges was signed. Hedges mentions that *Aerial Boundaries* was, in contrast to his first record *Breakfast in the Field*, not about complying to the typical aesthetics of the new age record label but about conveying his autonomy.⁶⁹ Considering these acoustic sound innovations, it is not surprising that this album

⁶⁶ Ibid., 82.

⁶⁷ See "Petteri Sariola with Custom Boards pedalboard pt. 2 (in English)," YouTube video, 16:45, posted by "Custom Boards Finland," January 12, 2018, accessed on June 2018, <https://www.youtube.com/watch?v=9sbcvuq8o7E>. For a quick demonstration skip to 12:00.

⁶⁸ Dawe, *The New Guitarscape*, 82.

⁶⁹ Anil Prasad, *Innerviews: Music without Borders: Extraordinary Conversations with Extraordinary Musicians* (Cary North Carolina: Abstract Logix Books, 2010), 100.

was nominated for a Grammy award for best engineered recording, a nice reward for the radical new sound of the acoustic guitar.

With this use of effect processing on the acoustic signal, I am reminded by the assertion of Kodwo Eshun about the use of electrical effects and experiments of Miles Davis: “Effects are now *acoustic prosthetics*, audio extensions, sonic destratifiers, electric mutators, multipliers and mutagens.”⁷⁰ The word prosthetics is particularly interesting, since it acknowledges a sense of artificiality while still being part of the actual, here acoustic, entity. The sound manipulating effects become part of the acoustic signal and help shape a new sonic arrangement. And these advanced technological devices are not only used to drive up the volume, but also to create a new sonic field, or a new sonic assemblage. This way of shaping acoustic sound, by increasing the dynamic range and using sound effect processes, in performance and recording, is an example of a deterritorializing line of sound processing assemblages into the acoustic guitar assemblage.

This line of deterritorialization is not the only one in Hedges’ output. It is valuable to recapitulate the main claim of this chapter, and in fact thesis, namely that the album *Aerial Boundaries* is a paradigm shifting fingerstyle album because of Hedges’ de/reterritorialization of the acoustic guitar. Hedges has drawn from assemblages of sound technologies to organize a new sonic territory for the guitar. He also incorporates elements from the assemblage of Steve Reich, Joni Mitchell, Pat Metheny etc., into his own assemblage. Furthermore, he includes features of rock music, not only in the sense of making the acoustic guitar louder and having a strong rhythmic drive, but also in terms of tapping guitar technique that resembles the *modus operandi* of Edward van Halen, another influence on Hedges. And in addition, he draws from non-musical assemblages as well in order to convey a sense of meaning within his music. We have seen the homage to the innovations of Galileo in his liner notes to his album, but also the innovations of lieutenant Rickover as well as the IBM typewriter that make up the song titles to the compositions.⁷¹

These last three examples hint to the special interest of Hedges regarding innovation, which is in fact a fundamental aspect of de/reterritorialization. As Edward Campbell

⁷⁰ Kodwo Eshun, *More Brilliant than the Sun: Adventures in Sonic Fiction* (London: Quartet Books Limited, 1998), 6. My emphasis.

⁷¹ In later albums, Hedges found much inspiration in the mythopoetic movement of Robert Bly and Joseph Campbell’s advocacy for individuals to create their personal myths in order to find more meaning in life. Hedges’ album *Taproot* (a 1990 Grammy nominee for Best New Age Album) is dedicated to this principle. According to Hedges himself, it is an “autobiographical myth told in music.” See “Savage Mythology,” Michael Hedges, “Savage Mythology,” interview by Anil Prasad, *Innerviews*, <https://www.innerviews.org/inner/hedges.html>.

interprets: “All creative innovation, in fact, is said to involve processes of deterritorialization in which concepts break down and are uprooted from their context to reassemble with other heterogeneous elements to form new assemblages, perhaps on a different plane altogether (reterritorialization),”⁷² The creative innovations of Hedges, as I have demonstrated, occur on different lines (technique, technology, repertoire⁷³), and have deterritorialized the acoustic guitar into this new fingerstyle paradigm. Thus, to recapitulate a former claim: Hedges actively and creatively de/reterritorialized the refrain (the acoustic guitar), and this is exactly the definition of music according to Deleuze and Guattari: “Music is a creative, active operation that consists in deterritorializing the refrain.”⁷⁴

With their concept of de/reterritorialization, Deleuze and Guattari provide a framework to grasp the continuous flows of change, of difference and repetition. The refrain forms a point of stability within these processes. But as we have seen, the refrain is continuously subject to de/reterritorialization. And thus when we consider the acoustic guitar as an example of a refrain within musical practice, it would be interesting to write a history of the acoustic guitar by tracing the different lines of de/reterritorializations.⁷⁵ This may be an interesting historiographical approach to provide an overview of the acoustic guitar within different sonic territories.

One specific territory of the steel-string acoustic guitar, the one which is most relevant within this thesis, is that of its use as a solo instrument instead of its more dominant role as an accompanying instrument. Here, one could for example trace the endeavours of acoustic solo pioneer John Fahey, who draw from assemblages of blues, country and psychedelic music and reassembled this into a new territory which he called American Primitivism.⁷⁶ This approach

⁷² Campbell, *Music after Deleuze*, 39.

⁷³ This tripartite distinction is inspired by the three-line-continuum model that Kevin Dawe proposed in *The New Guitarscape*, and is a useful tool for the analysis of guitar music. His model is as follows: “Line 1 (technique): how the guitar is played (...) Line 2 (technology): the guitar and its equipment (...) Line 3 (repertoire): the variety of music that is played upon the guitar. the lines on this continuum run parallel – in and out of phase and intensity - in intriguing but also identifiable ways, performers’ musical choices and decisions making up the guitar’s multifaceted sonic identity in response to social and cultural contexts (aesthetics, ideas, the role of music, genre ideals), resulting in a mosaic of culturally based musical approaches, scenes and styles.” See Dawe, *The New Guitarscape*, 21.

⁷⁴ Deleuze and Guattari, *A Thousand Plateaus*, 350.

⁷⁵ Deleuze and Guattari themselves have already done this for the history of Western Classical music. They have traced the lines of the deterritorialization of the refrain and divide this into three periods: classicism, romanticism and modernism. See Deleuze and Guattari, *A Thousand Plateaus*, 361-408.

⁷⁶ For a detailed view of this see: Nicholas S. Schillace, “John Fahey and American Primitivism: The Process of American Identity in the Twentieth Century” (Master of Arts Thesis, Wayne State University, Detroit Michigan, 2002); Steve Lowenthal, *Dance of Death: The Life of John Fahey, American Guitarist* (Chicago: Chicago Review Press Incorporated, 2014).

also opens up the opportunity to scrutinize about very recent or even potential future de/reterritorializations of the acoustic guitar.

One interesting recent example of this is Kaki King's *The Neck is a Bridge to the Body*.⁷⁷ Here she uses the guitar not only as a musical instrument, but as a surface to which images are projected using video mapping technology. In her own words, the *raison d'être* of this multi-media project is about "deconstructing and redefining the role of the solo instrumental artist through virtuoso technique, insatiable imagination, and boundless humanity."⁷⁸ With this, she de/reterritorializes the acoustic guitar into a multi-media work of art by incorporating elements from the assemblages of video mapping and visual art.

One other example, which is even more recent and which will be a possible future of the solo guitar, is the de/reterritorialization of the acoustic guitar by drawing from the assemblages of electronic and digital music. It is clear that electronic dance music is rapidly gaining popularity in our recent musical culture, something which is undoubtedly related to the ever-increasing technophilia of our current Western world. And a de/reterritorialization of the acoustic guitar in this direction is already happening today. See for example Robin Sukroso's ACPAD, a MIDI-Controller that is mounted on top of the body of an acoustic guitar which lets the player incorporate computer controlled sounds or loops into conventional guitar playing.⁷⁹ Or the invention of the ToneWoodAmp, which can be attached to the acoustic guitar and lets the musician incorporate multiple effects such as reverb, echo and delay *without* the need of amplification.⁸⁰ Another example is the SENSUS Smart Guitar, which tries to synthesize elements from the assemblages of acoustic, electric, electronic practices on one guitar and allows the player to trigger synthesizer sounds or record and play back loops by touching different sensor pads.⁸¹ These inventions drastically change the way, or deterritorialize, the idea of the acoustic guitar and offer new possibilities and assemblages to shape music. All these threads, of course, encourage further scrutiny, and this would be

⁷⁷ See "A Musical Escape Into a World of Light and Color | Kaki King | TED Talks", YouTube video, 11:31, posted by "TED," December 3, 2015, accessed May 2018, https://www.youtube.com/watch?v=_7LX4FW7TEI.

⁷⁸ "The Neck is a Bridge to the Body," Kaki King, accessed May 2018, <http://www.kakiking.com/playbill/>.

⁷⁹ See "World's First Wireless MIDI Controller for Acoustic Guitar – ACPAD," YouTube video, 1:20, posted by "RobinSukrose," June 3, 2015, accessed May 2018, <https://www.youtube.com/watch?v=eJFfnTkyl-g>.

⁸⁰ See "Introduction to the ToneWoodAmp," YouTube video, 2:06, posted by "ToneWoodAmp," May 16, 2016, accessed July 2018, <https://www.youtube.com/watch?v=FeA3XPII25s>.

⁸¹ See "SENSUS Smart Guitar Performance," YouTube video, 1:08, posted by "Mind Music Labs," May 4, 2016, accessed June 2018, <https://www.youtube.com/watch?v=fqzEQnsSIoY>; "SENSUS Smart Guitar Live at SLUSH Music 2016," YouTube video, 5:22, posted by "Mind Music Labs," May 9, 2017, accessed June 2018, <https://www.youtube.com/watch?v=Mj7QK6injlk>.

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particularly interesting to do since there is a rich tradition of solo steel-string acoustic fingerstyle guitar, but the scholarly attention to it is minimal.

Conclusion

On December 2 1997, Michael Hedges died at age 43 in a tragic single-car accident after apparently falling asleep behind the wheel. The untimely death undoubtedly contributed to his mythology and to the emergence of many compositions that have been written by fingerstyle guitarists as a tribute for him.⁸² But, of course, his music and his ethos live on and continue to inspire and influence the fingerstyle guitarists of this day and age. Many of the younger generation of the fingerstyle genre mention him as their main influence and incorporate his innovations into their own playing. All the different legacies are evidence of Hedges' paradigm shifting strokes on the cultural canvas of the steel-string acoustic guitar.

In this thesis, I have scrutinized this acoustic paradigm shift by using a conceptual framework of Deleuze and Guattari. Their concepts are astoundingly useful as methodological tools for the analysis of musical subjects. My main claim has been that the best way to understand the paradigm shift is through Hedges de/reterritorialization of the steel-string acoustic guitar. We have seen how he has gathered and connected many heterogeneous forces into his own territorial assemblage. These are not just musical forces such as the inspirations of Steve Reich, Joni Mitchell and Pat Metheny etc., but also extra-musical forces like those of lieutenant Rickover's submarines and Galileo's innovative mind-set, and in technological forces such as acoustic amplification innovations. I have demonstrated how these multiple forces can best be understood as a rhizome, as they are connected to and mutually influence each other in the shaping of his music. Hedges' guitar technique, tunings and technology as well as his extra-musical influences are all decisive elements that work together in the realisation of the repertoire on *Aerial Boundaries*.

By combining all these elements, Hedges established a new, idiosyncratic and innovative assemblage. With this, as we have seen, Hedges drastically challenged and disrupted the conventional territory, or the Deleuze-Guattarian refrain, of the steel-string acoustic guitar. He has de/reterritorialized the steel-string acoustic guitar, through his innovations and his keen eye for combining elements, from a territory where the acoustic guitar as a solo instrument was primarily used in blues/folk/country/new age practices, into an

⁸² A short inventory: "So Long Michael," by Pierre Bensusan, "The Friend I Never Met," by Andy McKee, "Michael Michael Michael," by Don Ross, "Homage," by Ed Gerhard, "Chet Your Hedges," by Craig D'Andrea, "The Nomad," by Calum Graham.

environment that advocates a more eclectic style, extended playing techniques, a broader sonic palette and a wider dynamic range in order to fill larger venues.

To finish this thesis, it is once again interesting to reflect on the title *Aerial Boundaries*, as it could not been a better one since it beautifully reflects Hedges' ethos as a musician/composer. The only aerial boundaries that exist are the ones we imagine, which might also be said, to a certain extent, about the boundaries of the acoustic guitar. Hedges clearly tried to transcend the imagined boundaries of the guitar by inventing new tunings, a new technical playing style, new sound technologies and by the amalgamation of surprisingly diverse elements. He truly challenged the prevailing ideas about the steel-string acoustic guitar as did Galileo about the solar system. And the new acoustic territory that he established with this is still very vibrant today, but at the same time also open to the inevitable forces of de/reterritorialization. This is an essential lesson we learn from the conceptual apparatus of Deleuze and Guattari. Everything is always undergoing processes of transformation, of repetition and difference, and it is our academic task to grasp and describe these processes. This thesis has been an scrutiny of these dynamic processes of change within the realm of fingerstyle guitar, and I hope this specific guitar style will obtain the scholarly attention it deserves.

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