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VIA RHYTMÓS

An Investigation of Rhythm in Psychophysical Actor Training

by Eilon Morris

A thesis submitted to the University of Huddersfield
in partial fulfilment of the requirements for
the degree of Doctor of Philosophy

March 2013

Abstract

This thesis investigates the significance of rhythm to the actor, examining the ways it is approached, understood and embodied within a range of training practices. In what ways does rhythm facilitate and transform the practices of individual performers and ensembles, affecting their use of attention, physical coordination, qualities of connectivity, states of consciousness and emotions? The psychophysical mechanisms through which rhythm informs these key aspects of actor training are analysed here via a range of contemporary and historical psychophysical and cultural frameworks. Drawing on this body of research this thesis argues the case for a greater understanding of the pedagogy of rhythm within actor training, indicating a number of areas for further investigation and potential developments within this field. Beginning with Stanislavski's use of "Tempo-rhythm" and progressing through the practices of Meyerhold and Grotowski, a number of key rhythmic principles will be discussed. This will lead on to a series of case studies on the contemporary training practices of John Britton, Nicolás Núñez, and Reinhard Flatischler. Following this will be an examination of simultaneity in acting practices and an analysis of the author's own practical research into the use of polyrhythm as a tool for cultivating modes of simultaneous attention and action in actor training.

Key words and phrases:

rhythm, actor training, musicality, simultaneity, psychophysical, entrainment

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1.1

INTRODUCTION

*...forget the voice and understand the shading of the melody.
Forget the melody and understand the pitch. Forget the pitch
and understand the rhythm (Zeami, [1424] 1984, p.103).*

If we enter a space where actors train it is inevitable that we will encounter rhythm in one form or another. The training studio is a place where the rhythms of ritual, play and interpersonal relationship are both encouraged and celebrated. Actors involved in cyclic and alternating repetitions of movements and sounds, warm up and train their bodies, voices and attention. We hear the rhythms of music used to create a focused working environment, to invigorate and sustain the energy of a group, or establish a pulsation from which to work. We hear and see the rhythms of breath and patterns of walking feet, the prosody of speech and the flowing alternation of dialogue; and we are aware of the synchronous coordination of an ensemble. We observe rhythm in the structuring and breaking down of scenes and movement scores into their constituent parts, and in the simple sequential and repetitious nature of a training routine. Rhythm informs almost every aspect of how actors train and yet for the most part little is understood about the nature of rhythm within this context or the specific benefits that rhythm offers actors. This thesis intends to address these issues by looking at the historical context from which these practices have emerged, at the use of rhythm in current practices, and at further potential applications of rhythm within this field.

1.1.1 Background

The research that makes up this thesis has grown out of my experiences of working over the last sixteen years within the context of actor training and performing as an actor and musician. This has involved extensive periods of work within musical and theatrical ensembles in Australia, France, and the United Kingdom, including: the Babaganouj Training Co-operative, Boat, the Quiddity Ensemble, IOU Theatre, the Duende Ensemble, Obra Theatre Company, and Clunk Improvisation Collective. Over this period I have also engaged in research and training within areas including: ensemble physical theatre training with John Britton, training in the Anthropocosmic Theatre dynamics of Nicolás Núñez and the *Taller de Investigación Teatral* (Theatre Research Workshop), work within the TaKeTiNa polyrhythmic training process developed by Reinhard Flatischler, along with studies in folkloric and sacred music and dance forms from Cuba and Brazil.

The initial concept behind this investigation has come from a desire to reconcile and refine this body of personal experiences and understandings. While my training as an actor has tended to be independent from my training as a musician, in performance, the need to integrate these aspects has become increasingly important. This raised a number of questions, in particular: what are the principles and approaches that are consistent across these disciplines and what is it that separates and distinguishes them? What can the sensibilities and training approaches of the musician teach the actor and vice versa? In reflecting on these practices, a common theme of rhythm and its various facets began to emerge, raising further questions as to the nature, application and transferability of rhythm within and across these disciplines. In the process of addressing these issues I have looked to a number of historical, scientific and cultural models in which these forms of integration can be observed and have dedicated the last four years to a practical exploration of rhythmic principles within my own training practices.

At the time of writing this thesis, this research has been applied directly within a number of actor training contexts. These include: running workshops with postgraduates and undergraduates at Central School of Speech and Drama, Sheffield University, Edge Hill University and the University of Huddersfield; masterclasses held at Au Brama

Cultural Centre and Bazarts Théâtre in France; research taking place at the Theatre Research Workshop in Mexico, and Wild Goose Theatre Laboratory in the UK, as well as in the training of music ensembles including: Slick Stick Sambastic, and Braziloca. This work has also been applied within the development and rehearsal processes of theatre companies including: Duende and Obra, and creative collaborations at Whitestone Arts. Presentations of this research have also been made at the Performance Studies International (Psi) 'Regional Cluster' in Athens Greece in 2011 and 'Encountering Ensemble', a symposium at the University of Huddersfield in 2010 and at the symposium, 'Grotowski: After – Alongside – Around – Ahead', at the University of Kent in 2009.

Through these processes of dissemination, this work has found application in a number of specific areas including: vocal training, ensemble building, work with Shakespearean texts, dance choreography, theatrical devising and compositional development, with further applications continuing to arise from within these working practices.

1.1.2 Literature Review

The relationship between rhythm and acting can be traced back to the poets and dancers of ancient Greece. Plato insisted that the pleasure of rhythm was a gift from the gods, so that humans could join them as “co-dancers in the chorus”, suggesting also that the pleasure of rhythm played an important role in education and the cultivation of human character (Neulieb, 2009, p.142). Throughout a range of historical and cultural contexts, rhythm has been identified as a highly valued aspect of performance practice (Goodridge, 1999). When the Russian theatre director Vsevolod Meyerhold saw the great Chinese actor Mei Lanfang performing in Moscow in 1935,¹ what struck him, was the artist’s subtlety and mastery of rhythm. Meyerhold exclaimed “...the rhythm demonstrated by this great stage master has not been felt on our stage”. He went on to relate the acuteness of Mei’s timing: “He counts every one sixtieth of a second, but we count minutely; we don’t even count in seconds” (Meyerhold, 1978 cited in Tian, 2008, p.71). Similarly, when Peter Brook

¹ Other prominent theatre directors present at this historical performance include Bertholt Brecht, Gordon Craig, Erwin Piscator, Sergei Eisenstein, Vladimir Nemirovich-Danchenko, Alexander Tairov, Konstantin Stanislavski and Sergei Tretyakov (Tian, 2007).

saw the work of Jerzy Grotowski's Laboratory Theatre in 1968 it was the actors' mastery of rhythm that he observed most vividly: "Through a language of ever-shifting rhythms, under total control, they create work that speaks directly to something very deeply hidden inside each person" (Brook, 2009, p.15).

Despite the significance given to rhythm within this field, it remains a topic that is often skimmed over, and has received little in the way of direct investigation or analysis. Performance anthropologist Janet Goodridge points out:

While it may be generally acknowledged that rhythm and timing are essential elements in drama both written and acted, they are largely taken for granted and not studied systematically or with due regard for social, historical or cultural context (Goodridge 1989, p.39).

Goodridge's (1989, 1999) survey of this field highlights the significant imbalance between the weight given to rhythm in general theatrical discourse, and the amount of in-depth research assigned to this topic within the field. If we look at a key text within the field of actor training such as Alison Hodge's *Actor training* (2010), we can observe that rhythm is a topic referenced consistently throughout, noted in the work of practitioners including Barba, Barker, Chaikin, Copeau, Grotowski, Gaulier, Knebel, Lecoq, Meyerhold, Mnouchkine, Saint-Denis, Staniewski and Stanislavski. Yet despite its prevalence, there is no specific attention or analysis given to the role played by rhythm in the training of actors. Where attention is given to rhythm, this most often takes the form of short entries of between one paragraph and a few pages often located within texts that deal with broader subject areas.

Possibly the most detailed overview of rhythm and its use in drama and dance can be found in Goodridge's book *Rhythm and timing of movement in performance: dance, drama and ceremony* (Goodridge, 1999). A reworking of a PhD thesis written ten years previously (Goodridge, 1989), this anthropological study offers a valuable overview of the significance of rhythm and timing within a vast field of historical and contemporary practices across a wide range of cultural contexts. Goodridge approaches this subject primarily from the perspective of dance anthropology, and as such deals for the most part with the temporal and spatial nature of movement rhythms, with little reference to musical

or spoken rhythms. Of particular interest is her chapter dedicated to ‘Contributions to the Study of Rhythm in the Theatre’ (Goodridge, 1999, pp.110–125) in which the work of Stanislavski, Meyerhold, Copeau and Artaud are given some attention. One of the overarching aims of Goodridge’s text is to establish a means of analysing rhythm within dance, theatre and ceremonial practices, which is achieved by setting out a clear system of categorisation in which various rhythmic elements can be broken down and given description.

Eugenio Barba and Nicola Savarese, like Goodridge, emphasise the intercultural and kinaesthetic qualities of rhythm, describing the way it “...materializes the duration of an action” (Barba and Savarese, 1991, p.241) and suggest the existence of fundamental “laws” of rhythm that are applied to a range of cultural practices. In a brief yet articulate entry on rhythm in *A dictionary of theatre anthropology* (Barba and Savarese, 1991, pp.211–7) we are offered an insightful introduction to various aspects of rhythm within the field of theatre. References are made here to the biological nature of rhythm, as well as dramaturgical aspects of rhythm as found in Japanese Noh Theatre and Meyerhold’s Biomechanics (Barba and Savarese, 1991, p.214–6). While the performer’s experience of rhythm is given some attention in this text, the emphasis is generally placed on the use of rhythm as a dramaturgical device and the ways it is read by an audience, rather than as mechanism within actor training.

In looking for accounts of how rhythm is approached within actor training, Stanislavski’s text, republished recently as *An actor’s work: a student’s diary*² (2008) offers one of the few detailed first person accounts on this topic, containing a chapter on *Tempo-rhythm* in both movement and spoken text. This chapter along with accounts given by the “actor-singer”, Pavel Rumyantsev in *Stanislavski on opera* (Stanislavski and Rumyantsev, 1998) provide insight into the ways in which rhythm was approached by Stanislavski during the later period of his career (1918-1938).

More recent examples of rhythmic approaches to training can be found in John

2 While in earlier English publications translated by Hapgood, this text has been released as two separate titles *Building a Character* (Stanislavski, 1979) and *An Actor Prepares* (Stanislavski, 1980), in the recent translation by Benedetti these texts are combined, in keeping with the original Russian versions (Stanislavski, 2008).

Martin's (2004) book, *The intercultural performance training handbook*. Here we find a number of examples of simple and accessible rhythm exercises that address themes of pulse and subdivisions, the application of rhythm to spoken language and the development of character. Similarly, Cicely Berry's book *The actor and the text* (1992) presents an instructive guide to approaching rhythm in the speaking of poetic texts. Other practical examples of exercises can be found in Grotowski's *Towards a poor theatre* (1969) which includes some basic descriptions of rhythmic movement exercises and instructions regarding the use of diction and the prosody of spoken language.

An area gaining interest, is the way in which rhythm is used to communicate with and connect an audience. These issues are raised by Jean-Marie Pradier (1990) in his article 'Towards a Biological Theory of the Body in Performance'. Here, he relates bio-social rhythmic interaction theories to the interpersonal relationship between a performer and their audience. Pradier concludes his one page discussion of rhythm with the following questions:

Is a performance the opportunity for an assembled group in a hypnotic state to experience subtle interactive synchrony? Would the actors/dancers and social performers be rhythm inducers for a group? Does the actor's feeling of a 'good audience' come from the perception of the rhythmic response by the people? Do the rhythms of performing arts - from the use of verse, to the patterns of behaviour - have an individual pacifying effect? (Pradier, 1990, pp.94-5)

Over the twenty years since these questions were posed there have been further developments in research into rhythmic interaction within performance contexts, with Stephen Malloch and Colwyn Trevarthen's compilation of texts under the title *Communicative musicality* (Malloch and Trevarthen, 2008) attempting to address some of these questions.

1.1.3 Research Focus

Besides a small number of short descriptive or instructional accounts, the analysis of rhythm within this field generally demonstrates a bias towards the perspectives of directors, playwrights, choreographers and audience members, addressing issues that relate

predominantly to principles of performance aesthetics (i.e. dramaturgy, choreography, mise-en-scène, delivery of text etc.). While such aspects are clearly of importance, they are only one part of a much larger set of phenomena. To borrow an analogy from the field of “Communicative Musicality”, we can consider these performative aspects of rhythm as the “blossom” of a tree. This “blossom” symbolises the ways in which rhythm appeals to the senses and catches an outside observer’s attention, much like the way flowers attract the attention of bees and other animals as a means of pollination (Dissanayake in Malloch and Trevarthen, 2008, p.19). In Ellen Dissanayake’s (2008) survey of evolutionary perspectives on music, she argues that while a large amount of attention has been given to the more expressive aspects of music, such displays and their evolutionary functions are only a small part of a larger picture. Therefore, in considering the “tree” of rhythmic processes, it might be wise to give some attention to the “branches”, “trunk”, and “root” systems that support and give life to these attractive and effective floral displays. Following this advice, this thesis proposes to take an alternative line of investigation into rhythm within acting practices, shifting away from rhythm as a signifier of meaning as read from an outside (exo)perspective, and instead focusing attention on the embodied experience of rhythm from the (endo)perspective of the actor in the context of training.³

Here rhythm can be thought of as operating through what Dissanayake describes as the “proto-musical” aspects of this system. These precede the communication of meaning or aesthetic style and act primarily as forms of “...interpersonal coordination and conjoinment” (Dissanayake, 2008, p.24). In the context of actor training, this “proto-musical” framework offers us a way to focus in on a number of fundamental aspects of an actor’s work with rhythm, including: how rhythm contributes to qualities of connectivity and unity, how it affects the ways actors use their attention, shape their energetic dynamics, remove blockages, and change and evolve their behavioural patterns.

The use of rhythm within actor training is itself a vast field of study with potentially endless numbers of practitioners, operating within boundless cultural and historical contexts, in whose practices the significance of rhythm can be identified. To provide an

3 For a discussion on the significance of “exo” and “endo-perspectives” in research, see Rössler (1998).

exhaustive study and definitive catalogue of rhythmic approaches to actor training is a task beyond the scope of this thesis. Rather, this thesis will question and elucidate a selection of practices and use these specific examples as a means of enriching and deepening our understanding of rhythmic mechanisms within actor training. I have made this selection with the view to present a range of perspectives on rhythm that are at once diverse and representative of a wider set of trends. This examination will begin by focussing on the use of rhythm in the practices of Stanislavski, Meyerhold and Grotowski, a collection of training approaches that span the late nineteenth through late twentieth century. In examining the application of rhythm within these key training practices, we are able to trace a number of important themes and influences and the ways in which these have been interpreted and adapted over the course of this historic period. As we will observe, the research, training and rhetoric of these practitioners has formed a general foundation for many current understandings and approaches to rhythm in actor training.

This thesis is focused primarily on the practical applications of rhythm in actor training. As identified in the literature review the majority of rhythm analysis in performance and training texts is given from an “exo-perspective” of a director, audience member or observer. Looking to present an analysis of the mechanisms and approaches adopted by a participant within training, I have chosen to draw on three specific approaches in which I have engaged practically over the past sixteen years. Following a similar line to Goodridge’s (1999) study of rhythm, I would like to acknowledge here the significant role that practical experience plays in shaping and elucidating my analysis of this field. In defining the area of her study, Goodridge explained:

It is a personal choice selected from a wealth of material which matches or has influenced my own approach to the subject (Goodridge, 1999, p.110).

In this way, I will share here some of the key materials and practices that have inspired me and come to influence my own understandings and applications of rhythm. Here I will discuss the work of John Britton, Nicolás Núñez and Reinhard Flatischler. This selection also reflects the fact that the work of these three practitioners has previously received little in the way of academic discussion or analysis within this field. Informed

by my own experiences, these case studies will examine a number of further applications of rhythm in actor training and address related themes including the role of rhythm in ensemble building, the accessing of altered states of consciousness and the cultivation of new modes of attention.

This terrain is characterised by a psychophysical approach to training and cultivation, which places specific focus on the mechanisms and relationships between attention, perception, stimulus and action (Zarrilli, 2009). This area of research is framed by the historical context and the scientific/philosophical assumptions on which the practices of Stanislavski, Meyerhold and Grotowski emerged.

Operating at the interdisciplinary nexus of philosophy, biology and psychology, psychophysical research emerged as a scientific field of experimentation and theory in the mid nineteenth century. Growing out of Ernst Weber's investigations into the quantitative measurement of sensation in the 1830s and 40s, the term psychophysical gained popularity through the writings of German experimental psychologist and philosopher Gustav Fechner. Fechner's text *Elemente der psychophysik* (1860) established the frameworks for much of the early research undertaken within this field. Like other scientists of his time, Fechner was looking to investigate the relationship between "mind" and "physical body". Fechner's own view was that the "subjective" "psychical world" and the "objective" "physical world" were not simply two elements bound together but were in fact the same world, "...two sides of the same reality" (Hui, 2008, p. 32). Through empirical research into the relationship between the physical magnitude of a stimulus and the perceived intensity of sensation, Fechner observed that these two aspects corresponded directly with one another, an increase in perception being relative to the magnitude of stimuli (Falmagne, 2002. p. 113).

Stanislavski was the first to introduce the term psychophysical (*psikhofizicheskii*) to the context of acting. In his introduction to the rehearsal process for *Othello* (1930-1932) Stanislavski stated:

...psychophysical techniques drawn from our own nature must be exactly obeyed. You must know them and I must demonstrate them in practice and make you feel them and test them out for yourselves (Stanislavski, 2010, p.4).

As well as drawing on his own empirical research, Stanislavski's theories of "psychophysical technique" took inspiration from the French psychophysicist Théodule Ribot (1839-1916), and principles of monism found in yogic practice and philosophy. Here, the term psychophysical described "...an approach to Western acting focused equally on the actor's psychology and physicality applied to textually based character acting" (Zarrilli, 2009, p.13). By viewing the actor as a unified psychophysical organism, Stanislavski's teachings marked a paradigm shift in approaches to actor training, character development and performance. Where earlier rhetoric had dealt with "...a simple use of corporal and facial signs to express inner feelings" (Gordon, 2006, p36), Stanislavski examined and exploited the interrelationships of these "inner" and "outer" aspects. He insisted:

...the link between body and mind is unbreakable. The life of the first engenders the life of the second and vice versa. In each *physical action*, if not purely mechanical but brought to life from within, there is *inner action*, experiencing (Stanislavski, 2010, p.57).

Describing the field of "psychophysical acting" within a contemporary context, theorist and actor trainer, Philip Zarrilli, refers to "...a process of exploring the subtleties of the relationship between the physical and mental/cognitive/perceptual elements woven simultaneously together and at play in embodied work" (Zarrilli, 2009 p.29). Here Zarrilli refers to the "cultivating" of a relationship between "body" and "mind", by which these are "gradually attuned to one another" (Zarrilli, 2009 p.29). Here, psychophysicality involves a process of embodiment, realised through practical training. As the Japanese philosopher Yuasa Yasuo suggests:

To harmonise the body and the mind through training is to eliminate this ambiguity in practice; it amounts to subjectivizing the body, making it the lived subject. This is a practical, not a conceptual, understanding (Yuasa, 1987, p.105).

This embodied process of attunement or unification is a central focus of psychophysical actor training. Each of the practitioners discussed within this thesis has approached this task in their own ways, applying various models of understanding and practical methodologies within their work. Where a psychophysical approach to training differs from others, is in

the emphasis given to relationships between various aspects and the mechanisms through which these relationships come to be realised, or “reactualized” through practice. My analysis of Britton, Flatischler and Núñez will involve a more detailed examination of some of the rhythmic mechanisms, and psychophysical tools that are applied within their practices.

The term psychophysical will be used throughout this thesis to denote both a field of actor training and the concurrent field of science. These two fields are clearly related and sharing a number of themes and key principles. Of particular interest to this study is the fact that these two fields from their outset have given significant attention to the role of rhythm in perception, attention and action. While the fields of psychophysical science and psychophysical acting at times intersect, it is still important to note that these constitute separate areas of theory and praxis, identified individually at various points within this thesis.⁴

Following a psychophysical line of enquiry, this thesis will pose a number of questions: what is the relationship between external rhythm and internal emotional and energetic states? What role does musical accompaniment play in the cultivation of a rhythmic sensibility? How does rhythm affect the actor’s use of attention? How does rhythm contribute to qualities of connectivity within an ensemble? What is the relationship between rhythm and altered states of consciousness? Building on these questions this thesis will also investigate further potentials in the application and development of rhythm pedagogy within this field.

Before investigating these points in more depth, let us turn our attention to the question of how rhythm is defined and understood within the context of actor training. In her book on the use of rhythm in dramatic texts, Kathleen George offers an analogy between rhythm and the elusive nature of “Hamlet’s Ghost” to the sentinels on guard:

When we look for it, it does not show itself. When we talk of something else, it appears, only to move quickly away. Rhythm is by its very nature fascinating and powerful, but like the Ghost, it does not speak upon command (George, 1980, p.ix).

4 For a more detailed discussion of psychophysical principles and frameworks within acting practices, see Camicke (2008) and Zarrilli (2009).

With this in mind, let us approach (with some humility) the task of defining rhythm in actor training. In doing so, the following section will look to establish some of the frameworks through which this topic will be discussed over the course of this thesis.

1.2 A Question of Rhythm

In our work, if the execution of something is not good [...], it produces a substantial and perceptible loss on the level of rhythm: everything coincides at this moment. One cannot define rhythm; but nevertheless one can state that at the heart of a fine performance there is always rhythm (Brook cited in Williams, 1991, p.79).

In the above statement by the director Peter Brook, we are given a sense of the mystery and ambiguity with which rhythm is often portrayed within the field of acting; at once indefinable yet seemingly tangible and vital. His statement is reminiscent of a famous conundrum put forward by St. Augustine: “What then is time? If no one asks me, I know what it is” (Augustine, [c.397] 2011, p.244), or as the director Richard Boleslavsky said of rhythm: “It is one of the hardest subjects to explain because it is so simple” (Boleslavsky, 1987, p.108). The difficulties encountered in defining rhythm are by no means exclusive to acting.⁵ In reviewing this subject in the field of musicology, Curt Sachs openly acknowledged the immense complexity of this task, conceding that when it comes to defining rhythm “...the confusion is terrifying indeed” (Sachs, 1952, p.384). The difficulty that emerges in any interrogation of these processes is the inherent resistance rhythm has to detailed analysis. Rhythm, as the psychoanalyst Nicolas Abraham points out, “...opposes conceptual thought with an unrelenting mystery” (Abraham, 1995, p.67). Under scrutiny, the subject of rhythm reveals a nature that is both porous and evasive. It is described as evading direct examination, having no substance of its own to which we can point or grasp, while on other occasions it is attributed with a characteristic concreteness and objectified as a tool or structural mechanism.

In his introduction to the film of Grotowski’s production *Akropolis* in 1968, Brook offers us further insight into an actor’s use of rhythm, stating:

It was something very much deeper and more fundamental. The actors, through long and arduous disciplines, had acquired an understanding of certain rhythms. [...] Something in me was disturbed, aroused like in jazz, but what beats in jazz is a limited part of one’s organism. In a much more

⁵ Past studies on this question of defining rhythm within other fields have included (Sachs, 1952; Gabrielsson, 1986; You, 1994; Clarke, 1999; Goodridge, 1999).

complete way, something began to beat until I had a physical feeling of contact with the performers (Brook, 2009, p.15).

Brook states that it was their “understanding” of “certain rhythms” that allowed these performers to break through the barrier of “rational communication” and access something much deeper. In the hand of the actor, rhythm is described as surpassing the limits of music or words, of communing with its audience through a direct language that speaks to the very core of their organism.

While difficult to articulate in words, the experience of rhythm is one that appears to be easily identifiable, often visceral. We have a sense of something being rhythmic or not, Brook’s remarks suggesting that the presence and value of rhythm is self-evident in a perceptible loss or gaining in quality. This is a quality that is often associated with a sense of vitality or life, the rhythmicity of a play, a poem, or an action being reflected in its liveness or organicity. Lacking rhythm, a work is perceived as dull, or in its extreme, dead. In Brook’s words a “Deadly Theatre” that again while “difficult to define”, even “...a child can smell it out” (Brook, 1972, p.11).

As we will see, for many actors and directors, rhythm has come to be associated more with concepts of vitality and organicity than to ideas relating to regularity and quantifiable systems of notation. In this way, many definitions of rhythm in actor training operate outside the parameters of what could be considered a “generic definition” of rhythm as found in a dictionary:

Regularity in the repetition in time or space of an action, process, feature, condition, event, etc.; periodic or cyclical change or movement; an instance of this (Oxford English Dictionary, 2011).

While establishing a degree of clarity, such definitions fail to address a number of aspects of rhythm pertinent to the actor. For example there is no sense here of how “regularity” and “repetition” contribute to the quality of an action or scene as spoken of by Brook. If an actor’s sense of rhythm was simply equated with the degree of regularity with which they moved and spoke, then the quality of work described by Brook could be easily trained through rhythmic drilling alone, but this does not seem to be the case. In contrast to this definition, many within the field of acting emphasise the irregularity of events as

contributing equally to their rhythmicity (Gladkov and Meyerhold, 1998, p.135).

The validity of a definition centred on regularity is questioned further by taking into account Barba's suggestion that there "... exist successions of duration which give rise to the sensation of rhythm and other even more numerous successions of duration which give no sensation of rhythm at all" (Barba and Savarese, 1991, p.211). While regularity can be seen as an aspect of such a distinction, the difference between *what is* and *is not* considered as being rhythmic, would appear to be far more complex. Barba elaborates:

One kind of fluidity is continuous alternation, variation, breath, which protects the individual tonic, melodic profile of every action. Another kind of fluidity becomes monotony and has the consistency of concentrated milk. This latter fluidity does not keep the spectator's attention alert, it puts it to sleep (Barba and Savarese, 1991, p.211).

These conceptions move us beyond the scope of the generic definition of rhythm as referred to above. Based on quantifiable aspects such as regularity, frequency, periodicity, and duration, such definitions are closer to a scientific conception of rhythm used within fields such as biology and physics in which precise measurability is the main concern. Transposing such definitions to artistic and cultural studies is not necessarily practical, nor is it often seen as advantageous, as the musicologist Carl Seashore points out:

It is very common in scientific circles to speak of mere periodicity as rhythm. The tick of a clock for example, is periodic, but is not rhythmic unless it is made so by the subjective grouping of the listener [...]. It is the internal organization of a pattern that makes rhythm in the rhythmic arts [...]. Mere periodicity would never make dancing beautiful. The rhythm of dancing must represent grace, versatility, surprise, balance, organization (Seashore, 1938, p.147).

It is commonly suggested that the basis of our comprehension of rhythm comes from our embodied experience of the world, beginning from the experience of hearing and feeling the mother's heartbeat, voice, and physical movements from inside the womb, followed by early rhythmic, vocal and physical interactions between parents and children (Stern, 1985; Pradier, 1990; Feldman, 2006). This embodied "sense of rhythm" is seen to be further cultivated through the experience of bodily locomotion and physical gesture, on whose basis, our perception and comprehension of rhythm are formed (Todd et al., 1999; Todd, 1999; Doğantan-Dack, 2006). Yet despite these shared foundations, our own

“sense” and understanding of rhythm is open to a large degree of variation. Each of us accumulates our own personal experiences and associations, which in actor training and performance we apply to our own work and our interpretation of rhythm in that of others (Goodridge, 1999, p.23). As such, the actor’s understanding of rhythm can be considered to be one that is both innate and encultured.

Discussing the role of rhythm within Russian actor training schools in the early twentieth century, the director Evgeny Vakhtangov argued, “The task of the school consists in training the pupil in this sensitivity to rhythm, and not in teaching him to move rhythmically” (Vakhtangov, 1947, p.121). This statement raises a valuable set of questions and distinctions regarding the ways in which we approach and consider rhythm within actor training. In the training of actors, we can observe instances where participants engage in processes of sensitisation. These are aimed at developing a capacity to perceive and respond to rhythm without resistance. In other instances, rhythm is approached through formal systems of rhythmic expression. Here actors learn to move or speak in specific metres or rhythmical patterns. While these two approaches are related, the choice of whether to approach rhythm through external form or through inner experience is an important one, which we will find referred to repeatedly by many practitioners.

One of the issues we encounter in attempting to define rhythm is the degree of multiplicity and personal interpretation that informs its usage (see Appendix 7.2). The musicologist Alf Gabrielsson suggests, in working to understand rhythm, “... methodological pluralism is both desirable and necessary” (Gabrielsson, 1986, p.132). With this in mind, the following analysis will examine the ways in which rhythm has been defined within this field with reference to a number of broader areas of rhythmic understanding in poetry, music and philosophy. The aim here is not to reach a definitive definition, but rather to address some of the potential confusion that can arise within this area of discussion.

Actors (unlike musicians) have no recourse to a formal framework through which they can approach and study rhythm in their work. What can be identified though is a general collection of terms, understandings and principles of rhythm I have located

within the following categories:

1. relating to the way sounds and actions are structured and organised into repeatable units (i.e. the underlying rhythmic metre, pulse, or measure of a scene, monologue or movement sequence)
2. specific temporal forms or patterns that can be mapped onto such units (i.e. a rhythmic phrase)
3. qualities of energy, vitality or motion
4. a sensibility that the actor can cultivate and work with
5. a wider category of temporal phenomena that encompasses all of the above and forms an umbrella term for aspects such as pulse, beat, tempo, rhythmic phrasing and metre

To gain an understanding of how these distinct understandings of rhythm are used and have come into being, it will be useful for us to look back to ancient Greece, from where the term rhythm, as well as many of the classical ideas that have come to inform actor training practices, have originated.

1.2.1 Pre-Socratic Rhythm

The term rhythm can be traced back to the Greek term, *rhythmós* (ρυθμός). From the word *rhein* (ρέω) meaning “to flow”, *rhythmós* can be defined literally as “...the particular manner of flowing” (Beneviste, 1971, p 286). In his detailed study of this term, linguist Émile Benveniste suggests that the earliest known references to *rhythmós* can be found in the seventh century BC, in the works of Ionian lyric poets and scholars who used *rhythmós* to refer to a specific category of form or “*schema*” (σχήμα). But where in Ancient Greek the term “*schema*” implied a fixed or static form, *rhythmós* was used to describe “...form in the instant that it is assumed by what is moving, mobile and fluid, the form of that which does not have organic consistency” (Benveniste, 1971, pp.285-6). In this sense, early poets used *rhythmós* to refer to the impression one has of an

individual's disposition, mood, attitude or character (Benveniste, 1971, p.284).

The term *rythmós* was later used in the atomic theories of Democritus and the Attic prose of the fifth century BC. Here it was adopted as a category of description used in reference to the “form” derived from a written letter, the arrangement of a robe or a bed; as means of designating aesthetic proportions, or on other occasions the state of the economy or an institution (Benveniste, 1971, pp. 282-6). Early atomic theories used this understanding of *rythmós* to describe the way in which an impression of an object was formed from the “characteristic arrangement” of its atomic parts (Benveniste, 1971, p 283).

Curiously, in these pre-Socratic texts *rythmós* relates predominantly to spatial configurations that are fluid, momentary and changeable, rather than temporal structures and forms. This is a use of rhythm that correlates clearly with those found in acting practices, particularly to the use of rhythm within dramaturgy where spatial along with temporal rhythm are given significance (Leach, 1989, p112, Hodge, 2010, p.30). Rather than considering rhythmic space or movement as a metaphor or analogy of a fundamentally temporal phenomenon, if we look back to early descriptions we see that this is a relationship can be easily considered in reverse.

These pre-Socratic rhythmic aspects are inferred in the writings of many acting practitioners and theorists, emphasising the vital, spontaneous and subjective nature of rhythm in their descriptions and definitions. One of the pioneers of European actor training in the nineteenth century, François Delsarte, stated, “Rhythm is that which asserts, it is the form of movement, it is vital” (Delsarte cited in Shawn, 1954, p.55). More recent theatre academics such as Mel Gordon have proposed that rhythm “... springs from a specific individual activity and varies from person to person” (Gordon, 1988, p.196) and the actor trainer Bella Merlin has defined rhythm as “...the intensity with which you execute [an action]” (Merlin, 2007, p.139).

This sense of rhythm as a vital force in theatre and dance is perhaps best articulated by philosopher Susan Langer. In her writings on the aesthetics of form in music, theatre and dance, she describes rhythm as a “vital activity” (Langer, 1953, p.126). Rhythm

is attributed primarily to the ongoing development and decay of energy and tensions, and in the ways actions relate and lead onto and into one another. In her description of rhythm, Langer states that "...every relaxation is already the build up of the next tension, and this measure of tensions and relaxations is highly variable" (Langer, 1968, p.26). Rhythm at its "essence" is described by Langer as the "...perception of a new event by the ending of a previous one" (Langer, 1953, pp.116–117).

These descriptions of rhythm are also in keeping with models of rhythm found in theatrical forms such as Meyerhold's tripartite rhythmic sequence of *otkaz*, *posil*, *tochka* (Pitches, 2005, p.76), and similarly the concept of *jo-ha-kyu*⁶ as used in Japanese Noh and Kabuki theatre (Quinn, 2005, pp.127–130). In these models, rhythm is often characterised as an inevitable progression from one state to another. In these examples, it is the nature of progression and forward motion, which are emphasised over principles of periodicity, repetition or quantifiable measurements of time.

1.2.2 Post-Socratic Rhythm

The concept of rhythm as relating to the metric and temporal aspects of music, poetry and dance, appears to be a later adaptation of the term. This trend can be observed as taking form within the post-Socratic texts of philosophers such as Plato, Aristoxenus and Aristotle. Discussing the relationship between unity (the one) and multiplicity (the many) in *Philibus*, Plato stated:

...when you have learned what sounds are grave and what acute, and the number and nature of the intervals and their limits, and the systems which have been compounded out of them, which our fathers discovered, and have handed down to us who are their descendants under the name of harmonies; and the corresponding principles in the movements of the human body, which when measured by numbers ought, as they say, to be called rhythms and measures, — and they tell us that there is a similar principle in every one and many, — when, I say, you have learned all this, then, my dear friend, you are perfect (Plato, [360BC] 1871, p.152).

6 In Noh theatre such principles are seen as operating across multiple levels of organisation, ranging from the order of plays that make up a program through to a single gesture or the smallest of actions, defining the way in which these actions and structures are initiated, developed and resolved (Quinn, 2005, pp.127–130). See figure Figure 17

Here Plato makes a comparison between harmony, as relating to tonal intervals of sounds, and rhythm and measure as relating to temporal intervals that are inherent in the movements of the body, as well as measurable in units and numbers (Benveniste, 1971, p.286). Later in the *Laws* Plato defines *rythmós* as *kineseos taxis*, translated as “the ordering of movement” (Plato, [360BC] 1934, sec.665A), using this to refer to the way the movements of “... young people are impetuous and turbulent, but that a certain order [...] appears in their movements” (Benveniste, 1971, p 287). We can also take note here of Plato’s statement in the above quote: “...there is a similar principle in every one and many”. This suggestion of universal principles linking singularity and multiplicity is a theme that will be returned to a number of times within this thesis.

It is in these ways that *rythmós* finds application in theoretical and technical studies of music, poetry and dance, with Plato and others adopting this term as a structural device whereby sounds and movements can be variously arranged into combinations of long and short durations, categorised into metres and assigned specific numeric values (Plato, 1934; Aristides Quintilianus, 1983). These temporal elements are further attributed with a capacity to control and discipline the movements of the body as well as the emotions (Plato, [360BC] 1934, sec.665A). Rhythm is also seen here as offering a form of insight and knowledge that is transferable to other fields such as philosophy, ethics, aesthetics and science (Plato, [360BC] 1871, p.152).

Our understanding of rhythm as a system for structuring actions and sounds into units, groupings and patterns can be seen as derived from these post-Socratic theories. Rhythm in such models is often hierarchical, built up on the basis of series of regular beats or pulses, which can be grouped and organised into various patterns (i.e. poetic feet and metres), or subdivided into smaller sub-units of time. Such post-Socratic definitions of rhythm form the basis of a large part of our current usage of this term (Aviram, 2002, p.161).

In the field of acting, we find a number of definitions of rhythm that differ from those given earlier, in that they adopt a more post-Socratic understanding of this term. Benedetti defines rhythm as “...individual actions within the pulse” (Benedetti, 1998,

p.153), along with Martin who states, “Rhythm is the division of silence and stillness into organised and repeatable units” (Martin, 2004, p.82). These two perspectives can be seen together in Thomas’ definition of the rhythm in dramatic text as:

...the pattern of changing tensions in the beats, units, scenes, and acts, a pulsing feeling that is experienced when dramatic impressions build up and are released in each dramatic progression (Thomas, 1999, p.156).

Working with these concepts of rhythm as a means of giving order and structure to events, many theatre practitioners have intentionally borrowed from the field of music as a way of defining and codifying rhythm (Woodbury, 1962; Kuritz, 1982; Gillett, 2007; Gladkov and Meyerhold, 1998; Stanislavski, 2008). An implication of this has been the distinction made between rhythm and other temporal devices such as metre, beat and tempo. This follows on from a significant trend in music that emerged in the eighteenth and nineteenth century with musicologists such as Moritz Hauptmann (1873) teaching that “... metre is the actual measure, rhythm the type of movement within the measure” (Grove and Sadie, 1980, p.806). Such definitions separated out these terms, allowing for a degree of independence between a fixed metric structure (such as musical bar or measure) and the varying rhythmic ‘motifs’ or ‘figures’ that are seen to operate within, and at time in opposition to, these metric forms (Hasty, 1997).⁷ In some of these theories tempo is also distinguished from rhythm with the assertion that a change in tempo does not constitute a change in rhythm, as a rhythm (i.e. a rhythmic phrase) can maintain its consistency across a range of tempos and metrical structures (Cooper and Meyer, 1960). (See 7.1 for a glossary of musical terms).

The ability to separate and distinguish between various temporal elements has been used by theatre practitioners as a mechanism through which to approach and define rhythm within their own practices, giving rise to terms such as *Tempo-rhythm* as used by Stanislavski (2.2.2) and the oppositional relationship between “metre” and “rhythm” in Meyerhold’s training and performance practices (2.3.2.2). The question remains as to whether these understandings of musical rhythm translate effectively to the context

⁷ Recent theories have questioned such forms of opposition suggesting that metre and rhythm be treated as emerging as part of the same process (Hasty, 1997).

of acting or remain inextricably tied to their musical origins and paradigms (Grove and Sadie, 1980, p.806). Yet in looking back to the origins of the term rhythm, we see that far from being limited to one field, rhythm has for the most part been used to describe wider categories of temporal phenomena that covered a range of disciplines and art forms.

As indicated by Aristoxenus: “Rhythm is supplied by a succession of durations, they themselves derive from poems which were sung or danced” (Aristoxenus [370BC] cited in Fraisse, 1987, p.8). In this statement we can observe the continuity of rhythm as an aspect of dance, poetry, and music, its principles easily transposed and derived from one to the other. This interplay and transposition of principles between art forms found voice in the many formalist and symbolist performance theories that emerged in the late nineteenth century, as seen in the work of composers, writers and designers such as Wagner, Mallarmé, Block, and Appia (Fleischer, 2007); a set of ideas that can also be recognised in the more recent theories of intermediality (Chapple et al., 2006). The theatre designer and theorist Adolphe Appia⁸ created a number of schematic models for understanding these relationships and the crossovers between the “temporal arts”, titling his idealised art form as the “Word-Tone Drama” (Figure 1).

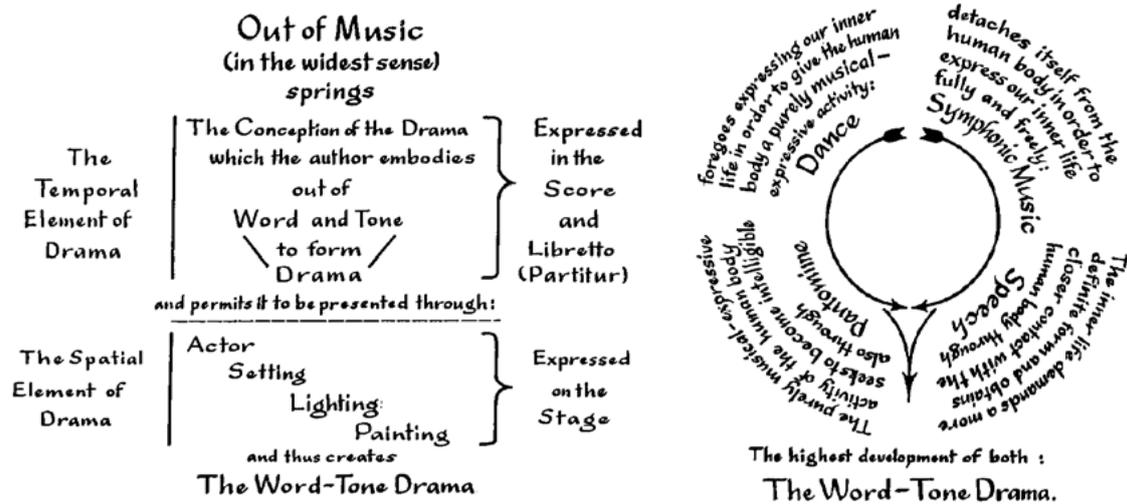


Figure 1: Schematic representations of “The Word-Tone Drama” (Appia, [1899] 1993, p.36 & p.42)

In these ways, rhythm has often been used as a mechanism for the

⁸ Appia’s worked with the educator and rhythmist Emile Jaques-Dalcroze established many of the frameworks through which rhythm has been approached in acting practices in Europe and America over the last century (Appia, [1899] 1993).

synthesis of temporal arts such as dance, music, poetry and acting.⁹ Rather than these simply being an abstractions of “musical rhythm” that are transferred to the practices of the actor (Grove and Sadie, 1980, p.806), rhythm can be considered an integral and transferable aspect of physical movement, spoken language, sung and instrumental music, embodied and realised through the actions of actors/participants themselves.

We find similar principles of rhythmic continuity referenced in Aristotle’s *Poetics*. In this key text of dramatic theory, we begin to approach a usage of the term rhythm that is commonly encountered in modern acting practices. In establishing a system for classifying the differing relationships to rhythm within the arts, Aristotle stated:

A combination of rhythm and harmony alone is the means in flute-playing and lyre-playing [...]. Rhythm alone, without harmony, is the means in the dancer’s imitations; for even he, by the rhythms of his attitudes, may represent men’s characters, as well as what they do and suffer. There is further an art which imitates by language alone, without harmony, in prose or in verse, and if in verse, either in some one or in a plurality of metres (Aristotle, [335BC] 2004, p.10).

This statement represents a further development of the original definition of *rhythmós* as *the impression of an individual’s disposition, mood, attitude or character*, with Aristotle suggesting here, that through the “rhythms of his attitudes” the “dancer” is able to imitate the “character” of others, while the poet can do the same through the rhythms of language. In this, we can recognise a link to a common understanding of rhythm in acting practices, whereby actors search for a suitable rhythm or tempo of physical action as well as language to fit their character, or through which to imitate a character type. This theme will be given further consideration in later discussions (2.1.1.6).

1.2.3 Summary

In discussing the use of rhythm within actor training, I propose that while at times working from a single definition of rhythm can be useful, an attempt to assign such a

⁹ Similar models of rhythmic continuity can be seen in the work of ethnomusicologist Kofi Agawu, who locates a diverse range of activities within what he refers to as a “domain of rhythmic expression” and uses this model to describe and analyse the integrated and organic nature of rhythm within a cultural context (Agawu, 1987, p.404).

definition to this entire body of practice is highly problematic. Instead, let us return to Plato's principle of "the one and the many", considering rhythm here in the same way as light passing through a prism; expressing and reflecting its qualities of commonality as well as those of multiplicity and difference. This collection of pre- and post-Socratic understandings of rhythm have and continue to play an important role in how rhythm is used and understood in actor training. As we will see, there are times when a specific or technical definition of rhythm is of clear value, giving an actor something "concrete" to work with such as a codified beat, metre or tempo. Yet on other occasions a more poetic or metaphoric understanding of rhythm is equally of use, supporting an actor or an ensemble's engagement with the "energy", "dynamics", "vitality" of a process. The ways in which various directors seek to establish or reconcile these two aspects will be examined in more detail at various stages within this thesis (see list of definitions in Appendix 7.1).

1.3 Chapter Overview

This thesis is broken into four parts: Historical Contextualisation, Current Practices, Simultaneity, and Developing a Practice.

Historical Contextualisation

This thesis begins with an historical contextualisation of the understandings and uses of rhythm surrounding the emergence of psychophysical actor training at the beginning of the twentieth century (**2.1: An Epoch of Rhythm**). The aim of this initial chapter is to review a number of principles that gained currency during this period and that continue to inform and support understandings of rhythm in actor training today. The further application of these principles will then be explored within the specific practices of three key twentieth century actor trainers: Konstantin Stanislavski, Vsevolod Meyerhold, and Jerzy Grotowski.

The first I will explore rhythm as a tool for working with emotions as well as building a character as seen in the work of Stanislavski (**2.2: Tapping Emotions**). This section will examine the use of the term *Tempo-rhythm* and its application within Stanislavski's work. This will be followed by an examination of the role of rhythm in cultivating qualities of *musicality*, as seen in Meyerhold's training practices (**2.3: The Flow of Time**). Here Meyerhold's use of musical accompaniment, terminologies and paradigms within training will be discussed in relationship to the development of a rhythmic sensibility and coordination in actors. Thirdly, rhythm as a metaphysical tool will be explored in regard to the work of Grotowski (**2.4: Scoring the Sacred**). This section will chart the transition from many of the principles and practices discussed in the previous two sections, towards the application of rhythm as a tool for energetic transformation and the accessing of archaic modes of being and qualities of energy.

Current Practices

This section will take the form of three case studies based on my training experiences with John Britton, Nicolás Núñez, and Reinhard Flatischler, covering a period of over fifteen

years. In analysing the role of rhythm in contemporary actor training, I have chosen to focus here on three distinct practices with which I have had a strong personal engagement. One of the intentions of this section is to contribute a detailed account of current practices from an actor/participant perspective, providing a platform through which to discuss the ways rhythm influences and supports an individual's development within these practices. This thesis will draw on the specific mechanisms found in each of these practices and unpack these as a means of elucidating key themes within the field of actor training. These themes will include:

1. The nature of rhythmic attention in ensemble training
2. The use of rhythm in relationship to altered states of consciousness
3. Polyrhythm as a way of actors encountering emergent aspects within their work

Beginning with the work of John Britton, I will explore the use of attention as a mechanism for encountering ensemble. This section will discuss Britton's practices in the field of ensemble training, focusing on the significance of rhythm in shaping and directing attention within this training context (**3.2: Collaborating in Time**).

My work with John Britton began in 1998 when I performed in a piece he had written at *Monash University* in Melbourne, Australia. He was later invited to lead workshops with a "training cooperative" I helped to establish in 1999 known as the Babaganouj Cooking Club. In 2001 I joined his Quiddity Ensemble and have continued to work and collaborate with Britton as a performer, workshop assistant, accompanist and as Associate Director of Duende of which Britton is the Artistic Director.

Leading from this to the work of Nicolás Núñez and the Theatre Research Workshop (TRW), I will further explore rhythm as a tool for shaping consciousness and investigate the role played by rhythm in inducing and sustaining states of ecstasy within the training of actors. Here I will review the relationships between rhythm and altered states of consciousness and outline some of the tools that are used by TRW in accessing and supporting such states (**3.3: Between Organicity and Awareness**).

I first had the opportunity to meet and work with Nicolás Núñez in Wales in 2004 at a workshop titled *Ritual and gesture* (Núñez, 2004). In 2007 I went on to study some of Núñez's training "dynamics" under the guidance of Dr. Deborah Middleton and Karoliina Sandström at the University of Huddersfield. In 2010 I worked with Núñez at workshops in London and Huddersfield and undertook further fieldwork with Núñez and traditional practitioners in Mexico City with the support of the Society of Latin American Studies in October and November.

This will be followed by the final chapter of this section in which I will examine the theme of the *I* and the *It* in Reinhard Flatischler's TaKeTiNa practices. This theme relates to issues of agency and the dynamic relationship between an individual and the emergent fields in which they act. Here I will explore the relevance of this theme to actor training and some of its implications to our understanding of rhythmic training (**3.4: I Make Plans, but It Evolves**).

I first encountered Flatischler's rhythm work in 1996 at a seminar in Melbourne, Australia and in 1997 I participated in a workshop given by Reinhard and Cornelia Flatischler. Since then I have participated in a significant number of TaKeTiNa sessions, working as an assistant and drummer with TaKeTiNa teacher Justine Bristow 2000 – 2004, and participating in workshops between 2004 and 2010 with other advanced and senior teachers including: Mechtild Weber, Henning Von Vangerow, Fabian Bautz, Tania Bosak, and have attended a presentation and workshop given by Reinhard and Cornelia Flatischler at the Strasbourg Conservatoire in November 2010.

Central to these chapters is a discussion on the significance of rhythm as a relational tool. While these three practices highlight distinct ways in which rhythm can be used, they also collectively demonstrate one of its prime values, its capacity to unify and consolidate through processes of psychophysical entrainment¹⁰ and shared experiences of group pulsation. This analysis will be supported and elucidated through references to contemporary psychophysical research into the perception and realisation of rhythm.

10 See Appendix 7.1 for a definition of 'entrainment'.

Simultaneity

The fourth part of this thesis will focus specifically on unpacking the concept of simultaneity. Here simultaneity will be discussed as an aspect of rhythm located within acting practices. This section will begin with an introduction to this concept and examine how this term can be applied and defined within performance and training contexts (**4.1: Vertical Rhythmicity**). This is followed by a more detailed reflection on the experience of simultaneity from the perspective of an actor/participant, examining the mechanics that underpin the realisation of these rhythmic aspects and the ways these understandings can inform the process of actor training. Here the role of simultaneity in temporal perception will also be examined with regard to the actor's capacity to "shape time" both within training and performance (**4.2: Simultaneous Acts**).

These two chapters will draw from accounts of simultaneity given by actors, directors and theatre scholars, alongside theoretical frameworks drawn from scientific studies into rhythmic and temporal perception. This chapter serves in part as an introduction to the author's own practical research into working with simultaneity in actor training that follows, providing a theoretical basis for this practice based research.

Developing a Practice

This chapter consists of a report on my own practical research into the use of simultaneity and in the training of actors. This report is based predominantly on a research project that took place over the course of 2011 titled "Orbits". This practical research grows directly out of my earlier fieldwork with Núñez in Mexico City, along with a number of aspects of both Britton and Flatischler's practices. In this way, this section will also act as a further means of examining and synthesising some of the principles that have been discussed previously.

This project was designed to develop my own practice as a facilitator, exploring processes of training actors through the use of polyrhythm. One of the key aims of this work was the cultivation of modes of attention that could support an actor's ability to

respond and work within complex performance environments while maintaining a strong connection to the present moment. Here I will outline the pedagogical processes involved in facilitating, developing and leading this work in the form of an overview of working principles, written descriptions of training exercises, graphic scores and video documentation (**5.1:Orbits**). Corresponding video support material will be indicated within the text of the thesis (e.g. Clip 12). This material can be viewed via the links found on page 9.

The research presented in this chapter makes up the last of three aspects on which this thesis is formed. The other two being the theoretical/historical exploration of rhythm as seen in chapters one, two and four of this thesis, and the fieldwork undertaken with various practitioners that forms the basis of the case studies in chapter three. These three aspects can be seen as a form of “research triangulation” through which the topic of rhythm has been approached here. My intention is that these three perspectives support and enhance an overall understanding of rhythm within this field. As such this thesis will draw at various times on these distinct sources of knowledge; making comparisons between theoretical, historical, and scientific models and principles, alongside descriptions given by various facilitators, and accounts by participants. In this way, this thesis looks to address a number of fundamental principles relating to how rhythm is understood, applied, and experienced within psychophysical actor training as well as indicating potential areas of future research and practical exploration.

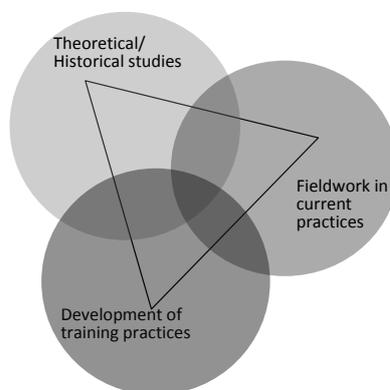


Figure 2: Triangulation of research methodologies

PART 2

HISTORICAL CONTEXTUALISATION

2.1 An Epoch of Rhythm

Mechanics of the Heart

*The new epoch had found its first expression in rhythm
(Kozintsev cited in Leach 1994, p.133).*

In Europe and North America from around 1890 through to the 1940s, we can observe an epoch of philosophy, science and art that was characterised by the prevalence of rhythm as a central theme (Golston, 2008). This period also corresponded with a growing interest in the nature of human physicality and health, a movement that identified the human body as a location and signifier of personal, cultural, and racial identity and as a basis for self-cultivation. Known as *Culture Physique* in France and *Körperkultur* in Germany, these “life-reform movements” gave rise to many new forms of physical exercise, commonly referred to as “gymnastics”. In relationship to these wider movements, bold changes also took place in the use of physical expression within modern dance (Toepfer, 1997; Reynolds, 2007), in the writing and staging of theatrical productions (Leach, 1994; Koritz, 2001), and in the emergence of new approaches to actor training (Taylor, 1999; Pitches, 2005). When attempting in 1913 to put together a survey of studies in rhythm perception, the experimental psychologist Christian Ruckmich wrote:

The experimental investigation of the perception of rhythm has grown so extensive and, at the same time, so indefinite in scope that the writing of an introduction which shall be adequate to the general problem is now altogether out of the question. The subject of rhythm has been carried over

into many fields both inside and outside of the science of psychology: within, it has been related to attention, work, fatigue, temporal estimation, affection, and melody; without, it is frequently mentioned in connection with music, literature, biology, geology, gymnastics, physiology, and pedagogy (Ruckmich, 1913, p.305–6).

Addressing this “general problem” is clearly also beyond the scope of this thesis, with this topic extending over a vast range of disciplines as well as geographical locations across Europe and North America. Instead, for the purposes of this study a number of key principles that I have identified as representing particular significance for the field of actor training will be outlined, with a more detailed discussion of these taking place in the chapters that follow.

2.1.1 Principles

The following six concepts form a collection of fundamental rhythmic principles that gained currency across a range of disciplines at this time:

1. Rhythm is a phenomenon rooted in the physiology of our **body**, and our use of **attention** and **perception** (Wundt, 1904; Ruckmich, 1913)
2. Rhythm is an **organic** process observable in the bodies of humans, in the growth of plants and the motions of the planets (Goethe, 1840; Diserens, 1926, p.121; Dewey, [1934] 1989)
3. Rhythm operates **universally** and consistently across a continuum ranging from the smallest biological and neurological processes through the largest of cosmic events (Delsarte 1892; Bolton, 1894; Wilson, 1927)
4. Rhythm is associated directly with the experience of **emotion**, taking on the role of a causal link between the **perception** of inner experience and its manifestation as externalised **action** (Ribot, 1897; Balz, 1914)
5. Rhythm is related to the **mechanics** of machines and the utilitarian activities of workers, making labour more productive, efficient and aesthetically pleasing (Bücher, 1897; Miner, 1903)

6. Rhythm and tempo and are determinants of *character*, displaying distinct qualities in different *individuals, groups, cultures, and races* (Jung, [1927]1964; Jaques-Dalcroze, [1921] 1967)

In these we can observe the presence of two distinct paradigms, the “mechanical” and the “organic”. As movements, these came to be known as the “mechanists” and the “biological vitalists” (Roach, 1993; Koritz, 2001). Adopting the metaphors of the machine, “mechanists” described actions in terms of clockwork devices or chains of events that could be reduced down to their component parts and later reassembled (Roach, 1993, p.161). These ordered and deterministic rhythms were also seen to facilitate the efficient and automated running of the body, playing a crucial role in the realisation of physical motion, perception, attention and emotion. In contrast, “biological vitalists” took a more romantic view of rhythm. For them, the “rhythmic body” was born from living tissue and cultivated from the flowing rhythms of the natural world, reaching out into the cosmos and back into the substances of human life (Roach, 1993, p.161).¹

Theatre historian Joseph Roach suggests that modern theories of acting, from Goethe, leading to Stanislavski and beyond, have followed a tradition of “...mediating between the two camps, wary of both, yet borrowing from each in turn” (Roach, 1993, p.161). In this way, analogies of nature and of machine can often be observed operating in parallel or tandem within the training practices of many twentieth century directors. Such categorisations also demonstrate obvious correlations with the use of pre- and post-Socratic definitions of rhythm as discussed in the introduction (1.2). Vitalist understandings of rhythm tended to correspond with the former, associating rhythm with fluidity and the improvised flow of action. Alternatively, from a mechanist’s viewpoint, rhythm was often seen as a means of control and ordering events, linking in with Plato’s concept of rhythm as a means of structuring time and giving order to movement.

We will now give some attention to each of these principles in turn beginning with

¹ We can observe a likeness between these two philosophical strands (mechanist/vitalist) and the pre- and post-Socratic concept of rhythm as outlined earlier. A vitalist understanding of rhythm can be seen as leaning more towards the former, associating rhythm with fluidity and the improvised flow of action. Alternatively from a mechanist’s viewpoint, rhythm is seen as a means of control and ordering events, linking in with the post-Socratic concept of rhythm as a means of structuring time, and giving order to movement.

early research into rhythm in the field of psychophysics, then looking at concepts of “organic rhythm”, followed by a summary of “mechanical rhythm”, and finish with a brief discussion of the associations between rhythmic character and racial identity.

2.1.2 The Psychophysics of Rhythm

...every rhythm is dynamic. It consists of actual movements. It is not necessary that joints be involved, but changes in muscular conditions which stand in consciousness as movements are essential to any rhythm, whether perceived or produced (Stetson, 1905, p.257).

Questions regarding the relationships between stimulus, emotion, action, and perception formed the basis of psychophysical research taking place at the end of the nineteenth century. At this time, we see a number of inquiries being made and theories put forward as to how rhythm was perceived, how it affected emotions, and what relationships it had with the physiology of the body. These works took place across a number of disciplines including experimental psychology, physiology and philosophy, pioneered by researchers including Ernst Heinrich Weber (1795–1878) Wilhelm Wundt (1832-1920) and William James (1842-1910).

One of the primary concerns of this early research was the nature of “kinaesthesia” (the feeling of movement). These interests, alongside the growing enthusiasm for research in musicology, led to a number of studies exploring the basis of rhythm perception in bodily sensation and motion (Doğantan-Dack, 2006). In these studies the motion of the spine, legs, arms, fingers, eyes, inner ear and the tongue were all observed to play significant roles in the perception of rhythm (Ruckmich, 1913). Theories were also put forward suggesting that an aesthetic sense of rhythm stemmed from biological processes taking place within the human body, such as the heart rate, breathing, walking patterns, and arm swinging (Bolton, 1894; Miner, 1903). One basis for such assertions was the identification that rhythmic patterns that were experienced as aesthetically pleasing were often found to correspond with tempos and grouping patterns found in the human body (MacDougall, 1903).

These concepts had a strong influence on aesthetic understandings of rhythm, in

which concepts such as “vital”, “natural”, “organic” and “living” came to be valorised within many areas of the arts. So too did the concept of rhythm as a basis for psychophysical unity or synthesis, seen by artists such as Isadora Duncan, as a primary link between the aspects of “body” and “mind” (Reynolds, 2007) or in Delsarte’s case forming a triad of “Body, Mind and Spirit” (Taylor, 1999, p.75).

2.1.3 Organic Rhythm

Rhythm is a commonplace phenomenon of life, to which every living creature, including man, subscribes (Klages, 1934).

During this historical period, organic processes took on a status of “fundamental explanatory principles”, populating the sciences and the aesthetics of poetry, dance and theatre (Roach, 1993, p.163). These principles were characterised by “...variety, spontaneity, and fluctuating responsiveness” (Roach, 1993, p.163) and came to be “... associated with the primitive, archaic and the feminine” (Koritz, 2001, p.554).

Defining these qualities and their oppositional relationship to “mechanical rhythm” became a central theme in the vitalist philosophies of this era. This topic formed the primary argument of one of the key texts on “body culture” and rhythm written in the early twentieth century: *Das wesen des rhythmus (The nature of rhythm)* by philosopher and psychologist Ludwig Klages (1926). In this text, Klages made a clear distinction between “organic rhythm”, and the “mechanical”, referring to the latter as *takt*.² For Klages, rhythm was seen as linked to biological processes and the cycles of nature. Organic and inseparable, rhythm was understood as a renewing and living force. In contrast, *takt* came to represent the rational processes of ordering, segmenting and repeating of activities, commonly observed within mass production (Cowan, 2007, p.231).

In their own ways many theatre directors including Stanislavski, Copeau, Dalcroze, Vakhtangov and Meyerhold, also applied “organic” rhythmic principles such as these to their training and directing, giving emphasis to vital rhythms found within the actor’s own body, internal impulses, the heartbeat, breath, and movements of the limbs. In approaching work on a new text, Copeau suggested that both the director’s and the actors’

2 *Takt* is often translated as “cadence” or “metre” (Cowan, 2007).

first encounter should be based primarily on rhythm and breath.

What remains in the director's mind, and not only in his mind but within reach of his senses, so to speak, is a feeling of general rhythm – the breathing, as it were, of the work which is to emerge into life (Copeau, 1931, cited in Rudlin, 1986, p.31).

This breathing a text, was seen as a way of tapping into some “respiratory trace of the author”, by which the actor could access its meaning (Pavis, 2003, p.213). Another important characteristic of rhythmic organicity, was the integrated and emergent relationship between the parts and the whole, rhythm seen as a powerful device through which directors and actors could achieve these qualities of unity. This principle of “organic unity” had been given considerable attention by writers in the nineteenth century such as Georg Hegel (1807), and Johann Goethe (1840), with Hegel describing such unity as “... the rhythm of the organic whole” (Hegel, [1807] 2005, p.115).

2.1.4 Universal Rhythm

...rhythm is a universal scheme of existence (Dewey, [1934] 1989, p.154).

As an organic property, rhythm was described as a universal language, of following universal laws, and of being governed by fundamental rules. These rules were observed across a wide range of scales and contexts, from the microscopic through to the macrocosmic, seen to influence relationships between molecules, animals, humans, and planetary systems alike, while also being directly transferable across cultural groups and academic disciplines (Golston, 2008, p.19). Theories relating to the universal nature of human expression and concepts of rhythm as a “universal language”, correlated with Darwin's evolutionary theories of emotional expression (Whyman, 2008), and found voice in the writing and practices of leading pedagogues such as Delsarte (Delaumosne et al., 1893) and later in the work of Jaques-Dalcroze ([1921] 1967) and Duncan (1969 [1928]).

For these practitioners, rhythm was considered an innate and universal aspect of humanity, Dalcroze stating, “We have all of us muscles, reason, and volition; consequently we are all equal before Rhythm” (Jaques-Dalcroze, [1921] 1967, p.119). Delsarte went as far as formulating a “rhythmic law of gesture”, which stated that, “...the rhythm of a

gesture is proportional to the mass to be moved” (Delsarte cited in Delaumosne et al., 1893, p.62). Based on the rhythmic motions of a pendulum, Delsarte applied this law directly and systematically to the use of gesture within acting, instructing that the actor’s torso and legs should for the most part remain calm, while the upper body and the eyes were free to move at a much faster pace (Delaumosne et al., 1893, p.63). Drawing directly on Delsarte’s teachings, Duncan also applied “universal” laws such as these to her understanding of rhythm within dance, stating:

All movement on earth is governed by the law of gravitation, by attraction and repulsion, resistance and yielding; it is that which makes up the rhythm of dance (Duncan, 1967 [1928], p.90).

Taking a biological approach to the analysis of rhythm, movement theorist and practitioner Rudolph Laban speculated:

If it is assumed that the rhythm of life consists of an alternation of male and female functions as they become visible in the unicellular being and that the co-operation of the two rhythmically opposite poles work in evolution of the change of life, perhaps one comes nearest to a definition serviceable for our research on effort and recovery (Laban, 1959 cited in Goodridge , 1999, p.133).

For these and other practitioners at this time the “laws of rhythm” were seen to be ingrained in human nature, in our biology and in the “vital forces” of the world around us. Goethe had expressed similar ideas earlier in the nineteenth century, referring to rhythm as an “...eternal systole and diastole, the eternal collapse and expansion, the inspiration and expiration of the world in which we live and move” (Goethe, 1840, p.294). For Goethe the vital rhythms of the heartbeat, along with those of plant life and other organic processes, were viewed as a “universal formula of life” (Goethe, 1840, p.15). As with Plato’s principle of “the one and the many” (1.2.2), Goethe saw the universality of rhythm as a means of both unifying the divided, and allowing division within unity (Goethe, 1840, p.294).

Searching for more formalistic means of expression, conventionalist directors such as Meyerhold looked to the use of rhythm as a tool for communicating directly, using rhythmic movements to provoke in his audiences, kinaesthetic responses that were

neither intellectual nor psychological (McConachie. 2010). These formalist concepts were also applied to the rhythms observed in other cultures, with European directors such as Artaud, Brecht, Stanislavski and Meyerhold, drawing inspiration and appropriating aesthetic principles and forms from performance and spiritual practices found in India, China, Japan and Bali (Tian, 2008; Zarrilli, 2009). Taking inspiration from yogic Hindu philosophies, Stanislavski instructed his actors that by mastering the rhythms of their body they would come to realise:

...the whole universe exists in accordance with a definite rhythm and that you as a fraction of it, are also subject to the laws of rhythm. Having grasped the fact that not only yourself, but everything that lives, is an eternally moving rhythmic entity, you, the actor and teacher, will yourself, as you analyse a part, be able to detect the rhythm of every part and every performance as a whole (Stanislavski, 1967, p.44).³

Subject to the “laws of rhythm”, the actor was given the task of searching for the “correct” rhythm or tempo for their action or character, while working with the director to shape the unified rhythm of the production as a whole. Some went as far as suggesting that an “...understanding of the laws of rhythm alone has the power to release in the actor a creative vitality consonant with the other media of the theatre” (Head and Gavin, 1927, p.137). Rhythm was seen as a means of realising “unity” and awakening “vitality” in the actor, which in turn brought the actor into a sympathetic relationship with the other parts (i.e. lighting, scenography, music, text etc.) of which the production as a whole was comprised.

Related to these concepts of universal continuity in rhythm were claims of an objective correlation between rhythm and emotion, this offering actors a device for tapping into, controlling and expressing emotions, and a means through which audience could be directly affected by rhythmic movements, sounds and images.

3 This description echoes Ramacharaka, a writer on Hindu philosophy who informed many of Stanislavski’s ideas on rhythm at this time (White, 2006). Ramacharaka writes: “Rhythm pervades the universe. The swing of the planets around the sun; the rise and fall of the sea; the beating of the heart; the ebb and flow of the tide, all follow rhythmic laws. [...] All motion is a manifestation of the law of rhythm. Our bodies are as much subject to the rhythmic laws as is the planet in its revolution around the sun. [...] By falling in with the rhythm of the body, the Yogi manages to absorb a great amount of Prana, which he disposes of to bring about results desired by him” (Ramacharaka, [1904]2009:167).

2.1.5 Rhythm and Emotion

The only way of expressing emotion in the form of art is by finding an “objective correlative”; in other words, a set of objects, a situation, a chain of events which shall be the formula of that particular emotion; such that when the external facts, which must terminate in sensory experience, are given, the emotion is immediately evoked (Eliot, [1919] 1975, p.48).

Delsarte, a teacher of acting, music, and classical studies in France in the mid-nineteenth century, wrote in detail about what he saw as direct correlations between emotion and the rhythms of physical gestures. Based on his observations of movement patterns both in everyday life and on the stage, Delsarte mapped out a complex network of semiotics, through which various movements, physical forms and regions of the body were linked with degrees of emotional intensity, intellectual honesty and moral intention. These “laws of correspondence” established a codified system of acting allowing performers to communicate their internal “passions” through physical gesture (Taylor, 1999, p.75). Although many of Delsarte’s ideas and forms would be later judged to be overly mechanical and dated, his basic premise of a correlation between emotion and the movements of the body, and his formalisation of actor training have had a significant impact on modern day acting practices.

Theories connecting rhythm to emotion were also promoted by the emerging fields of experimental psychology and psychophysics. In 1894 two key texts were published simultaneously in America and Europe: *Rhythm* by the American psychologist Thaddeus Bolton (1894) and the *Study of psychology and aesthetics of rhythm* by German psychologist Ernst Meumann (1894). These publications marked a watershed in the study of rhythm within the scientific field of psychophysics. Publications such as these and the research that followed them, pointed to strong correlations between rhythm perception, body movements, and the experience of emotion (Wundt, 1897; Ribot, 1897; Miner, 1903; MacDougall, 1903; Ruckmich, 1913; Balz, 1914; Diserens, 1926).

Notable within this growing body of research is the work of Wilhelm Wundt, who proposed a continuum between rhythmic bodily motion and the experience of emotion, putting forward three principles of affect through which this relationship could be

described (Wundt, 1897). Firstly, Wundt proposed that regular rhythmic patterns produced more agreeable feelings than irregular patterns. Secondly, he observed that in the interval between one beat and another, the listener experienced a feeling of tension, which was followed by relaxation on hearing the next beat. Thirdly Wundt noted that faster rhythms generally caused excitement, whereas slower rhythms tended to be more calming and depressing (Schultz and Schultz, 2011, p.73–4).

Based on his research into these principles Wundt asserted an analogous relationship between rhythm and emotion, stating:

The feeling of rhythm is distinguished from an emotion only by the small intensity of its moving effect on the subject, which is what gives “emotion” its name. And even this distinction is by no means fixed, for when the feelings produced by rhythmic impressions become somewhat more intense [...] the feeling of rhythm becomes in fact emotions (Wundt, 1897, p.186–7).

Wundt’s work on emotion and rhythm had a strong impact within the field of psychophysical research and was cited by many of the psychologists and philosophers of this era, including William James ([1890] 2007, p.612), Theodule Ribot (1897, p.102) and Ivan Pavlov ([1927] 2003, p.3).

In the terms and metaphors used by both scientists and theatre practitioners at this time, there is a sense that rhythm and emotion can be reduced to a direct causal relationship whereby ‘rhythm A’ produces ‘emotion B’ and vice versa. Although in reality such relationships would often prove to be more complex, these mechanistic paradigms implied that the nature of rhythm was deterministic, following precise and codified rules.

2.1.6 Mechanics of Rhythm

As for the machine shop, the boiler works, Antheil has opened the way with his ‘Ballet mécanique’; [...] we see the chance for time-spacing the clutter, the grind, the whang-whang, the gnrnrnr, in a machine shop, so that the eight-hour day has its rhythm; so that the men at the machines shall be demechanized, and work not like robots, but like members of an orchestra (Pound, [1927] 1977, p.317) .

At the beginning of the twentieth century, research into the mechanics of rhythm became increasingly valued in the growing industrial cultures of Russia, Europe and the United

States of America. This “Machine-age” was fuelled by an economy based in “...the rhythmization of affordable work” (Bücher, 1909 cited in Golston, 2008, p.22). Through rhythm, physical labour could be analysed and “automatized”, regulating movement and rest patterns, and the tempo of a factory as a whole. From North America, the “scientific management” theories of Frederick Taylor spread and inspired others like Alexi Gastev in Russia to set up laboratories for researching ways of making movement more efficient and productive. In England, Laban collaborated with management consultant Fredrick Lawrence and developed a new system of “effort analysis”, publishing an instructional booklet on this theme in 1942 titled ‘Laban Lawrence Industrial Rhythm - lilt in labour’ (Laban and Lawrence, 1942).

Rhythm was identified as “...not only a means for lightening work, but also one of the springs for aesthetic pleasure” (Bücher, 1909 cited in Golston, 2008, p.23). The suggestion being that through repetition “[w]hat is difficult becomes habitual, what is habitual becomes easy, what is easy is beautiful” (Stanislavski and Rumyantsev, 1998, p.63). In this way, such principles of repetition and “automatization” were seen as ways of freeing the individual and generating a form of aesthetic beauty. Metaphors of production and capital were also extended into the “economy of attention”, where rhythm was seen as an evolutionary tool which allowed mental acts to become automatic, facilitating the expansion and productivity of perception and memory (Miner, 1903, p.20).

Bringing together the biological and the mechanical, along with the processes of evolution and automation, a new aesthetic philosophy based on the efficiency of rhythm emerged at this time. Inspired by these ideas, artists such as Meyerhold turned to the factory as a model for building new approaches to actor training (Gordon, 2002). In these training practices actors deconstructed movement sequences, looking to improve the efficiency and coordination of their actions, with Meyerhold going as far as calling for the “Taylorization of the Theatre” (Meyerhold, [1922] 1969, p.199). Meyerhold noted:

If we observe a skilled worker in action, we notice the following in his movements: (1) an absence of superfluous, unproductive movements; (2) rhythm; (3) the correct position of the body’s centre of gravity; stability. Movements based on these principles are distinguished by their dance-like qualities (Meyerhold, [1909] 1969, p.98).

Here, rhythmic efficiency and organisation were translated from the economic productivity of the factory into an aesthetic productivity that could be realised by an actor through the organisation of their own “raw material” (their body) (Meyerhold, [1922] 1969, p.198).⁴

In this way, rhythm took on the role of a tool, a mechanism and an instrument. As a technology, the attributes of rhythm were exploited as a means of accessing, achieving, and actualising aspects of a performer’s work that often evaded direct engagement or manipulation. Metronomes and flashing stage lights were adopted by directors including Stanislavski (2008, pp.368 & 464), Ferdinandov (Leach, 1994, p.111) and Kuleshov (Leach, 1994, p.117), as a means of shaping their actors’ rhythms and “luring” emotions.⁵

Preferring the less rigid technology of a piano, Meyerhold used the rhythm, tempo and melody of music as a mechanism for developing coordination and precision of movement (Gordon, 2002, p.112) (2.3.4).⁶

2.1.7 Character, Race and Tempo

We ourselves have accent in our blood (Spengler, 1932, p.228).

The hardest thing to translate from one language into another is the tempo of its style, which is grounded in the character of the race, or – to be more physiological – in the average tempo of its “metabolism (Nietzsche, [1885] 2001, p.29).

Over the course of this era, we encounter the pervasive concept that personal identity, culture, and genetic inheritance can be defined by their rhythmic attributes. This complex set of understandings and assumptions, while forming the basis of a number of important principles in actor training, also found voice within forms of nationalistic propaganda adopted by many politicians, scientists and philosophers at this time. We can note the correlation between these two sets of ideas when we look at the writings of directors such as Vakhtangov, who stated:

4 These paradigms form the basis of the one of the major tenets of twentieth century actor training, “self-use” (Roach, 1993, p.162) or conversely “the use of self” (Alexander, [1932] 2001).

5 At another point Stanislavski contradicts this usage of metronomes stating “A metronome and true creativeness cannot possibly coexist” (Stanislavski and Romyantsev, 1998, p.38).

6 The mechanisation of rhythm was also a subject tackled by a number of dramatists during this era and featured in plays including Eugene O’Neill’s *The Hairy Ape*, Elmer Rice’s *The Adding Machine*, and Sophie Treadwell’s *Machinal* (Koritz, 2001, p.554).

Every nation, every man, every phenomenon in nature, every human event of life – everything has its own characteristic rhythm. Therefore every drama, every role, every part of every role, every feeling – has its own rhythm (Vakhtangov, 1947, p.121–2).

Vakhtangov, in line with Stanislavski's ideas of "*Tempo-rhythm*," suggested that finding the rhythm for a character is "...the key to its presentation". Based on this principle, specific rhythmic qualities were attributable not only to the motions of the human body, but also to an individual's general character and, by extension, to the characteristics of groups or environments or, as Vakhtangov sustained, a "nation".⁷

In this sense, rhythm was seen as representative of an individual's inherent nature operating below the level of conscious expression, as Amy Koritz explains in her analysis of rhythm in the dramatic texts of the 1920s:

Insofar as rhythm becomes a vehicle for revealing essential attributes of a character, these are assumed to be static, not open to change through the character's actions, which express only the pre-existing qualities revealed through rhythm. [...] the drama of the 1920s implicitly accepts the ability of rhythm to reveal the truth of a character's identity - the body's response to rhythmic motion reveals a character's most genuine self (Koritz, 2001, p.554).

These rhythms were seen as revealing the underlying essence of an individual, the unchanging truth that marked their identity.⁸ The concept of a rhythmic identity can also be seen reflected within the growing movement towards Nationalism taking place across Europe at this time. Written in 1933, Frischeisen-Koehler's essay *Das personliche tempo: eine erbbiologische untersuchung (the personal tempo and its inheritance)*, gives an indication of the ways in which biological rhythms came to be representative of national identity:

7 The links between rhythmic characteristics and national and racial identities is a concept also discussed in the work of Jaques-Dalcroze, who proposed specific rhythmic attributes and capacities as corresponding with various cultural and racial groups (Jaques-Dalcroze, 1967, p.320). For a more detailed discussion of the concept of race and rhythm in this period see Golston (2008).

8 This idea of character being embodied in unconscious or biological rhythmic patterns can be traced back to the Poetics of Aristotle ([335BC] 2004), and still holds currency today. Brook echoed these sentiments when he stated, "the rhythms of each character are as distinctive as thumb-prints" (Brook, 1972, p.134) We can also see the application of such principles in current clinical as well as surveillance technology that scans the motions of a person's walking gait as a means of unique identification (Lakany, 2008).

The personal tempo adheres to the individuality as a whole; the integral psyche, as a unity, abhors one tempo as unsympathetic to it, or recognizes another as sympathetic. Now if every individual has his own characteristic tempo, the question at once arises, whether, in the case of definite groups of individuals, there is a tempo characteristic of the group as it exists at any moment (Frischeisen-Koehler, 1933 cited in Golston, 2008, p.41).

This conceptualisation of tempo and rhythm as a dominant aspect of national and racial identity was a prolific theme in central Europe at this time. Its presence can be noted in composer Richard Wagner's article 'Judaism in Music' (Wagner, [1850] 1964), in educator Émile Jaques-Dalcroze's text *Rhythm in music and education* ([1921]1967, p.320) as well as in the psychologist Carl Jung's essays, 'Mind and Earth' ([1927] 1964) and 'The Complications of American Psychology' ([1930] 1964). In Jung's texts, he highlighted the unconscious and biological aspects of rhythm, indicating their "infectious" nature and their ability to get "under your skin" (Jung, 1964, p.508). For these reasons, he warned of the eminent risks of "racial infection" which could supposedly occur when one race was "exposed" to another. As an example of the risks posed by the "contagion" of "alien" rhythms, Jung cited the influences of "African rhythm" on European culture in America (Jung, 1964, p.508–9) suggesting that such rhythms presented a serious threat to the attitudes and thought processes of the European people and could potentially lead to mass hysteria and immoderation (Golston, 2008, p.43).

While on the one hand promoting the utopian ideals of a universal human condition, artists and scholars such Wagner, Dalcroze, and Jung also insisted on the uniqueness of individual races with their own rhythmic qualities and temperaments. These viewpoints established a complex and at times contradictory model that combined essentialist theories of a common human condition with the more relativist assertions of a distinct biological basis for individual and racial aesthetics. For while certain forms of rhythmic expression remained unique and non-transferable between races, cultures and individuals, when traced back such forms of expression were seen to stem from a collection of core principles including archetypes, organic rules and fundamental laws of rhythmic perception.

2.1.8 Summary

The wide spread application of rhythm within Europe and North America in the early twentieth century was comprised of a wide array of techniques, theories, beliefs, and philosophies. While proliferated with multiplicity and paradox, these practices and theories do seem to follow a number of consistent principles and frameworks. These include, 1) an understanding of rhythm as emerging from physiological movement patterns; 2) a belief in the existence of universal laws of rhythmic aesthetics; 3) the suggestion that rhythm directly affects perception, attention, and emotion; 4) the application of rhythm as a means of regulating movements making them more efficient and requiring less physical and conscious effort; and 5) the conviction that rhythmic patterns and tempos correspond to qualities of character and energy and can act as a form of key or trigger for accessing these. Further, we can identify two paradigms, across which these principles operate: the “mechanical” and the “organic”.

These examples demonstrate the highly malleable nature of terms such as tempo and rhythm, capable of absorbing and inspiring endless interpretations across artistic disciplines and political contexts. We can observe the way such terms took on diverse and contrasting meaning when we look at simple concepts such as “personal tempo” or “unity of rhythm”. Within different contexts these terms are read: as devices within actor training, as the mechanisation of labour, or as the basis of nationalist ideology. In this regard, rhythm can appear at times to operate outside the framework of a moral code, or rather, as poet Lyn Hejinian proposes, at the point where “[a]ll the moralities merge”(Hejinian, 1999 cited in Golston, 2008, p.vii). In this latter sense, it is not that rhythm is devoid of morality, but rather that it is not contained by a fixed moral system, being free to traverse what may otherwise be seen as contradictory positions. One result of this is that a multitude of understandings, conceptions, beliefs and political ideologies are capable of co-inhabiting a shared field of rhythmic studies. To borrow Aviram’s analogy we can consider rhythm here like a dance floor that can be shared by a disparate group of individual dancers who may share nothing else in common but the immediate experience of the pulsation and tempo of the music. While on certain levels, these individuals may

not be in agreement (i.e. political or religious differences, or even personal dance styles/aesthetics) at the level of pulsation all bodies can be seen as united by a common condition (Aviram, 2002, p.169). One of the paradoxes of this epoch is that principles of rhythm came to be applied as equally to the separating of individuals and cultures as they were to their unity, and as much to the freeing of the individual human spirit as to the control and manipulation of mass behaviour.

As will be seen in later analyses, these collections of rhythmic principles and paradigms have come to inform many of the pedagogical structures, metaphors, and aesthetics through which practitioners have encountered and worked with rhythm in actor training up to the present day. The concepts of bodily rhythm, organicity, universality, and rhythm's capacity to affect the psychophysical processes of the actor will be discussed in more detail with regard to the specific practices in the following sections.

2.2 Tapping Emotions

Tempo-Rhythm in the Work of Stanislavski

*'No, "authentic emotions"! Let your voices resound!
Walk theatrically! Suppleness! The eloquent gesture!
Dance! Bow! Duel with rapiers! Rhythm! Rhythm!
Rhythm!' – the insistent shouts of Stanislavski resound...
(Meyerhold, [1921] 1969, p.179).*

In David Magarshack's book *Stanislavsky: a life*, he offers a revealing account of Stanislavski in his early twenties rushing home enthusiastically from work to receive singing lessons. During one of these lessons Stanislavski and his teacher Komissarzhevsky decided to engage the services of a pianist skilled in improvisation, and with live musical accompaniment they proceeded to spend hours exploring ways of moving about the room and sitting still in different rhythms and tempos (Magarshack, 1976, p.50). This deep curiosity and passion for exploring rhythm followed Stanislavski throughout his career, as he became an actor, director and trainer of actors and opera singers.

In the early 1920s, when giving a lecture at the Bolshoi Theatre, Stanislavski posed the question, "What is it without which we shall never convince the spectator that our art is both intelligible and necessary?" His answer was:

If we do not realize the foundation of the whole of man's life, the rhythm given to him by nature, namely respiration, is also the foundation of the whole of our art, we shall never be able to find the one and only rhythm for an entire performance and, in subordinating to it everybody who takes part in the performance, create one harmonious whole (Stanislavski, 1967, p.93).

In saying as much, Stanislavski points to two key aspects of his work with rhythm. Firstly, that the actor's sense of rhythm derived primarily from their experience of their own body as a rhythmic organism, and secondly, that once realised, rhythm had the potential to shape and bring together the work of an ensemble as a whole, creating a new level of order to which each part was subordinate.

Focusing on Stanislavski's use of rhythm in his training practices, here we will look specifically at his use of *inner* and *outer Tempo-rhythm*. Of all the rhythmic terminologies

developed in acting practices over the last century, the term *Tempo-rhythm* is perhaps the most commonly used, still finding application in training and directing practices today (Appendix 7.2). The following analysis will address the theoretical as well as practical basis from which this term and its surrounding principles have derived.

2.2.1 “...Its Real Meaning”

Rhythm is a great thing, but to build up a whole production of a play entirely upon rhythm one must first understand why it is so important and what its real meaning is (Stanislavski, 1967, p.107).

What is Stanislavski suggesting when he refers to the “real meaning” of rhythm? Is there a specific technical definition that he is inferring, or should this be read as a tacit form of meaning derived from practical experience and training? The actor Vasili Toporkov, in writing about his work with Stanislavski (1928 -1938) recounts that “...in olden times there existed the universal word ‘tone’”. Each role had its own “tone”, as did the play in general. Directors would talk about “lifting the tone” or finding the “right tone”, but as Toporkov pointed out “No one knew exactly how this could be done” and if by some act of chance an actor or a performance found the “right tone”, “...no one, in reality understood what had happened” (Toporkov, 1998, p.60). Toporkov suggests that it was through Stanislavski’s persistent searching and “mastery” of the practical aspects of “stage rhythm” that the ambiguity of such terminology was avoided and resolved. As such, Stanislavski looked to replace the vague randomness of “tone” with the actor’s embodied understanding of “rhythm” and “tempo”.

We might then ask, whether today the terms rhythm and *Tempo-rhythm* (like the word “tone”) have lost their ability to communicate or signify any form of practical understanding to actors and directors? While in today’s contemporary practices actors may be instructed to improve the “rhythm of a scene”; to break up the “rhythm of their actions” or text; to find the “right rhythm”, or be told they are working in the “wrong rhythm”, without a practical reference point or shared understanding, it is questionable if any of these statements or instructions communicate anything specific to an actor. In

this regard Stanislavski and Toporkov were both clear, stating that only through personal investigation and the training of what Stanislavski referred to as “psychotechniques” could the actor establish an effective working relationship with *Tempo-rhythm* (Stanislavski, 2008, p.484; Toporkov, 1998, p.147). Without specific training and practical experience, terms such as rhythm and tempo could be seen to be as empty and meaningless as the term “tone” was for Stanislavski, or the word “energy” as used commonly in many practices today.

Additionally it should be noted that even as Stanislavski developed his “system” of acting, such terminology continued to evolve and change in response to the specifics of each performance situation or training context. An example of this can be found in Stanislavski’s use of the word rhythm to refer to a diverse range of aspects both inside and outside the performer’s body. In one instance Stanislavski defined rhythm through the technical description of “...a combination of moments of every possible duration which divide the time we call a bar into a variety of parts” (Stanislavski, 2008, p.466). While this definition offers some clarity, it is difficult to comprehend how such a concept relates to other statements made during this same period. For example, while rehearsing *The Embezzlers* (1928) Stanislavski comments on an actor’s stance saying, “You are not standing in the correct rhythm!” (Toporkov, 1998, p.62). Here rhythm could be seen as taking on a metaphorical or perhaps a pre-Socratic meaning (1.2.1), as distinct from the musical definition given above. In this example, we can see that without a practical understanding of Stanislavski’s *inner Tempo-rhythm* exercises, the concept of “standing in rhythm” can seem to be a baffling if not impossible task. A further example is given when Stanislavski is directing a dinner scene in *Dead Souls* (1931). In this case, he directs his actors to work with six different rhythms:

Rhythm 1 – Quiet conversations; their voices are low and velvety.

Rhythm 2 – Voices sound a little higher in pitch.

Rhythm 3 – Voices still higher and tempo faster; listeners are beginning to interrupt those talking.

Rhythm 4 – Voices still higher and tempo faster and somewhat broken; listeners no longer pay attention to what is being said but only look to interrupt the speaker.

Rhythm 5 – Most guests talk at the same time; voices high-pitched tempo is jumping and syncopated.

Rhythm 6 – highest level of sound and maximum syncopation; no one is listening to anyone; each seeks only to be heard (Toporkov, 1998, pp.146–7).

We can see here that a broader meaning of rhythm is adopted, including aspects such as tempo, syncopation, dynamics, pitch, counterpoint, and timbre. In this instance, the term rhythm relates to both the individual parts and the emerging energetic state, or group dynamic within the scene, a set of understandings that are distinct from those given above.

In looking at the usage of the term *Tempo-rhythm*, this complexity is further compounded by the wide variety of interpretations and definitions put forward by the various practitioners and scholars who have written about Stanislavski's work (Gillett, 2007; Merlin, 2003; Vakhtangov, 1947; Pitches, 2005; Benedetti, 1998; Carnicke, 2008; Moore, 1984; Gordon, 1988; Whyman, 2008).

2.2.2 Tempo and Rhythm: The Ins and Outs

...as a pragmatic system, theatre knowledge can contain mutually contradictory ideas as theory cannot; it can evolve and shift dynamically from day to day as needs demand, with each practitioner tinkering and adjusting it to suit the moment (Carnicke, 2008, p.72).

Some of the complexity surrounding these terms results from the fact that at times *Tempo-rhythm* is used as a single term; defined in a recent text as "...the combined rhythmic flow and speed of execution of the physical action (including speech) in a given scene" (McGaw et al., 2011, p.59), while at other times these terms are separated out into two distinct aspects, with *tempo* and *rhythm* discussed as discreet elements which interact with one another.

One of the ways that these terms have been delineated is by associating them with distinct locations inside and outside the individual actor. In one instance *tempo* is defined as "...a general pace of life that is found in a shared physical or cultural environment" (Gordon, 1988, p.196), in contrast to *rhythm*, being something that "...springs from specific individual activity and varies from person to person" (Gordon, 1988, p.196). In this sense,

tempo is read as a composite impression of the collective rhythms of the entire ensemble, including the actors, scenery, lighting and sound, whereas *rhythm* relates specifically to the individual actions or patterns of actions that operate within this *tempo* context.¹

This understanding of tempo as an emergent field of activity, rather than the conventional meaning of “...the speed of the basic pulse” (Benedetti, 1998, p.81), while unconventional, is a view that can also be found in the field of music theory. Musicologist David Epstein states:

...tempo is a consequence of the sum of all factors within a piece – the overall sense of a work’s themes, rhythms, articulations, “breathing”, motion, harmonic progressions, tonal movement, contrapuntal activity. [...] Tempo [...] is a reduction of this complex Gestalt into the element of speed per se, a speed that allows the overall, integrated bundle of musical elements to flow with a rightful sense (Epstein, 1995, p.99).

A more phenomenological definition of *tempo* such as this can be useful to an actor, emphasising the ways in which time and pace are experienced as an emergent phenomenon, rather than simply being an objective measurement of beat durations.

If we take a further look at the ways in which *tempo* and *rhythm* are aligned with specific locations (inside and outside the actor), we can observe that while there is some agreement on this, others have gone on to establish seemingly contradictory definitions of these terms.

Yevgeny Vakhtangov, student of Stanislavski and Vladimir Nemirovich-Danchenko at Moscow Art Theatre and a director and teacher, described these terms as follows:

Like the First Studio’s notion of internal rhythm, tempo expresses itself in physical activity with the increase or drop of energy. The major difference between rhythm and tempo is that the latter derives from the outside environment. In every scene or situation, the actor must find the appropriate tempo (Vakhtangov, 1919 cited in Gordon, 1988, p.243).

In the relationship proposed by Vakhtangov *rhythm* is clearly identified as coming from the actor’s own body stating that “Rhythm must be perceived from within” (Vakhtangov, 1947, p.121), whereas *tempo* “derives from the outside”. Yet theatre scholars Patrice

¹ The distinction or unification of tempo and rhythm is expressed to varying degrees by different commentators, Farber suggesting that in “...études the tempo and the rhythm will always be opposites”, with the actor’s rhythm set against the tempo of the scene (Farber, 2008, p.77). This concept of oppositional rhythm will be discussed in more detail in the following chapter on Meyerhold’s use of rhythm (see Ch.2.3).

Pavis' and Sharon Carnicke's definitions of these terms seem to be a complete reversal of the above designations, with Pavis defining *tempo* as "...invisible and internal" (2003, p.145) and Carnicke referring to it as an "...internal rhythmic speed" (2008, p.226). In contrast *rhythm* is defined by Pavis as "...the sense and direction of time" (Pavis, 2003, p.146), and by Carnicke as "...the external rhythmic speed at which an entire production unfolds" (2008, p.226).

Adding to this complexity, other practitioners and scholars have offered further variations. Sonia Moore defines *tempo* as being synonymous with "speed", and rhythm as the "...varying intensity of experience", suggesting also that both of these can exist *inside* as well as *outside* the body (1984, p.40). Like Moore, Stanislavski's student Richard Boleslavsky uses the word "speed" interchangeably with "tempo", but his definition of rhythm opens the term out to include a wider category of descriptions, exchanging the term *rhythm* simply with the word "How" (Boleslavsky, 1987). By this, Boleslavsky gives significance, not only to *what* an "action" is and *when* it is done, but also *how* this is being done, thus emphasising the qualitative aspects of *rhythm* over the quantitative measurements of speed and duration. This understanding of rhythm can also be seen in Bella Merlin's definition of rhythm as "...the intensity with which you execute [an action]" (Merlin, 2007, p.139), bringing us closer once again to a pre-Socratic sense of rhythm as means of describing an arrangement or quality of flow (1.2.1).

Taking all of this into consideration, it is easy to see why Stanislavski begins his writings on '*Tempo-rhythm in Movement*' by saying "...let's forget scientific definitions and simply play with rhythm" (Stanislavski, 2008, p.464). While this theoretical flippancy and the overt use of contradictory terminology may appear problematic in establishing the "real meaning" of rhythm in this field, these examples offer a clear demonstration of the definitively transient and paradoxical nature of such working terminologies. Rather than existing as fixed ideas, terms such as tempo and rhythm function through their association with specific practices. As such, to approach an understanding of these terms it is necessary that we look in more detail at the training approaches through which they have primarily been communicated.

2.2.3 Tempo-Rhythm

There was a sign hanging in the auditorium of the school theatre today: INNER AND OUTER TEMPO-RHYTHM (Stanislavski, 2008, p.463).

Mel Gordon claims that it was in the summer of 1925 that work on *Tempo-rhythm* was introduced to Stanislavski's studio practices. At first taking the form of "physical acting drills", these were gradually evolved as further methods of practical training and applications in performance were developed (Gordon, 1988, p.196).²

This work emerged from Stanislavski's training of opera singers (referred to as actor-singers) at the Opera Studio of the Bolshoi Theatre from 1918³ (Stanislavski and Rumyantsev, 1998, p.x). This work led Stanislavski to an understanding of *Tempo-rhythm* "...not as something separate from or ancillary to action, but as a crucial aspect of action itself" (Blair, 2008, p.32), marking a shift in focus, from work that had been predominantly concerned with the actor's inner experience, to a practice that was centred on "physical action" and the use of external form.⁴

Writing about changes taking place in Stanislavski's Studio at this time, Vakhtangov observed:

Until now, the Studio, true to Stanislavski's teachings, has doggedly aimed for the mastery of inner experience. Now the Studio is entering a period of search for new forms – remaining true to Stanislavski's teachings, which search for expressive forms, and indicate the means to be used to achieve them (breathing, sound, words, phrases, thoughts, gestures, the body, plasticity of movement, rhythm – all these in a special, theatrical sense founded on an internal, natural basis) (Vakhtangov 1921 cited in Allen, 1999, p.72).

Examples of this "search for new forms" through work with *Tempo-rhythm* can be observed in Stanislavski's text first published in English under the title, *Building a*

2 Rhythm had featured previously as had the concept of tempo, but it seems that it was not until 1925 that the term 'Tempo-rhythm' came into use in Stanislavski's work.

3 Experimentation with rhythm in musical productions and operas continued at the Moscow Art Theatre's Music Studio (from October 1919), later referred to as the Stanislavski Opera Studio (from 1924), then the Opera Studio-Theatre (1926), and finally the Stanislavski Opera Theatre (1928- 39) taken over by Meyerhold (1938-9).

4 The content and nature of the rhythm training that took place during this and later periods is conveyed in a number of texts (Stanislavski, 1967; Toporkov, 1998; Stanislavski and Rumyantsev, 1998; Benedetti, 1998), with the most detailed account of practical work found in *Stanislavski on opera* (Stanislavski and Rumyantsev, 1998) and Stanislavski's chapters on "Tempo-Rhythm in Movement" and "Speech Tempo-Rhythm" found in *Building a character* (1979).

character (Stanislavski, 1979). Here Stanislavski gives an account of an introductory class in *Tempo-rhythm*, which he opens with a reading of dictionary definitions of *tempo*, *rhythm*, and *time signature*:

‘**Tempo** is the rate at which equal, agreed, single length-values follow each other in any given time signature’.

‘**Rhythm** is the quantitative relationship of active, agreed length-values in any given tempo or time signature’

‘**Time signature** is the repetition (or presumed repetition) of a group of agreed length values, marked by a single stress (length of phonic movement).’
(Stanislavski, 2008, p.463)

Having completely baffled his students, he then makes it clear that such definitions are of little use to them at this stage in their work. Instead, he suggests they are better off approaching these terms through practical exploration, “freely” and “lightheartedly” playing with *Tempo-rhythm* like children playing with a toy (Stanislavski, 2008, p.464). The class goes on to tap out rhythms on tables, act out improvisations accompanied by metronomes, a piano and flashing stage lights, with Stanislavski insisting:

It would be harmful for you to try and squeeze *Tempo-rhythm* out of yourselves, or knit your brow and calculate all its complex combinations, like a mindbending mathematical problem. So let’s forget scientific definitions and simply play with rhythm (Stanislavski, 2008, p.464).

Jean Benedetti’s descriptions of training exercises undertaken between 1935 and 1938 at Stanislavski’s Opera Dramatic Studio⁵ offer us a practical guide to the use of *Tempo-rhythm* as a tool in actor training at this time (Benedetti, 1998, pp.80–86). Here Benedetti divides this work into the following six categories:

- Outer tempo-rhythms
- The influence of outer tempo-rhythms on mental states
- Inner tempo-rhythms
- The influence of mental states on outer tempo-rhythms
- Contradictory inner and outer tempo-rhythms
- Varying tempo-rhythms

5 Alternatively known as the Stanislavski Opera Theatre.

In these simple and playful exercises, a clear vocabulary and set of tools were developed through which Stanislavski's actors and actor-singers began exploring ways of using *Tempo-rhythm* as a means of luring, accessing and structuring the emotional and energetic nature of their scenes and characters. The following examples offer us some insight into the distinctions and relationship between *inner* and *outer Tempo-rhythm* in this later work.

2.2.3.1 *Outer Tempo-rhythm exercises*

There is an indissoluble link between Tempo-rhythm and feeling, and conversely between feeling and Tempo-rhythm, they are interconnected, interdependent and interactive (Stanislavski, 2008, p.502).

In these exercises, participants began by learning to mark a pulse, and then to divide it: in halves, quarters, eighths, sixteenths and thirty-seconds (Benedetti, 1998, p.81) (see Table 7 in Appendix 7.1). Participants were also instructed to tap out different rhythmic patterns and perform tasks (such as serving drinks or putting on makeup) to prescribed *Tempo-rhythms*. As they undertook these exercises, they were instructed to observe the emotions, “given circumstances” and “justifications” that arise from and are associated with these changes in *outer Tempo-rhythm*. This work was initially set up using metronomes which were later removed, at which point actors were encouraged to maintain their own sense of “silent rhythm” or “inner pulse”. Students also performed action sequences akin to musical scores, working over a set number of *beats* to a specific *tempo*. They then went on to perform these sequences in varying *tempos* and *metres* and analyse the experiences these temporal changes produced. Benedetti gives the following example of a movement score for training actors:

Actions (in bars of 4/4). Fix the tempo.

Pick up a book – 2 beats. Open it – 2 beats.

Read a page – 4 beats.

Turn the page – 1 beat, read 3 beats

Stop reading 1 beat, listen – 3 beats (Benedetti, 1998, p.82)

This could be transcribed in musical notation as follows:



Figure 3: Transcription of 'Tempo-rhythm' exercise in musical notation

Exercises such as these, offered performers a way of experiencing the effects that *outer Tempo-rhythm* had on their emotions, while also presenting them with clear mechanisms through which an awareness could be developed of the basic pace (i.e. tempo) of a scene, as well as the timing and intensity of specific actions within a sequence (i.e. rhythm) (Stanislavski, 2008; Benedetti, 1998).

Much of this work demonstrates strong associations with the scientific and cultural theories of rhythm that were prevalent in Stanislavski's time, led by the growing field of rhythm research in experimental psychology and psychophysics (2.1.2). As referred to earlier, Stanislavski's views on the relationship between rhythm and emotion were also strongly influenced by the work of the French psychologist Théodule Ribot (Carnicke, 2008, p.148). These psychophysical theories are clearly demonstrated in Stanislavski's use of rhythm as an emotional "lure", relating directly to Ribot's proposition that the rhythms of sound and movement "...act directly on the organism, and indirectly on the vital functions," (Ribot, 1897, p.104). Ribot also echoed assertions made by Wundt (2.1.5), stating that the "...'transformation' of pleasure into pain, and pain into pleasure, is only the translation into the order of affective psychology of the fundamental rhythm of life" (Ribot, 1897, p.59). Additionally, Stanislavski's views on emotion can be seen as reflecting the growing popularity of Darwin's theories of evolution which promoted a view of emotional expression as being universal in nature (Whyman, 2008, p.264), along with Pavlov's theories of "conditioned reflexes" which informed Stanislavski's understanding of the correlation between *inner* experience and *outer* physical manifestation (Whyman, 2008, p.6).

In these ways, *outer Tempo-rhythm* was seen as a reliable means of accessing a performer's inner experience, with the suggestion that "[t]his outward, physical rhythm will of necessity evoke a corresponding inner rhythm of feeling, sensations" (Stanislavski

and Rumyantsev, 1998, p.100). As such, rather than attempting to directly produce a character's emotional state on stage, the performer could work with the *rhythms* of their physical actions to stimulate or "lure" the desired emotional or imaginative experience, like a baited trap.

As with many aspects of Stanislavski's practice, *Tempo-rhythm* was approached from a number of perspectives. Having established in his students a basic understanding of *outer Tempo-rhythm* through actions and sound, Stanislavski moved on to work with rhythmic phenomena found inside the body.

2.2.3.2 *Inner Tempo-rhythm exercises*

...feelings and thoughts have their own Tempo rhythms
(Benedetti, 1998, p.83).

In these *inner Tempo-rhythm* exercises participants imagined themselves in a variety of "given circumstances"; for example, "...a dark night, on an empty street, you hear footsteps approaching" (Benedetti, 1998, p.83), while at the same time they observed the ways these "circumstances" altered their experience of internal biological rhythms including breathing and heart rates.

While *outer Tempo-rhythm* could be described relatively easily through the pace and rhythms of external movements, the concept of *inner Tempo-rhythm* addressed a less tangible and more enigmatic collection of phenomena. One insight into these aspects is the way Stanislavski linked such phenomena with the concept of *prana*. Described by Stanislavski as a "vital energy" (White, 2006, p.80), this concept was sourced from Hindu philosophy and Yogic practices. Describing rhythmic breathing exercises that he used as a way of "receiving" *prana*, Stanislavski instructed:

...in order to receive more prana, inhale—6 beats of the heart—exhale; 3 beats of the heart—hold the breath. Progress up to 15 beats of the heart (Stanislavski cited in White, 2006, p.83).

Further Stanislavski used *prana* to explain the process of *samoobshchenie* (self-communication), "...a process in which the actor establishes an inner connection between the intellect and the emotions, or physiologically, between the brain and the heart" (White, 2006, p.81). Using *prana* as a link between thought and emotion indicates some

of the ways that Stanislavski tied the imagining/experiencing of a “given circumstance” or “emotional state”, with the physiology of body rhythms (breath, heartbeat, thought patterns) and vice versa, thus connecting *inner* and *outer Tempo-rhythm* as a functional system of actor training.

We can observe here that through his work with *inner Tempo-rhythm*, Stanislavski brought together the rhythmic principles of modernist science, yogic philosophy and actor training into a theoretical and practical framework that allowed participants to encounter their imagination, physiology, and the world around them as a unified rhythmic field. In line with the theories of Wundt and Ribot, here rhythm, emotion and imagination operated within a psychophysical continuum, with *inner* and *outer Tempo-rhythm* seen as intrinsically linked. However, as we can observe in the later period of Stanislavski’s career, such congruent approaches were not always adhered to.

2.2.3.3 ***Contrasting Inner and Outer Tempo-Rhythm***

An outer slow tempo can run concurrently with a quicker inner tempo, or vice versa. The effect of two contrasting tempos running simultaneously on the stage unfailingly makes a strong impression on an audience (Chekhov, [1953] 2002, p.75).

Actor-singer Pavel Rumyantsev commented that while working with Stanislavski to establish a physical score for his actions on stage, the question arose, “...how to relate the rhythm of external movement to the inner rhythm of feeling”. Stanislavski’s response was simply: “They may coincide or not” (Stanislavski and Rumyantsev, 1998, p.312).

The option of contrasting *inner* and *outer* rhythms offered Stanislavski a means of adding complexity to a character and generating further dramatic tensions. Stanislavski explained this concept by suggesting that a character who is resolute and single minded in thought and action should have a single, “dominant” *Tempo-rhythm*, but in the case of a character whose “resolution wrestles with doubt” (the example offered by Stanislavski in this instance was Hamlet), then multiple rhythms must be employed, working side by side and in opposition to one another (Stanislavski, 2008, p.479).

A further example of this can be observed in Stanislavski’s work on the opera *Boris Godunov* (1928). Here Stanislavski instructed the performers that they should combine

the slow rhythms of their external movements and singing with rapid rhythms of inner turmoil. Stanislavski explained:

You sing in quarter notes but inside you are throbbing in eighth notes or sixteenths. Don't interpret this rhythm externally, in terms of gestures. What you must find is the rhythm of your feelings. It is as if you had a metronome inside you. One move is ready to move on into several accelerated ones; whole notes threaten to break up into thirty-second notes. It is only by combining your rapid inner rhythm with your slow external rhythm that you can transform a quiet scene into a tempestuous one. It is a complex job, but if you can achieve this you will always be at ease on stage (Stanislavski and Romyantsev, 1998, p.312).

A performer's realisation of a score such as this required them to have both a high degree of rhythmic understanding and the competence to be able to sustain the complexity of such a task with ease and commitment. How these abilities were developed by these actor-singers is a subject that is unfortunately not given a lot of attention within these texts. The best indication we have of how work with multiple *Tempo-rhythms* was approached, can be found in *Building a character*. Here Kostya is described as going through a process of personal exploration in which he gradually established a line of physical actions with a specific *Tempo-rhythm* and a form of "justification" (i.e. an actor getting dressed to go on stage). Once this became "second nature", he turned his attention to adding another layer at a different *Tempo-rhythm* (pacing nervously across the dressing-room). Having combined these two scores, a third layer was then added (at the same time running over his lines slowly in his head) (Stanislavski, 2008, p.479). Here we witness a gradual process of "additive thinking", in which subtasks are developed, embodied and eventually added to.

In looking to gain further insight into Stanislavski's use of multiple *Tempo-rhythms* a useful point of reference is the work of Swiss music educator and composer, Émile Jaques-Dalcroze, which had a vast impact on theatre and dance practices at the beginning of the twentieth century⁶ (Rogers, 1966; Beacham, 1985; Lee, 2003).

⁶ The potential benefits of eurhythmics to the work of actors was first recognised by Adolphe Appia who suggested that eurhythmics "...accords a natural harmony to the body, which will benefit the purity and flexibility of acting and will give it the sensitivity necessary for any style" (Appia 1911, cited in Beacham, 1985, p.156). Through Appia's influence, the scope of eurhythmics was extended by Dalcroze from an exclusively musical pedagogy to a training applied to the work of actors and dancers, with "...vast implications for theatrical reform" (Beacham, 1985, p.160).

A number of scholars have discussed the role of Dalcroze and his *eurhythmics* training in the development of Stanislavski's practices with varying assertions as to the degree of influence (Rogers, 1966; Lee, 2003; Benedetti, 2004; Whyman, 2008). Benedetti suggests that Dalcroze's system of rhythm exercises, along with those of Isadora Duncan, provided Stanislavski with a base from which he went on to conduct his own research into finding an effective means of training actors in "expressive movement" (Benedetti, 2004, p.68). It has also been suggested that many of the *outer Tempo-rhythm* exercises (as referred to previously) were derived directly from Dalcroze's rhythm exercises, known in English as *eurhythmics* (Rogers, 1966, p.127–30).

As an instructor of music and harmony, Dalcroze originally set out to address what he observed as a disparity in his students between the mental images they had of their own movements and the realisation of these movements through their bodies (Beacham, 1985, p.155). With this objective, he composed movement exercises designed to promote greater muscular and nervous coordination, and sensitivity to rhythm and tempo, working with his students to "...translate musical composition directly into the space through the reactive medium of their own bodies" (Beacham, 1985, p.155).

In addition to the development of a more embodied understanding of rhythmic training, another key influence this work had on contemporary theatre and dance practices was to promote the use of polyrhythm in training and performance. In this regard it has been claimed that the "...movement patterns advocated by Jaques-Dalcroze revolutionized traditional European forms of movement, in that they consciously followed a polyrhythmic structure" (Fischer-Lichte and Riley, 1997, p.7). In accounts given of classes led by Dalcroze in 1912, we can observe some of the ways in which polyrhythm was approached:

...beating the same time with both arms but in canon, beating two different tempi with arms while the feet march to one or the other or perhaps march to yet a third time, e.g., arms and , the feet . There are, also, exercises in the analysis of a given time unit into various fractions simultaneously, e.g. in a bar one arm may beat three to the bar, the other arm two, while the feet march six (Ingham, 1912, p.53).

While this technical account may give the impression of a complex and seemingly

mechanical set of activities, Dalcroze was adamant that this work not be done in a “mechanical way” and highlighted the importance of his students “feeling” these rhythms, encouraging them to work in a relaxed and easeful manner (Ingham, 1912, p.55–6). We see here Dalcroze’s attempts to balance the desire for regularity and efficiency of movement with the cultivation of vitality and expression, a theme that was often emphasised in this work. Dalcroze stated:

The voluntary exercise of the recurrence of the beat assures regularity – and there are times when this regularity is indispensable. But to confine oneself to this form of activity would be to risk depriving one’s character of all spontaneous vital expression (Dalcroze [1921]1967 p.184).

By approaching the layering of rhythms in this supportive and simplified manner, training forms such as these offered performers a means of preparation for the demands placed on them by complex musical scores or psychophysical choreographies such as those given by Stanislavski earlier. While it is not clear exactly which exercises Stanislavski drew from Dalcroze’s work, it is apparent that work on *eurhythmics* exercises played a significant role in the general training practices of the Moscow Art Theatre (MAT). The leading proponent of *eurhythmics* in Russia, Sergei Volkonski taught classes at MAT and the Opera Studio from as early as 1911, and Stanislavski’s brother Vladimir Alekseev ran *eurhythmics* classes later in the 1920s and 30s (Whyman, 2008, p.129).

It has been documented that Stanislavski, along with Copeau and Meyerhold, drew on many aspect of Dalcroze’s work, yet over time, all three of these practitioners came to question the efficacy of applying *eurhythmics* directly within their actor training and performances (Gladkov and Meyerhold, 1998, p.113; Copeau, 1990, p.55; Whyman, 2008, p.134). Copeau, having introduced *eurhythmics* to his company’s training, eventually stopped these sessions feeling that the work was too specialised and idiosyncratic, and at risk of “...dehumanizing the actor” (Gordon, 2006, p.135). Stanislavski also questioned the “mechanical” nature of this work, insisting on the need for inner “justification” and “awareness” within his work with rhythm and movement (Benedetti, 2004, p.68). In this regard, Stanislavski was insistent that even when working on technical *plastique* and rhythm exercises students should work with some form of inner justification or

imaginative association, declaring:

If you are trying to make a beautiful movement in space by using your softly curvaceous arms while your imaginations are fast asleep and you do not even know it, then what you are indulging in is empty form (Stanislavski and Romyantsev, 1998, p.7).

These observations raise a number of important questions regarding the validity and efficacy of rhythmic movement exercises in general. Having established an intrinsic relationship between *inner* and *outer Tempo-rhythm*, there still appears to be a need for an active use of imagination and personal awareness. This suggests that simply moving to a prescribed rhythm was not enough in itself to bring about the qualities of acting that Stanislavski and others were looking for. Further, attempts to regulate the rhythms of the body (in particular breathing) while potentially accessing new emotional states, were also identified as limiting these experiences, with Dalcroze suggesting that “The submission of our breathing to discipline and regularity of time would lead to the suppression of every instinctive emotion and the disorganisation of vital rhythm” (Dalcroze, [1921] 1967, p.184). Many of these themes and questions came to be explored later by Grotowski and other practitioners who took inspiration from Stanislavski and Dalcroze in their use of rhythm in actor training (2.4).

2.2.4 Summary

Beginning with a personal investigation into rhythm in stillness and movement at the outset of his career, through to the final stages of his work on “physical actions” at the Stanislavski Opera Theatre, Stanislavski maintained a view of rhythm as being central to the art of the actor and the making of theatre. Questioning the efficacy of what had become an established approach to acting, he looked for a system that would bring both consistency and vitality to the field of theatrical performance. In rhythm, we can observe that he found a means of achieving both these aspects. This work offered performers a reliable mechanism for approaching emotions and the imagination, through an understanding of their relationship to the physical and visceral rhythms of movement.

While looking for inspiration in experimental psychology, psychophysics, yoga and

eurhythmics, he was also conscious of the need for practical techniques and a simple language that could be applied effectively in the context of actor training and rehearsals. Stanislavski approached this through the use of simple terms such *tempo* and *rhythm*, *inner* and *outer*, combining these with a practical training process that allowed his students to gain an understanding of these concepts through direct experience. From the functional simplicity of this model came the potential for greater levels of complexity in the work of the actor, which began approaching that of a musician or composer. Stanislavski directed his performers to build scores of *inner* and *outer rhythms*, which they could then play upon themselves as if they were their own musical instruments. In exploring the relationships between *inner* and *outer Tempo-rhythm*, Stanislavski's descriptions alternated between *mechanical* descriptions of direct causal triggers, and *organic* and integrated understandings of rhythm as *vital*, individual and immediate. Rather than discrediting or cancelling each other out, these opposing aspects can be seen here as providing Stanislavski with a way of approaching the simultaneous realisation of consistency and spontaneity, which was central to his investigation.

As will be discussed through the course of this thesis, the basic principles that emerged from these practices have come to inform the use of rhythm within many forms of actor training over the course of the last century. Throughout the following sections, the ways in which these ideas and practices have evolved within a range of contexts will be examined, starting with Meyerhold's development of a wider rhythmic vocabulary and new approaches to cultivating qualities of musicality in the work of the actor.

2.3 The Flow of Time

Musicality and Meyerhold

Cannot the body, with its lines and its harmonious movements, sing as clearly as the voice? (Blok, 1906 cited in Meyerhold, 1969, p. 142).

In the work of Vsevolod Meyerhold, musicality was identified as a quality of action and sensibility; a condition applied to and aspired to by the actor. As a director, Meyerhold adopted the language and form of music as a means of structuring his performances and embodying dynamic compositions on stage, his actors working directly with the rhythms of movement and stillness, time and space. In this way Meyerhold saw music as a primary means of communicating meaning to his audience, stating that "...music alone has the power to express fully the world of the soul" (Meyerhold, [1910] 1969, p.83). This attitude to music was indicative of a wider trend within the symbolist movement in which the formal qualities of music were given a prime status amongst the arts, the critic Walter Pater famously stating, "All art constantly aspires to the condition of music" (Pater, [1877] 2010, p.124). Yet more than just a performance aesthetic, music and rhythm played central roles in Meyerhold's training processes, shaping the ways actors used their attention and coordinated their movements, guided by the principles of metre, tempo and rhythm. Meyerhold put forward this idea simply by stating, "The actor needs a background of music in order to train him to pay attention to the flow of time on stage" (Meyerhold cited in Law & Gordon, 1996, p.50). Here music acted as a mechanism through which actors trained their sensibilities and physical coordination.

In looking at the practices and writings of Meyerhold, here I will investigate the ways music and in particular rhythm were used as a means of cultivating qualities of awareness, physical coordination and compositional sensibility, examining the use of rhythm as a means of shaping and organising the actions and attentions of actors within the "flow of time".

2.3.1 Musicality

...you would not be a musician if you knew nothing more than this; though if you did not know this you would know nothing of music (Plato, [360BC] 1871, p.152).

The composer Igor Stravinsky once wrote: “Music is given to us with the sole purpose of establishing an order in things, including, and particularly, the co-ordination between man and time” (Stravinsky, 1936, p.83). In this, we are reminded of music’s ability to affect the way we experience the world around us and ourselves, giving order and body to the movements of time. Other writers have spoken of music as creating a “virtual time” in which “...normal time values” are disrupted (Blacking, 1976, p.27), with suggestions that “...in music, the rhythm and measure suspend the normal flow of our sensations and ideas” (Bergson, 1963, pp.13–14).

If as suggested, music is a way of “ordering”, “disrupting”, and “suspending” time, how do these qualities translate to the work of the actor, and what is meant by the term *musicality* in the context of actor training? Does this simply mean achieving a quality of “musical aptitude” as the term is commonly understood in music education? (Spencer, n.d.) Or for the actor, is musicality as suggested by music theatre specialist David Roesner “...less a case of learning and training, but an act of excavating and ‘liberating’” (Roesner, 2010, p.294). Musicality in this sense could be considered an innate human condition, providing us with a fundamental capacity to make and appreciate music, as well as the ability to shape our perception of time?

Discussing musicality in Meyerhold’s work, Paul Schmidt proposes:

If this notion of musicality makes sense, then it makes sense through the performer’s ability to fill out rhythms of the given moment to the utmost. And if you look at various acting performances, you rarely see that. On the other hand if you look at great musicians performing, you see it. [...] When you watch Yo-Yo Ma play the cello, you watch the physicality of the performance. That is, his physical relationship with his instrument and the way his body moves – that’s all you can see, you can’t see his mind, his training. [...] Impossible to slip even a knife point between the physicality and the music itself (Bates and Schmidt, 1998, p.83).

Schmidt presents musicality here as a quality of movement, taking place without any overt

signs of thought or demonstration of training, a total unification of action and music. He suggests that the work of the actor in this regard is analogous to the relationship between a musician and their instrument. This also reflects the dichotomy of “self-use” set out by Meyerhold; the actor being an “organiser” and the actor’s body being the “material” which is “organised” (Meyerhold, [1922] 1969, p.198; Roach, 1993, p.162) (2.1.6). Yet in Schmidt’s example, it is both the relationship between “artist” and “instrument”, as well as between “physicality” and “music”, that is of concern. The aspiration here is to reduce the gap between these dual aspects, bringing the artist and their instrument, along with physicality and music, into a singular unified experience. We could consider musicality in this sense as a total embodiment of music. Yet where Schmidt emphasises the significance of unification and singularity of sound and motion, for Meyerhold, as will be discussed later, musicality is not only about union but also about separation, contrast, opposition and dissonance.

An alternative view of musicality in the work of the actor is presented by the director Włodzimierz Staniewski. He refers to musicality as a form of *musica vitae* (musical life) and in this way relates it to the concept to the “Pythagorean cosmological view” of music as a form of “natural order”.¹ Staniewski makes a clear distinction between the term music and musicality, stating: “Music is a codified system, which contains, limits and tempers the world of sounds. Through it your way of absorbing and responding is conditioned and oriented” (Staniewski and Hodge, 2004, p.63); whereas in contrast, “musicality” is understood as exceeding these “limits” and existing “...beyond the ‘edges’ of the codified system” that is music. Staniewski elaborates:

...as we say ‘music is a key which opens the heart and soul’ and musicality is a better key. This is because music represents a certain level of abstraction, whereas musicality can be immediately identified as something that sits inside of me, or something that I hear in real life (Staniewski and Hodge, 2004, p.64).

1 Pythagoras defined three categories of music: “*musica instrumentalis*” music made by playing an instrument such as a lyre, “*musica humana*” the unceasing yet silent music made by the human organism, particularly in the resonance between soul and body, and “*musica mundana*” the music of the cosmos (James, 1995, p.31).

As with Staniewski, for Meyerhold musicality was understood as relating to music but at the same time also going beyond its constraints. However, where Staniewski proposes a musicality without codification or limits, it is these structural limits and codes that are of interest to Meyerhold.

One must teach actors to feel time on stage as musicians feel it. A performance organized in a musical way does not mean that music is played in it, or that people sing constantly behind the scenes; it means a performance with a precise rhythmic score, a performance in which *time* is rigorously structured (Meyerhold cited in Pavis, 2003, p.145).

Here musicality (like Stravinsky's definition of music) is used for "establishing order in things", coordinating the bodies of actors, their relationships with each other, and the actor's relationship with time itself. Music, in this way brings a quality of structure and order to time and by extension the actions of an actor.

In analysing the application of this term to the work of the actor, it is useful for us to also look at the ways musicality has come to be used more recently in the fields of sociology, and behavioural psychology. Here musicality has come to be recognised as a fundamental human skill that facilitates "cultural learning," developing our ability to remember and plan in sympathy with others. Stephan Malloch and Colwyn Trevarthen (2008) propose that musicality is a skill "...that makes our appreciation and production of an endless variety of dramatic temporal narratives possible" (Malloch and Trevarthen, 2008, p.4). This includes "narratives" found in music, dance, poetry and ceremony, as well as other forms of social and cultural interaction.

...whether they are universal narratives of a mother and her baby quietly conversing with one another; whether it is the wordless emotional or motivational narrative that sits beneath conversation between two or more adults or between a teacher and a class. In the coordination of practical tasks, a shared, intuitively communicated understanding is necessary for success. It is our common musicality that makes it possible for us to share time meaningfully together (Malloch and Trevarthen, 2008, pp.4-5).

Here, the aspects of communication and coordination are emphasised, over any sense of musical skill or appreciation. Instead, our ability to "share time" with others is seen as underpinned by an "innate intersubjectivity", a capacity to respond sympathetically to the underlying musicality of a conversation, a cultural context, or the "dramatic temporal

narrative” of a performance (Malloch and Trevarthen, 2008, p2). This broader interpretation takes musicality beyond the confines of musical form, making this term applicable to human interactions and the “narratives” that underpin all forms of temporal art (i.e. music, theatre, poetry, and dance). While this “proto-musical” definition may indicate a broader use of the term “musicality” than Meyerhold had in mind, such definitions offer a clear way of considering the nature of musicality within a wider performative or training context. Musicality in this sense is not primarily a set of musical skills or abstract ideas and codes, but rather a means of coordinating the attention, actions and interactions of performers through embodied temporal relationships on stage and in the training studio, a set of ideas that would seem to be sympathetic with Meyerhold’s own objectives.

2.3.2 The Language of Music

Above and beyond the plastic principle, the performing is determined by the time principle, that is, by rhythm and music (Gladkov and Meyerhold, 1998, p.124).

Meyerhold’s rich use of musical analogies, metaphors and terms is not surprising when we consider that he, like Stanislavski, came to theatre from a musical background, and throughout his career worked with some of the great composers of his time², staging numerous Operas and musical productions.³

Trained in his youth as a violinist, Meyerhold considered his musical education to be the basis of his work as a director (Robinson, 1986, p.287), seeing in music a language of “mathematical exactness” to be emulated in the theatre (Meyerhold, 1981, p.154).

This was a sentiment he shared with Stanislavski who compared the precision of musical language with what he considered to be, the “potluck” approach of the actor:

How lucky to have at one’s disposal bars, pauses, a metronome, a tuning fork, harmony, counterpoint, properly worked-out exercises to develop technique, a vocabulary in which to describe artistic concepts, to understand creative problems and experiences. Music has long since recognised the importance of such vocabulary. Music can rely on recognised basic rules

2 Composers who worked with Meyerhold include: Prokofiev, Shostakovich, Asafiev, Gliere, Liadov, Glazunov, Gnesin, and Shebalin (Robinson, 1986, p.287).

3 Meyerhold staged numerous operas including *Tristan and Isolde*, *Boris Godunov*, *Elektra*, *The Nightingale*, *Orpheus and Eurydice*, and *The Queen of Spades*, the last work he undertook, staged while at the Stanislavski Musical Theatre from 1938-39 (Robinson, 1986, p.287).

and not, like us, on pot-luck (Stanislavski cited in Benedetti, 1982, p.37).

From musical terminology, Meyerhold drew a number of key concepts and devices including the *étude* as a training form (Gordon, 2002), and the use of a score or *partitura* rather than a script as the framework for a production (Bates and Schmidt, 1998, p.83). He also appropriated other terms such as *tempo*, *metre*, *rhythm*, *harmony*, *melody*, *legato*, *staccato*, and *luftpause* into the context of acting and directing (Meyerhold, 1981; Gladkov and Meyerhold, 1998; Leach, 1993). Where Stanislavski's use of the term *Tempo-rhythm* had offered a way of discussing and modulating the relationship between a performer's actions and their temporal environment, Meyerhold further developed this rhythmic vocabulary, by adding new terms and techniques through which the flow of an action or a sequence of actions could be shaped.

One example is the term *tormos*, which literally translates as "brake". This refers to "...slowing the action of the machine by offering a resisting counter-force" (Pitches, 2005, p.79), and was used as a way of exerting control over an action as it was performed. In this way, a performer's rhythm was controlled by the use of *tormos*, which could elongate an action or in its extreme bring an action to the point of dynamic stillness.

In relationship to such forms of dynamic stillness Meyerhold introduced a further term, *raccourci* or *rakurz* (translated as switchblade), adopted from the French fine arts (Pavis, 1999, p.164). A collaborator of Meyerhold, the director Sergei Eisenstein described *raccourci* as "...an arrangement for maximum expressiveness, the essentiality of the movement, mechanically made acute" (Eisenstein cited in Law & Gordon, 1996, p.98). These instantaneous moments of dynamic stillness further emphasised the arresting quality of rhythm, "cutting up" an action or sequence while still maintaining a quality of forward motion. Meyerhold proposed: "When you look at a bridge, you seem to see a leap imprinted in metal, that is, a process and not something static" (Gladkov 1998 and Meyerhold, p.124).⁴

4 Meyerhold's *raccourci* has been linked to the Kabuki concept of *mie* (Gordon & Law 1998) and the Chinese theatrical device *lianxiang*, described as a sudden freezing of movement that creates a rhythmical dynamic in stasis (Tian, 2008:79). Strong correlations can also be seen between *raccourci* and Stanislavski's reference to the rhythm of "standing", through which he demonstrates the way an actor can stand in various rhythms (Toporkov, 1998, p.62).

2.3.2.1 Tripartite Rhythm and Temporal Narrative

...music continues to be heard even when it is silent (Meyerhold, [1914] 1969, 149).

Inspired by Taylorism (2.1.6), Meyerhold developed a language and an approach to breaking actions down into precise units and moderating the rhythmic qualities and the levels of *tormos* applied to them. Most notably Meyerhold achieved this by establishing a tripartite system for breaking down and building up sequences of actions and for describing their rhythmic progression.⁵ Here, each action or group of actions could be broken down into three phases, commonly referred to as *otkaz, posil, tochka* or *i, ras, dva* (and, one, two) (Pitches, 2005, p.76).

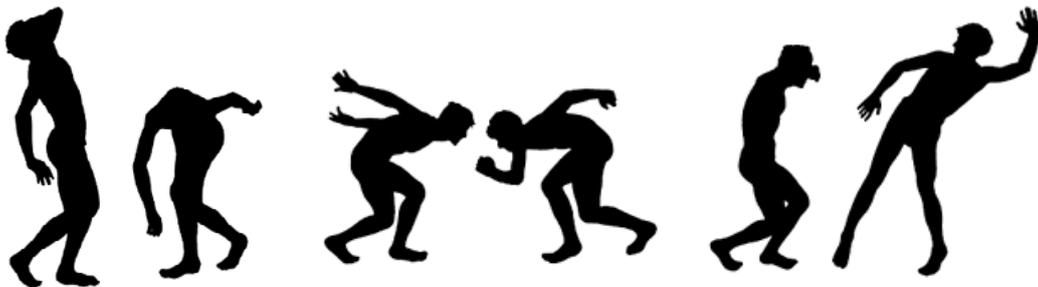


Figure 4: “The slap in the face”: an illustration of a tripartite rhythmic progression (Barba and Savarese, 1991, p.216)

Within this sequencing of actions we can observe a causal relationship whereby each action goes through a rhythmic process of development and realisation (Figure 4). Rhythm in this sense relates to the ways events progress and influence one another over time, a concept that corresponds clearly with those presented by Susan Langer (1.2.1). For Langer, a rhythmic “gesture” is made up of a sequence of “beginning, intent, and consummation”. The “consummation” of one gesture provides the basis for the beginning of the next, just as an exhalation establishes the impetus for the following inhalation. For Langer this is a principle based on the rhythmic motions observed in nature and in the human body. Langer explains this rhythmic concept as follows:

⁵ The structuring of movements through tripartite rhythms is a technique that can also be seen in the work of Meyerhold’s contemporaries including: Dalcroze, Copeau, and Laban (Logie, 1995, p.233) as well as being a concept found in Japanese performance practices of Noh and Kabuki represented by the structure of *jo, ha, kyu* (Quinn, 2005, pp.127–130).

A person who moves rhythmically needs not repeat a single motion exactly. His movements, however, must be complete gestures, so that one can sense a beginning, intent, and consummation, and see in the last stage of one the condition and indeed the rise of another. Rhythm is the setting-up of a new tension by the resolution of the former ones (Langer, 1953, p.128).

Similarly, Meyerhold's rhythm of *otkaz*, *posil*, *tochka*, forms a rhythmic progression, by which each rhythmic phase provides the impetus for the next. Starting with the *otkaz*, often understood as the preparation for an action (i.e. crouching down before jumping, drawing the arm back before throwing a ball), this leads to the *posil*, considered to be "... the physical expression of the intention, the releasing of the energy stored in the *otkaz*" (i.e. the jump or the throw), followed by *tochka*, described as a "rest" (in the musical sense of the word) not as a full stop, but rather a moment of "dynamic fixity" (Pitches, 2005, p.76). Jonathan Pitches further explains:

The *tochka* is already the preparation for the next *otkaz* and thus the next cycle of activity begins. Each action links to the next in a chain of connected movements (Pitches, 2005, p.76).

In this understanding of rhythm we move beyond a concept of rhythm as metronomic beats marking out a given time signature in strict tempo (as observed in the work of Meyerhold's contemporaries: Stanislavski, Ferdinandov, and Kuleshov) and towards a sense of rhythm as a dynamic progression of physical motion, containing a quality of forward momentum and intention. Again we return to the concepts of rhythm as identified in pre-Socratic texts; rhythm here relating more closely to a quality of motion, space and physical form than to a temporal structure of sound (1.2.1).

Relating back to Malloch and Trevarthen's (2008) definition of musicality, we can also observe that through the actor's embodiment and sensitisation to "temporal narratives" (such as the rhythmic progressions of *otkaz*, *posil*, *tochka*), Meyerhold's actors were able to approach greater qualities of "musicality" in their work. Supported and informed by this underlying rhythmic progression, the actions of the performer were seen to become highly coordinated as well as capable of communicating responsively with an audience and/or fellow performers. Such communicative qualities are further illustrated in Gausner and Gabrilovitch's description of Meyerhold's 1926 production of *Bubus, the Teacher*.

We see the *tempo* actor Okhlopkov, who is so far almost unique in this genre. With his segments, his longs and shorts, he performs *in time*. This is how he has built the role of General Berkovetz in *Bubus*, which is completely made up of these alternations. Assembled, they give the impression of feelings: alarm, joy, despair, lust. Mime is only added as auxiliary material.

In the scene where the general is called to the telephone by Van Kamperdaf, the capitalist, the mimed elements are: the work of the face and the hands and the succession of body sketches which would express nothing if they were not sustained by the *tempo*. It is the *tempo* which gives these mimed elements all their meaning (Gausner and Gabrilovitch 1926 cited in Barba and Savarese, 1991, p.90).

Here, as in sociological theories of “communicative musicality” (Malloch and Trevarthen, 2008), it is rhythm and tempo that provide the basis for the communication of meaning and emotion between performer and audience through a shared relationship to an underlying temporal structure.

2.3.2.2 *Metre & Rhythm, Structure & Spontaneity*

...all music is based on rhythm, the task of which is to conceal the regular metrical divisions
(Meyerhold, [1935] 1969, p.283).

While musical metre and tempo offered Meyerhold a means of structuring time, of equal importance to this work was the principle of rhythmic spontaneity, with the opposition of these two principles informing Meyerhold’s applications of metre and rhythm. In accord with the music theory of his time, Meyerhold made a clear distinction between his use of the term “metre” and “rhythm” (2.1.3). In Meyerhold’s writings, we see metre described as a fixed or mechanical form, whereas rhythm is referred to as a “breathing” musical phrase that is both active and alive (Leach, 1993; Gladkov and Meyerhold, 1998). He explained this distinction by making the comparison between a circus performer and an actor, suggesting that where the circus performer must work to a strict metronomic metre, for the actor it is more useful “...to work rhythmically within musical phrases” (Leach, 1993, p.113). Meyerhold further exploited the relationship between rhythm and metre by setting these elements against one another, stating, “Rhythm is what overcomes metre” (Gladkov and Meyerhold, 1998, p.135). This dichotomy also related to Meyerhold’s principles of “self-restriction” and “improvisation”, the balancing of these being central

to Meyerhold's training practices. In reference to this relationship, Meyerhold stated, "The more complex their combination the higher the actor's art" (Gladkov and Meyerhold, 1998, p.160).

In the bringing together of these concepts we return to one of the fundamental oppositional relationships found in actor training, that of *structure* versus *spontaneity*. The use of metre and rhythm as an analogy for this relationship can also be linked to Klages' (1926) categorisation of rhythm and *takt*, whereby rhythm represents that which is spontaneous, organic and natural and *takt* (or in this case metre) is representative of fixed, predictable and mechanical structures (2.1.3). While Meyerhold recognised that both the fixed and the spontaneous were necessary aspects of an actor's "art", he often chose to emphasise the importance of rhythm over metre, demanding vitality in his actors and not simply a mechanical metric precision. This was demonstrated clearly on one occasion when he was quoted as yelling at his pianist "...not metre, but rhythm, rhythm and again rhythm" (Leach, 1993, p.113). Eisenstein further elucidates this relationship:

...the agent of rhythm is not voluntary acts, but that which lies between consciously fixed metrical intervals, that is, natural body movements. The degree of rhythm depends not on the exactness in time of will's impulses, but on the quality of the motor preconditions on which the impulse acts, that is, on what more or less unconsciously transpires between the accents (Law and Gordon, 1996, p.117).

By emphasising the movements that took place in-between the "metric" structures, Meyerhold gave further significance to the spaces and dynamic pauses within an action or sequence of actions, enhancing the qualities of vitality and spontaneity. An example of this can be observed in his use of the musical term *luft-pause*.⁶ For Meyerhold, the role of the *luft-pause* in music and the "sub-text" in acting were strongly linked. As Meyerhold explained:

Contemporary conductors know that music is made up not only of notes but also those almost imperceptible *luft-pauses* between notes. In the theatre, this is called the sub-text, or one might also say, the between text. Stiedry once told me that the poor conductor performs what is indicated in the score, whereas the good one performs what the score offers him for

6 A German musical term meaning: "A pause for breath in wind playing or singing, often indicated by a V-shaped mark above the staff" (Latham, n.d.). This term is also used as a compositional device indicating a suspension in the rhythm of a piece of music similar to the use of a comma in speech.

his free interpretation as an artist. That is, you can play: one, two-three, or also another way: one-two, three. The time segment is the same, but the structure is different: it gives a different rhythm to the meter. Rhythm is what overcomes the meter, what disputes meter. Rhythm is knowing how to leap off the meter and back again. The art of such a conductor allows for rhythmical freedom in a measured segment. The art of the conductor lies in mastering the empty moments between rhythmic beats (Gladkov and Meyerhold, 1998, p.135).

In this way, Meyerhold also avoided a psychological reading of “sub-text” as often attributed to Stanislavski. Instead rhythm is used as a means of communicating the underlying “narrative” which could work in contrast to the metric structure of a play, a scene, an *étude* or an exercise.

2.3.3 Influences

As mentioned earlier, Meyerhold’s pursuit of a greater precision and further embodiment of rhythm can be linked to his own musical background, yet such principles have also been attributed to his exposure to Asian performance practices, most notably *Xiqu* (Chinese Opera) (Tian, 2008). Commenting on the rhythmic virtuosity of Chinese performer, Mei Lanfang, Meyerhold asserted:

We have built all our performances from musicals to drama in such a way that none of our actors was inspired with the necessity of keeping an eye on the time on stage. We do not have a sense of time. Strictly speaking, we do not know the meaning of using time economically (Meyerhold cited in Tian 2008, p.71).

Meyerhold sought to emulate this rhythmic precision in his actors by training them in “...the coordination of the self in time and space”, with the aim of developing “...an absolute feeling for time, and precise calculation” so the actor would be able “...to count in fractions of seconds” (Garin cited in Leach, 1993, p.114). Yet, as the theorist Min Tian (2008) suggests, Meyerhold’s view of rhythm in Mei Lanfang’s performance may reveal more about the influence of Taylorism and Meyerhold’s own “grotesque” and “constructivist” aesthetics, than it does about principles of rhythm in Chinese Opera (Tian, 2008, p.76). We can see in Meyerhold’s descriptions that rhythm is presented as an entirely quantifiable entity, analysed from the perspective of stopwatch precision and

economic efficiency. As Tian points out, Meyerhold's reading of these practices directly contradicted the principles of emotion, spirituality, and the organic experience of natural life that form the basis of rhythm in Chinese Opera (Tian, 2008).⁷

Another key distinction between these approaches was the way Meyerhold separated out the rhythms of movement and music as a means of achieved complexity and dramatic tension. This allowed his actors the possibility of working in rhythmic "counterpoint", creating parallel and contrasting lines of rhythm to those of the music or of other performers (Meyerhold [1914] 1969 p.149).

These progressive approaches to rhythm also reflected Meyerhold's own aspiration to create a "...new theatre [built] from the foundations upwards" (Meyerhold, [1907] 1969, p.45). In 1905 he established a "theatre laboratory" at Stanislavski's Studio at MAT, where he could experiment with new approaches to acting and directing. However, he quickly realised that without significant training his actors struggled to break away from their naturalistic tendencies and adopt new methods. Dramatist Valery Bryusov commented on these difficulties, proposing:

At the point where the skill of the director stopped the usual style of acting commenced, and at once it became clear that the actors were poor, lacked real training, and were incapable of true feeling (Meyerhold, [1907] 1969, p.45).

From these initial "experiments", Meyerhold established a collection of foundational principles that he carried through into his later work. Regarding rhythm, Meyerhold proposed that, where in the past, actors had built their roles on the basis of emotion, in the "new theatre" the actors would "...master first the rhythm of the language and the movement" (Meyerhold [1907] 1969, p.55). And, where in the "old theatre" the rhythms of speech and movement had traditionally followed the same pattern "...in the new theatre speech and plasticity are each subordinated to their own separate rhythms and the two do not necessarily coincide" (Meyerhold [1907] 1969, p.56). Like Stanislavski, Meyerhold increasingly explored the multiplicity of rhythm, constructing complex scores in which simultaneous rhythms both merged and competed with one another. From this initial research, it was clear to Meyerhold

⁷ Additional influences on Meyerhold's use of rhythm and music came from Commedia dell'arte, Music Hall and Melodrama, the work of Stanislavski, Jaques-Dalcroze, Appia, Wagner, Eisenstein, and Maeterlinck (Tian, 1999; Law and Gordon, 1996; Pitches, 2003).

that to achieve these principles he would need to develop new approaches to training actors that provided them with the necessary skills to cope with the demands of working with such complex and contrasting rhythmical devices.

2.3.4 Training to Musical Accompaniment

Just as a pianist, before beginning to study some song, trains himself with exercises, the actor, too, before beginning to study a role must work on the technical training of his material. For that he must put himself in the appropriate psycho-physical condition (Basilov cited in Law & Gordon, 1996, p.159).

In Meyerhold's training practices, we can also observe the important role given to musical accompaniment. Students worked on movement exercises and *études* alongside live or recorded music, with Meyerhold suggesting that through the support of musical rhythm "...the actor's playing acquires precision" (Meyerhold cited in Law & Gordon, 1996, p.50). In each *étude*, music functioned differently, sometimes following and at other times conflicting with the "...natural rhythmic organisation of an *étude*" (Law and Gordon, 1996, p.102). Through piano accompaniment, music established an "emotional tempo" in which body movements could be co-ordinated with melodic phrases, while at other times movements were played against the "spaces" in the music, creating a quality of "counterpoint". The music used in these training sessions varied from Classical and Romantic melodies such as Chopin's *études*, through to vaudeville and folk tunes. In these exercises Meyerhold looked "...to develop in the actor the ability to translate rhythm and tempo into the language of movement" (Law and Gordon, 1996, p.102).

While Meyerhold admired Stanislavski's use of rhythm and took some inspiration from his teachings, his general application of rhythm was distinct in a number ways. Where Stanislavski embraced the pedestrian rhythms of daily life, Meyerhold for the most part rejected these and asserted that the rhythms of the theatre were "...the antithesis of real, everyday life" (Meyerhold, [1910] 1969, p.85). For Meyerhold the rhythm of the stage was intrinsically linked to music, and music was understood as belonging to a realm that was entirely other. In this model actors became vehicles for the embodiment of music on stage, and "...that which before had dwelt only in time was now manifested in space"

(Meyerhold, [1910] 1969, p.85).

In contrast to Stanislavski's practices in which rhythm was used as a tool for accessing and "luring" emotions (Stanislavski, 2008, p.502), Meyerhold avoided such emotive techniques, referring to these as a form of "self-hypnotic narcosis" (Roach, 1993, p.197). Instead, Meyerhold used rhythm as a means of controlling and disciplining the performer's natural temperament, as a means of preventing the actor from being distracted by personal feelings or habits. As Meyerhold explained:

In most cases the art of the naturalistic actor lies in surrendering to the dictates of his temperament. By prescribing a strict tempo, the musical score frees the actor in music drama from the demands of his own temperament (Meyerhold, [1910] 1969, p.85).

Performer Vera Verigina also described Meyerhold's use of "externally imposed rhythm", stating, "It was essential to keep to that rhythm all the time so as not to be seized by personal emotion" (Leach, 1993, p.112).

Rhythm as a means of controlling rather than releasing emotion also correlates with Plato's concept of rhythm as the "ordering of movement" (*kineseos taxis*) (Plato, [360BC] 1934, sec.665A) (1.2.1.2). In this sense, for both Plato and Meyerhold, rhythm was something that could be imposed onto otherwise random and uncoordinated behaviour as a means of controlling and disciplining it. Rhythm in this "top-down" approach offered structure and form to the *flow of time* allowing movements, emotions, and dynamics to be shaped and controlled by the performer rather than the other way around.

In the case of Meyerhold's actor training, music can be seen to play a similar role. Through training with musical accompaniment, Meyerhold observed that actors were able to cultivate a greater ability to "...pay attention to the flow of time on stage". He also indicates here that such use of music can have a lasting impact on their sensibilities in performance, stating that, "If an actor is used to playing with a musical background, then without it he will sense time completely differently" (Meyerhold cited in Law & Gordon, 1996, p.50). Musical accompaniment used in this way offered Meyerhold a valuable mechanism for effectively coordinating both physical movements and the use of

the attention of his actors during training.⁸

While acknowledging the significant contributions made by Dalcroze and Duncan to rhythmic movement training, Meyerhold was also openly critical and dismissive of what he referred to as “balleticism” and “mere prettiness”, rejecting what he saw as an overly simplistic unification of music and movement, lacking in sub-text and vitality (Meyerhold, 1969). Challenging what he saw as an overly simplistic approach to staging and musical interpretation Meyerhold declared:

Down with music and movement in unison, down with those laws of Dalcroze which demand a triplet for every triplet, a fermata for every fermata (Meyerhold, 1969, p.288).

Instead Meyerhold strove for a more complex contrapuntal relationship between movement and musical accompaniment, looking to develop in his actors the capacity to “...weave a rhythmical pattern” through the metre of the music, while not revealing to the audience its “metrical basis” (Meyerhold [1914] 1969 p.149). This capacity was developed through rigorous training processes. In a progression of exercises described by Ernst Garin (one of Meyerhold’s students), he explains that training started with the students working on “elementary movements” performed in simple rhythms, and gradually moved on to more complicated rhythms performed “on a canvas of metre”. This training worked towards the student achieving “free rhythmical movement” with the ultimate goal being “...mastery of free movement according to the laws of unrestricted counterpoint” (Garin cited in Leach, 1993, p.114). Once students had developed their capacity to work with their rhythms independently of these metrical frameworks, they then moved on to coordinating their own rhythms with a partner, or with an object or a prop.

2.3.5 Summary

Meyerhold developed a number of new approaches to training actors through the use of specialised exercises, establishing a vocabulary for the communication and composition

⁸ Similar rhythmic principles have been applied more recently in the clinical treatment of patients suffering from Parkinson’s disease and other neurological disorders. Clinical research in this field has demonstrated that “...rhythm enhances the control of velocity and acceleration by scaling movement time” (Thaut, 2007, p.65). Rhythm structures the experience of time in ways that allow movements to be more effectively controlled and coordinated (Sacks, 2007; Thaut, 2007).

of rhythm in the domain of the actor. Within this context, Meyerhold recognised that music offered a powerful and effective tool providing actors with a means of experiencing and working within what he referred to as the “flow of time”. Further, the use of music offered Meyerhold a means of cultivating a sense of theatrical rhythm in his actors, a temporal and spatial quality that was distinct from that of the “everyday”.

Most significantly, Meyerhold brought to acting practices a rich and complex understanding of the role of music as a training tool. He achieved this by embracing the languages and structures of music and at the same time transcended these with the development of his own rhythmic vocabulary and pedagogical approaches that were based in the physical dynamism of the actor’s body. We can observe that by training his actors through the use of music and rhythm, Meyerhold achieved a quality of freedom and spontaneity that moved beyond the limitations of codified music. Musicality as such became more than actors simply moving to or against the accompaniment of music. Meyerhold’s actors not only embodied music, but through the rhythmicity of their actions themselves, were able to transcend it. What we observe in the work of Meyerhold is a reconsideration of musicality and rhythm not simply as musical terms to be applied to the work of the actor, but rather as core aspects of the actor’s own craft.

In the following section we will examine the ways in which these principles as well as those of Stanislavski were further applied and reconsidered within the work of Jerzy Grotowski, adopting rhythm as a tool for approaching the metaphysical and sacred.

2.4 Scoring the Sacred

A Rhythmic Vision of Grotowski

*The essence of the theatre we are seeking is 'pulse, movement, and rhythm'
(Grotowski 1960, cited in Osiński, 1986, p.50).*

In 1960 while working on the production *Sakuntala*, Jerzy Grotowski wrote the above statement in his rehearsal diary. In undertaking this theatrical search, Grotowski built clearly on the rich foundations that had been laid out by the European practitioners who preceded him, notably the work of Stanislavski, Meyerhold, Dalcroze, and Delsarte. At the same time, he also turned to metaphysical philosophies and mystic practices of Asia, Africa, and the Americas, discovering new understandings, techniques and training mechanisms. Where Stanislavski and Meyerhold's use of musical paradigms and terminologies were for the most part taken from European "Classical" and "Art" Music, Grotowski broadened his scope to a wider range of musical sources including sacred songs and dance forms from India and Haiti. Although the theme of rhythm in Grotowski's work was not always expressed as overtly as by Stanislavski and Meyerhold, rhythm as a central element and principle still persisted as a strong thread woven throughout Grotowski's career and the practices of the many artists and companies that have emerged from his work (Barba, 1965; Grotowski, 1969; Kumiega, 1985; Richards, 1995; Núñez, 1996a; Schechner and Wolford, 2001; Slowiak and Cuesta, 2007; Brook, 2009; Molik and Campo, 2010). In this way, the practices and writings of Jerzy Grotowski offer us a thread through which we can follow the processes of application, adaptations, and synthesis of some of the key principles of rhythm within twentieth century psychophysical actor training. By building on the theatre laboratory practices that preceded them, Grotowski and his company were able to pursue and further these lines of research, extending these practices forward while also reaching back into the past. This section will look at some of the sources of inspiration that have informed Grotowski's understandings and uses of rhythm, and highlight a number of ways that these rhythmic technologies have been adopted, adapted and transformed through Grotowski's practices and writings.

2.4.1 Influences and Sources

*It just so happens that the most startling things are those which have already been
(Flaschen cited in Schechner, 2001, p.399).*

When we look at Grotowski's use of rhythm within the period of his work known as "Theatre of Productions" (1959-1969), what we can initially observe are a number of principles and working practices that follow on clearly from the training practices of the early twentieth century European directors that preceded him. In outlining his own studies and the practices on which he based his early research, Grotowski cited Dullin, Delsarte, Stanislavski, Meyerhold and Vakhtangov as five key influences¹ (Grotowski, 1969, p.16). We can observe the ways in which many of the training practices used by Grotowski and members of the Laboratory Theatre in their early period were based directly on rhythm exercises drawn from these key practitioners along with a significant amount of work drawn from the *eurhythmics* practices developed by Jaques-Dalcroze (2.2.3.3). The body of movement practices that grew out of these influences came to be collectively referred to as *exercices plastiques*. These exercises provided the basis for the actor training of the Laboratory Theatre as well as being an area of investigation in the later period of Grotowski's research at the "Workcentre" in Pontedera (Schechner, 2001, p.447; Schechner and Hoffman, 2001, p.45; Grotowski, 1969).

Grotowski encountered these rhythm practices through a number of sources, one being a student of Charles Dullin, actor Jean Vilar whom Grotowski met in France in 1957 (Kumiega, 1985, p.6). We see this influence referred to directly in *Towards a poor theatre* where Grotowski wrote of the importance of "Dullin's rhythm exercises" in the early development of his work with the Laboratory Theatre (Grotowski, 1969, p.16). The rhythm exercises taught by Dullin included the use of "rhythmic gymnastics" as well as movement improvisations that grew out of imaginative visualisation processes. In this latter work, students visualised various environments, internal imaginative or emotional states and used these to inspire their movements. Dullin instructed his students as follows:

¹ Common to these five practitioners is the development of approaches to rhythm in actor training.

You see a fountain, you approach it; the water reflects your image, you want to capture this image, the water runs through your fingers. The sun appears and dazzles you. The blood which circulates in your veins, the life that you feel within you forces you to violent physical reactions; you tear yourself from the ground and you improvise a dance (Dullin, 1946 cited in Deák, 1977, p.348).

And in another example:

Walk with a feeling of deep inner joy. Stop. Sit down. Go off again. (Change of attitude should not disturb the rhythm.) Walk under the influence of a feeling of sadness. Stop. Sit down. Go off again (Dullin, 1946 cited in Deák, 1977, p.348).

The aim of these exercises was to build in the actor a "...greater awareness of rhythm and plasticity" (Deák, 1977, p.348). As with Stanislavski (2.2.3), Dullin worked with his students to cultivate a richer capacity of imagination as well as disciplined physical ability, exploring the development of rhythm from inner experience to outward physical expression and vice versa (Deák, 1977, p.348).

As a student of Jacques Copeau and a member of his company, Vieux Colombier, Dullin was instructed in Dalcroze's *eurhythmics* training (Lee, 2003, p.121). Although Copeau eventually discontinued the use of eurhythmics in his training sessions, Dalcroze and Appia's ideas had a strong influence on his use of rhythm and their impact can be seen in many of the rhythm exercises later used by Dullin and his associates in France including: Louis Jouvet, Etienne Decroux, Jean Louis Barrault, Antonin Artaud and Jean Vilar. One objection Copeau had to the use of *eurhythmics* was that it was predicated on a conditioned response to external music, and as such did not allow the improviser to work from an internal musical impulse (Copeau, 2000, p.114). This focus on a musicality that springs from internal experience, personal associations and the use of imagination can be seen clearly in descriptions of Dullin's rhythm exercises, and as we will see, is also a theme that can be traced throughout Grotowski's own work.

Another important line of influence on Grotowski's use of rhythm can be traced back to the theories of the nineteenth century French actor trainer, François Delsarte (2.1.3 & 2.1.4). Echoes of Delsarte's formalist and spiritualist principles can be found throughout Grotowski's work, as can many of his training exercises. Zbigniew

Osiński (2009) indicates that an important reference point for the early training exercises used by Grotowski and the Laboratory Theatre, is a text book by Sergei Volkonski (2.2.3), *Vyrazitel'nyj celovek: sceniceskoe vospitanie žesta (po Del'sartu)* (*Expressive man: shaping stage gesture (following Delsarte)*) (Volkonski, 1912).² Translated into Polish by the actor Mieczysław Szpakiewicz³ (member of the Reduta Theatre Company). this instructional text shaped many of the training practices use by the “Laboratory” early on in their research (Osiński, 2009, p.47).

In his introduction to *Expressive man*, Volkonski proposed that his book be used as a practical guide for working on rhythm and movement through a system of “semiotics”. Volkonski explained his concept by stating:

Art is the knowledge of those external methods by which life, the soul and the mind are opened up for the person – the ability to possess them and to direct them freely. Art is finding a sign corresponding to the essence (Volkonski, 1913, p.1 cited in Whyman, 2008, p.125).

The application of such principles can be seen clearly within Grotowski’s writings, with examples of this found throughout *Towards a poor theatre*. Here he writes:

We find that artificial composition not only does not limit the spiritual but actually leads to it. (The tropistic tension between the inner process and the form strengthens both. The form is like a baited trap, to which the spiritual process responds spontaneously and against which it struggles.) The forms of common ‘natural’ behaviour obscure the truth; we compose a role as a system of signs which demonstrate what is behind the mask of common vision [...] A *sign*, not a common gesture, is the elementary integer of expression for us (Grotowski, 1969, p.17).

Grotowski’s reference here to “form” behaving like a “baited trap” also shows correlations with Stanislavski’s use of rhythm as an emotional “lure” (2.2.2.1). In addition, Grotowski’s comments on “common ‘natural’ behaviour” obscuring the “truth” are close to Meyerhold’s argument against the use of “everyday” rhythms in performance (2.3.4). The further influences of Meyerhold and Stanislavski’s rhythm training can also be observed clearly in the rhythm exercises adopted by the Laboratory Theatre between

2 This (1912) text is cited a number of times by Stanislavski and Vakhtangov, who both drew on Volkonski’s rhythm and voice work in their own practices (Malaev-Babel, 2011; Stanislavski, 2008; Stanislavski and Romyantsev, 1998).

3 Translated as: *Człowiek wyrazisty: sceniczne wychowanie gestu: (według Delsarte’a)* (Volkonskii, 1920).

1959 and 1962. These exercises were first documented by Eugenio Barba during his time with the company (Barba, 1965, pp.129–137).⁴

In Barba’s writings, we find descriptions of participants undertaking fixed acting scores based on temporal structures of rhythmic musical notation and metre. Barba suggests that primarily these exercises were intended to “...develop the actor’s awareness of rhythm, gesture and movement” (Barba, 1965, p.134). He also specifies that these exercises were not intended for bringing about any profound changes in consciousness or trance states, but rather had the primary role of revealing to the actor any “tendencies towards distraction” (Barba, 1965, p.131).

The main example given in this text is a score based on the action of lighting a cigarette, the first stage being the actor reducing this action down to its composite parts:

- 1) I want to light a cigarette: thinking, then stillness
- 2) I look to where the cigarettes are
- 3) I reach out my hand
- 4) I take the packet by lifting it up
- 5) I bring the packet up towards myself
- 6) I choose a cigarette...[etc.] (Barba, 1965, p.132)

Having established a “kinetic” sequence (made up of twenty actions) the participant then explores these actions in relationship to a rhythmic score based on “standard notation”,⁵ starting with a simple structure in which each crochet note represents a single action from the sequence:



Later the actor moves onto more complex patterns containing long and short durations

4 A published account of rhythmic exercises undertaken by the Laboratory Theatre was written by Eugenio Barba and accompanied other descriptions of training exercises observed between 1959 and 1962. This was originally published in the Italian text *Alla ricerca del teatro perduto: una proposta dell'avanguardia polacca (In search of a lost theatre)* (Barba, 1965, pp.129-137). While many of these descriptions went on to be published in *Towards a poor theatre* (Grotowski, 1969) these accounts of rhythm exercises were edited out of this later publication and remain available only in this original Italian text and a Hungarian translation (Ruffini, 2009, p.96). Translations have been made here by the author with the assistance of Oliviero Papi.

5 The illustrations that follow are reproduced from Barba’s (1965) text. Curiously, the way that Barba groups these beats does not follow standard musical principles whereby bar lines indicate a fixed number of music beats. Here Barba divides his notes into groups of four regardless of their durational values.

made up of crochets and minims such as:

Or:

Or with quavers, crochets and minims:

Figure 5: Scored notation of physical actions (Barba, 1965, pp.32-3)

In line with the arguments of Stanislavski and Volkonski (Whyman, 2008, p.126), Barba states here that the actor must always find a “logical justification” for these changes in rhythm, and offers the following as an example:

...a man thinking feverishly makes fast and frantic gestures. Suddenly he finds the solution to the problem that plagued him; slows down his movements and then speeds up again (Barba, 1965, p.133).

Indicating the further significance of this work to the practices being developed by Grotowski at this time, Barba concludes his chapter by explaining:

What we have described is but one of many such studies of rhythm. These can guide you to synchronize the rhythm of physical actions with the rhythm of the body: timing of the rhythm of the words and movements of the heartbeat, or even the rhythm of breathing with movements and words (Barba, 1965, p.134).

These practices outlined by Barba are almost identical to a number of exercises found throughout the work of Stanislavski and Meyerhold in which participants broke down movements into sequences and performed these through the structures of musical rhythm, working with and without accompaniment (2.3.4) (Pitches, 2005, p.62).

From these and other materials the Laboratory Theatre experimented to develop their own practices and understandings of rhythm, gradually moving beyond what Grotowski

described as “stereotyped” movements. In time, their work became more individualised through the growing use of personal associations and by focusing more on the relational aspects of these practices. Through these processes, exercises that started as “purely physical”, described by Grotowski as “...beautiful gestures with the emotions of a fairy dance” (Schechner and Hoffman, 2001, p.45), evolved over time into dynamic sequences.

These exercises came to be used as a means of researching the ways an actor could “...conserve the objective elements” such as movement forms or musical structures “...and still go beyond them toward a purely subjective work” (Schechner and Hoffman, 2001, p.45). What is important here is the dynamic relationship identified by Grotowski between the artificial, structural and objective on one side, and the organic, spontaneous and subjective on the other; a theme that once again brings us back to the oppositional paradigms discussed previously in the work of Stanislavski and Meyerhold.

2.4.2 Principles

In order to clarify the nature of these oppositional paradigms and the mechanisms underpinning Grotowski’s use of rhythm within these practices, I will briefly discuss a few of the key principles operating within these practices, namely: *conjunctio oppositorum*, *total act*, *yantra*, and *verticality*.

2.4.2.1 *Conjunctio Oppositorum*

Spontaneity and discipline are the basic aspects of an actor’s work and they require a methodical key (Grotowski, 1969, p.217).

This principle has been defined as “...the necessity of bringing together opposite forces in order to create a unified whole” (Lavy, 2005, p.177). The balancing and synthesis of oppositional aspects can be observed throughout Grotowski’s work. This principle seen most clearly in the relationship between structure and spontaneity. One of the ways these principles are best illustrated is through the use of analogy. Grotowski describes the structure of a performance as being “two banks of a river”, and the “water flowing between those banks” representing the process of the actor (Grotowski cited in Schechner,

1988, p.52; Richards, 1995, p.21). In another example, such dichotomies can be found in the simile of a flame and a “candleglass”, described by the actor Ryszard Cieślak:

The score is like the glass inside which the candle is burning. The glass is solid, it is there, you can depend on it. It contains and guides the flame. But it is not the flame. The flame is my inner process each night. The flame is what illuminates the score, what the spectators see through the score. The flame is alive. Just as the flame in the candleglass moves, flutters, rises, falls, almost goes out, suddenly glows brightly, responds to each breath of wind - so my inner life varies from night to night, from moment to moment” (Cieślak 1970 cited in Schechner 1988, p.51).

It is mutual dependency rather than exclusivity that is integral to both these analogies, with each aspect seen to complement the other, and the relationship between the two forming a third aspect (the living score). In such descriptions, we encounter the dynamic potential that can emerge from the relationship of opposites, between form and vitality, in the tension between stability and flux, in the meeting of objective and subjective states.

It has also been suggested that Grotowski’s use of the principle *conjunctio oppositorum* is linked to the theories of quantum physics that were gaining recognition at this time (Lavy, 2005, p.177). In the discovery of the principle of *wave-particle duality*, Western science was confronted with the fact that an electron could simultaneously exist as both a particle and wave, a concept that challenged the fundamental logic of classical physics whereby such states were seen to be mutually exclusive and contradictory. These new theories bridged a gap between Western science and philosophy thereby generating a new conceptual framework that supported the coexistence of mutually contradictory states (Lavy, 2005; Nicolescu, 2008). Grotowski pursued these oppositional principles through explorations in actor training, and described these processes in his work with *exercices plastiques*:

The first essential point is how to fix a certain quantity of details and make them precise. Then how to rediscover the impulses, personal to us, which may be embodied in these details; to be embodied - that is to change them. Change them but not to the point of destroying them. How at the beginning to improvise solely the order of the details, improvise the rhythm of the fixed details and then change the order and the rhythm and even the composition of the details, not in a premeditated way but in the sense of a flow dictated by our own body. How to discover that ‘spontaneous’ line of the body which is incarnate in the details, which encircles them, which surpasses them but which, at the same time, preserves their precision. This is impossible if the

details are ‘gestural’, that is if they involve the hand and legs and are not rooted in the totality of the body (Grotowski cited in Kumiega, 1985, p.119).

In this description, we can observe the oppositional dialogue between the precision of fixed form and the spontaneity of improvisation shifting from a formal musical relationship marked by beats and metres (as seen in Meyerhold’s writings), to one that is fluid, intuitive and corporeal in nature. In this regard Grotowski insisted on all actions and rhythms coming from the “line of the body” rather than the intellect or analytical thoughts. Here we also see a shift away from the “premeditated” rhythmic structures and gestural forms set out in his earlier work, moving towards an increasingly embodied, spontaneous relationship to rhythm. While Grotowski’s emphasis on the corporal nature of rhythm was in keeping with the views of many of his predecessors, his research into the embodiment of physical actions found a greater level of depth and sophistication than had been previously realised within this field. Where Dalcroze and Stanislavski had approached rhythm kinaesthetically through the repetition and structuring of movements such as walking, breathing and clapping, Grotowski went further, relinquishing intellectual control and insisting that rhythm be subordinate to the dictates of the body’s own impulses.

As Grotowski explained:

If you begin to utilise precise details in the *exercices plastiques* and you tell yourself: now I must change the rhythm, now I must change the order of the details etc.... the ‘body memory’ will not be liberated, precisely because you are giving yourself commands. But if you preserve the precision of the details and let the body dictate different rhythms, all the time changing the rhythm and the order, taking another detail as if out of the air, at that moment who gives the command? It is not thought, but neither is it chance, it is related to our life. We do not even know how, but it is the ‘body memory’ which is in command, related to certain experiences and certain cycles of experience in our life (Grotowski cited in Kumiega, 1985, p.120).

Again, Grotowski highlights the primacy of bodily rhythm over a system of rational decision making, at the same time insisting that this is not a case of giving over to chance. Instead it is suggested that this rhythmic flow related to a “body memory” based on the lived experience of “cycles”. Here we can see a further development away from the “logical justification” presented in Barba’s (1965) text, where rhythm was informed by psychological imperatives: “thinking feverishly” “finding a solution”. However, in

this later work we encounter rhythm as “justified”, not through thoughts, but through its integration within a living body. Having surrendered conscious control of rhythm, Grotowski raises the question “...at that moment who gives the command?” These rhythms are not guided by logic, nor are they completely random, instead they appear to emerge from the body’s “memory” an innate rhythmical impulse.

To approach an understanding of these relationships to rhythm and movement it will be useful to look now at another closely related principle, that of the *total act*.

2.4.2.2 *Total Act*

This human phenomenon, the actor, whom you have before you, has transcended the state of division or duality. This is no longer acting, and this is why it is an act [...]. This is the phenomenon of total action (Grotowski cited in Osiński, 1986, p.86).

The principle of the *total act* proposes that any sense of “acting” or “duality” is transcended through the “totality” of the individual’s actions grounded in the present moment. Unified in this way, the individual’s thoughts and actions take on a new quality, free of resistance, transparent and entirely open to the other. Here again, Grotowski refers to a bringing together of opposites as well as a loss of agency taking place in the meeting between the individual and the “other”.

We are not taking possession of it, but it takes possession of us, and then all our being quivers and vibrates. We are a living stream, a river of reactions, a torrent of impulses, which embraces our senses and the entire body (Grotowski and Taborski, 1973, p.120).

The references we find here to the themes of totality, unity, transparency, and ecstasy, take their inspiration from Jewish philosopher Martin Buber (Schechner, 2001, p.484; Lavy, 2005, p.180). In Buber’s text *Ich und du (I and thou)* he proposed that life finds meaning through our authentic encounters with the world, and in the relationships that exist between us, stating, “All real living is meeting” (Buber, [1923] 2004, p.17). Such “meeting” constitutes a union between the self and the other, seen as a pure relationship without distinction or bounds (Buber, 2004, p.85).

Buber and Grotowski both highlight the significance of the relationship with the “other” within their writings, but they also each propose that the individual must first turn

inwards to encounter the self before encountering the world as a whole. In Grotowski's principle of the *total act* there is the suggestion that work begins with the task of achieving a unity within an individual's own action. Having achieved this, the actor is then capable of transcending their individuality and meeting the other. Grotowski describes this as "self penetration", whereby the self is revealed to the other not through the act of outward expression but, as with a "surgeon's scalpel", by removing the blockages and "masks" that obscure this unification at the core of the individual (Grotowski, 1969, pp.22–29). Buber writes of a similar process, suggesting that there are two forms of unity: the unity of the individual, and the unified encounter between an individual and the world, forming an undifferentiated totality. As such, Buber suggested that the human being is only capable of realising this latter form of unity once they themselves are "[c]oncentrated in unity" (Buber, 2004, p.68). This "...most inward of all experiences" paradoxically is what brings the individual into ecstasy, whereby one is seen to transcend or exist outside of the self (Buber, 1996, p.2).

The relationship between these two aspects, (the self and the other) will be explored in more detail throughout chapter three of this thesis, with specific attention given to the concept of ecstasy (3.3). To gain further insight into the role that rhythm played within Grotowski's later work it will be useful for us to turn now to the influence of Hindu philosophy and the ways this came to inspire Grotowski's use of sacred dance and song forms.

2.4.2.3 *Yantra*

...something as precise as a surgeon's scalpel, which at the same time can connect you with the laws of the universe, of nature, as an instrument for astronomical observation (Grotowski, 1987, p.37).

As well as looking to Europe and Russia for inspiration, Grotowski, like Meyerhold and Stanislavski, also turned to Asia, and in particular India. This inspiration is clearly noted in diary entries written during the rehearsal process of *Sakuntala* in 1960. Here Grotowski wrote:

The mythological patron of the old Indian theatre was Shiva, the Cosmic

Dancer, who, dancing, “gives birth” to all that is and who “shatters” all that: and who “dances the *“whole.”*...

If I had to define our theatrical quest in one sentence, with one term, I would refer to the myth about the dance of Shiva. I would say: “We are playing at being Shiva. We are acting out Shiva.”...

This is a dance of form, the pulsation of form, the fluid diffusion of multiplicity of theatrical conventions, styles, acting traditions. It is the construction of opposites: intellectual play in spontaneity, seriousness in the grotesque, derision in pain. This is the dance of form which shatters all theatrical illusion, all “verisimilitude to life.”...

The ancient Indian theatre, as the ancient Japanese and Greek theatres, was not a “presentation” of reality (that is a construction of illusions), but rather a dancing of reality (a false construction something on the order of a “rhythmic vision” that refers to reality)...

We do not demonstrate action to the view; we invite him...to take part in the “shamanism” in which the living, immediate presence of the viewer is part of the play acting (Osiński, 1986, pp.49).

Grotowski concluded these remarks with a quote from the Hindu mythological text *Shiva-Gita*:

Shiva says . . . I am without name, without form, and without action. . .
. I am pulse, movement, rhythm. (Shiva-Gita)

The essence of the theatre we are seeking is ‘pulse, rhythm and movement’ (Grotowski cited in Osiński, 1986, pp.49–50).

In these statements, we again encounter echoes of Volkonski’s essentialist theory of “semiotics”, yet here we see Grotowski’s views underpinned by a Hindu understanding of a rhythmic universe. Central to this “world-view” is the concept of “unity in diversity” (Khanna, 1981, p.9) described by Grotowski as a dance that “shatters” the “whole”. These cosmological and metaphysical themes are woven throughout Grotowski’s work, observed above during the “Theatre of Productions” period and notable within many aspects of his other work on “Theatre of Sources”, “Objective Drama” and “Art as Vehicle”.

Tracing the influences of Eastern practices in Grotowski’s work, we can see that although early in his career he drew on symbolism and physical forms from India, over time this inspiration became more philosophical than practical (Wolford, 1996, p.24). Grotowski identified strongly with the ethical commitment found in these practices,

referring to this as the “morality of work”(Grotowski, 1973, p.132). “Work” in this sense is not done simply for “duty” or “advantage”, but as a way “to encounter life” (Grotowski, 1973, p.132). Here he emphasises the significance of the relationship a participant has to his or her actions, over the specific actions themselves.

In Grotowski’s (1987) article ‘*Tu es le fils de quelqu’un*’ (‘You Are Someone’s Son’), he drew on the Hindu concept of *yantra* in reference to his research with sacred songs and dances during his work on Objective Drama. Referencing the original meaning of *yantra* in Sanskrit as “a very fine instrument”, Grotowski interpreted the role of *yantra* in his work as follows:

These are instruments which are the result of long studies. You not only need to know how to construct them, as with certain types of dance and singing which have a certain objective effect on you, but you also need to know how to use them in order to avoid committing stupidities and to reach a totality, a fullness (Grotowski, 1987, p.37). The word *yantra* comes from the root word *yam* in Sanskrit, which means “...to sustain, hold or support the energy inherent in a particular element, object or concept”, a term originally used to describe an instrument or machine which is “...harnessed to aid an enterprise” (Khanna, 1981, p.11).

In the Hindu tradition *yantra* are also seen as “instruments” for personal transformation or as “mystical tools”. These most often take the form of “archetypal” geometric designs, described as “patterns of force”. These forms can be temporal as well as spatial and are strongly linked with the acts of chanting mantra syllables and many corporal forms used in yoga (Khanna, 1981). By meditating upon these forms, the individual is seen as having access to specific energetic states associated with spiritual deities and elemental aspects.

Figure 6: Yantra of the goddess Chāmundā, inscribed with sacred syllables (Khanna, 1981, p.45)

In the context of Grotowski's practices, we can consider the usage of *yantra* as a metaphor for a type of psychophysical technology (in the form of a song or dance) through which the participant is able to encounter primary or archaic aspects of existence. Grotowski's application of the term *yantra*, offers us a way of conceptualising the technical elements of rhythm in actor training: a precise tool, capable of allegorically cutting into the flesh as a "scalpel", revealing that which is archaic within the performer, and as an astronomical instrument connecting the performer to the "laws of the universe" (Grotowski, 1987, p.37). These tools are not simply arbitrary elements or random patterns selected by chance, but are precise forms that have been developed through specific uses of attention and intention over extended periods of time. In Grotowski's work the application of such tools required both competent handling, and the necessity of sustained attentiveness to their effective usage.

An example of these principles is given by Grotowski in his description of a Haitian "reptile" dance known as *yanvalou*, which participants worked with during Objective Drama:

...there are precise steps - a tempo-rhythm - involving waves of the body, and not only of the backbone. If this is done with the songs which are, to be precise, those of the snake-divinity Dambhala, the manner of singing and of emitting the vibrations of the songs helps the movement of the body (Grotowski, 1987, p.35).

In his descriptions, Grotowski makes it clear that this work must begin from a place of technical detail and artistic competence. Before encountering the "archaic" aspects of this work, the participant must first achieve the technical ability to "...dance and sing in an organic and structured manner" (Grotowski, 1987, p.35). This requires a "technical competence" and an embodied understanding of fundamental principles including appropriate understanding of stepping patterns and the use of specific vibratory qualities in singing.

It is only once these aspects have been "resolved", that the participant can approach the more intuitive aspects of the work, and "...begin to work on what rhythm really is",

which Grotowski describes as “...the waves of the old body in the new [actual]⁶ body” (Grotowski, 1987, p.36). As with Stanislavski’s reference to the “real meaning” of rhythm (2.2.1), Grotowski aspires here to a “real” understanding of rhythm, not one based on ideas but rather in the motions of the “old body”. Grotowski’s reference to “old body” relates to what he identifies as an ancient aspect found within each individual, both in terms of the evolutionary physiology of their nervous system, and in the sense of a “primary energy”, an intuitive and instinctual mode of being. At times, Grotowski also refers to this as the “reptilian brain”, “reptile body” or the “animal aspect” (Grotowski, 1987, p.35).

Through this process participants shift their focus from work on “aesthetic technique” to a surrendering of control to the “body’s animal aspect”. Here this is referred to as the moment when “...we lose our real control over ourselves” (Grotowski, 1987, p.36). Yet even in approaching such potential states of abandon, Grotowski insisted on a quality of vigilant watchfulness, stating “...we must hold on to our quality of man”. In relation to the “animal aspect”, “man” (*człowiek*) here referred to “something that watches” (Grotowski, 1987, p.36) and is defined as a quality “linked to the vertical axis, ‘to stand’”. In this way, Grotowski polarises these aspects, maintaining a quality of balance between the instinctual elements of surrender (animal) and the technical structures that are maintained through vigilant attention (man). Here the principle of *conjunctio oppositorum* is applied once more, but in this case rather than relating to a dialogue between a fixed score and spontaneity, it is applied to the co-existence of opposing aspects of a psychophysical organism.

These developments in theory and practice also reflected a wider paradigm shift, moving away from the actor as presenter of signs, towards a context where the actor’s own experience of “doing” and achieving personal transformation (through elements including rhythm) became increasingly central to the work.

2.4.2.4 *Verticality*

...for this ladder to function, every rung must be well made
(Grotowski, 1995, p.126).

⁶ In a revised translation Grotowski uses the phrase “the waves of “old body” in the actual body” (Grotowski, 2001, p.299) instead of “...in the new body” (Grotowski, 1987, p.36).

Grotowski described the distinction between a theatrical performance and a sacred ritual as defined by the location of the “montage”, suggesting that in the former, the “montage” is located in the audience, whereas in ritual it is the actor, or rather the “doer” that is the seat of this experience (Brook, 2009, p.90).

In observing the shift away from performance and towards ritual in Grotowski’s later work, we can also observe the role of rhythm changing from being primarily a signifier or “code” to be read by the audience, to becoming a “tool” of personal transformation and “self penetration”. The ethnomusicologist Blacking illustrates a similar distinction when he states:

There is a difference between music that is occasional and music that enhances human consciousness, music that is simply for having and music that is for being (Blacking, 1976, p.50).

While rhythm in this context can still be understood as a “sign”, it is not an expressive “sign” directed out towards an audience, but rather a penetrating “sign” directed towards the “doer”. Thomas Richards describes this phenomenon at play in his work with Grotowski on Afro-Caribbean songs:

...these songs really are tools, or rather can be tools for the human being to work on himself. They can become tools that help the organism in a process of what can be called a transformation of energy (Richards, 2008, p.6).

In discussing this concept, Richards makes a distinction between a qualitative transformation of energy (i.e. from coarse to subtle) and a quantitative transformation (i.e. becoming more or less energetic) (Allain, 2009, p.228), insisting that in this work the emphasis lay on the former. Through the use of song the “doer” searched for a “passage” from a coarse “everyday” level of energy located “in the density of the body”, through to “...a level of *energy much more subtle*”⁷(Grotowski, 1997, pp.88–89). Grotowski offers the following analogy as a way of describing this transformation:

...a kind of elevator as in ancient times [...]: a big basket with a rope by means of which the person who is inside, by his own effort, has to move himself from one level to another (Grotowski, 1997, p.88).

⁷ Correlations can be found between this principles and the theories put forward by quantum physics, which propose that finer forms of matter (quantum matter) are capable of penetrating coarser forms of matter (macrophysical mater), while the opposite is not true (Nicolescu, 2002, p.52).

Grotowski insisted that this work was not only about the ascension of energy but also was a mechanism through which this energy could "...descend and re-enter into the density of the body, into the density of life as life is" (Grotowski in Allain, 2009, p.228). This concept of energetic transformation from coarse to subtle and the integration of subtle energy back into the density of the body is referred to in this work as *verticality* (Grotowski, 1997, p.88). The further significance of *verticality* and its relationship to rhythm will be discussed in more detail in the following chapters.

2.4.3 Summary

In Grotowski's writings and practices we see rhythm presented as an organic force which actors worked with, searching for a quality of vitality or connection that could bring their actions to life. Here rhythm and action took on a complex symbiotic relationship with the flow of rhythm existing as a living energy arising from within an action while also carrying it along. Such understandings of rhythm transcended any fixed ideas or formal structures. Rather, what commands this rhythmicity is linked to a "bodily" or "archaic" understanding of rhythm that emerges from our contact with the other and our encounters with the physicality of bodily cycles and momentum. Here the training of the actor involves work that focuses on cultivating sensitivity to these elements, and a rigorous attitude towards "aesthetic technique", through which specific conditions can be achieved.

The use of rhythm, described here as a *tool for energetic transformation*, is one of the key aspects that distinguishes the work of Grotowski from that of Stanislavski and Meyerhold. In Stanislavski's practices, rhythm was used predominantly as a tool for altering the internal state of the actor regarding emotions and energetic intensity, while with Meyerhold rhythm was applied as a compositional tool for encountering the "flow of time", allowing actors to shape the musicality of their actions. In Grotowski's work we see rhythm evolving into a subtle and precise tool for the transformation of energy. As with Meyerhold, Grotowski approached the rhythm of the actor as something beyond the "everyday" (1.2). However, more than a distinction of aesthetics, for Grotowski this shift

involved a change in quality of energy at a fundamental level. This is not an escape from concrete reality, but rather a means of transforming it; beginning from an understanding of rhythm as the embodied experience of “cycles” as observed in the *exercices plastiques* and returning to a level of energy found in the density of the body, in the work of “Art as Vehicle”.

Once again we can observe, that like Stanislavski and Meyerhold the relationship between spontaneity and formality continues to operate as a fundamental principle in working with rhythm in actor training. Building on these principles, the work of Grotowski raises a number of questions regarding the relationship between intuition and conscious thought. The participant is seen as working between a state of surrender (letting go) and of control (precision). This work also raises questions regarding the use of traditional and sacred forms within actor training (these themes will be further examined in chapter 3.3).

What is common to all three of the directors discussed in this chapter is their use of external rhythm as a means of affecting and coordinating psychophysical rhythms. This can be seen in the use of environmental rhythms (i.e. musical accompaniment, metronomes, environmental tempo), or through the rhythmic motions of their limbs (i.e. *outer Tempo-rhythm*, physical movement scores). Where Stanislavski used these mechanisms as a way of stimulating and luring emotions, and also engaging with the rhythms of “daily” life, Meyerhold applied the same mechanism to controlling and disciplining an actor’s emotions, and engaging with compositional rhythms outside the realms of “daily” experience. While for Grotowski, these mechanisms became a means of accessing archaic or heightened energetic states.

How and why the rhythms of the body should be so directly affected by external stimuli such as music, environmental rhythms, and physical motion, was a question that intrigued many in the field of experimental psychology and psychophysics at the turn of the century (2.1.2). Analogies for this process ranged from mechanical concepts of causal “triggers”, “lures” and “traps”, through to more organic understandings of the rhythms of the body existing in some form of continuum with the rhythmic motions of the outside world. Yet despite the large amount of research in this field, the basis for how

this phenomenon took place continued to perplex.

As we have seen, many theatre directors have made use of these rhythmic principles within their practices, drawing on correlation between external form and internal experience. Yet in most instances, directors have also made strong reference to the importance of actors working from internal rhythmic impulses, finding that without an internal sense of rhythm or the use of imaginative association, justification or intention, the actions of the actor remained empty, mechanical or clichéd in nature. There is clearly no simple formula for how actors approach working with rhythm within their training practices. What we find is a body of practices that while sharing in some common principles, grew for the most part from practical investigations made by individuals and groups of performers looking to resolve specific questions. Here actors and directors searched to find a “meaning” of rhythm that made sense to them within the immediacy of their own context, while also touching on something universal, located deep within the human condition.

In the next chapter, this we will investigate how these uses of rhythm have been adapted and have come to evolve within current practices. As this thesis progresses, we will look further into the ways in which rhythmic principles and mechanisms are applied specifically to the development of ensemble, the use of attention, the altering of consciousness, and the experience of self.

PART 3 CURRENT PRACTICES

3.1 Dancing to the Beat of More Than One Drum

Questioning the Universal Laws of Rhythm

*...the epoch's emphasis on rhythm is questionable now
(Whyman, 2008, p.242).*

Over the last century rhythm has continued to play a significant role within the practices of many actors and trainers. While most aspects of how rhythm is approached and understood have remained relatively consistent within training practices, a number of wider paradigm shifts have taken place and should be given consideration when looking at the ways rhythm is used and its potential further uses within this field. We can observe that the ethical, aesthetic and scientific basis of the rhythmic principles discussed so far have come into questioning and under criticism from a range of scholars. This has followed a general shift away from formalist perspectives on rhythm, towards more relativistic and socio-cultural views of these phenomena (Langer, 1953; Meyer, 1960, 1961; Whyman, 2008).

Leonard Meyer's text *Emotion and meaning in music* (Meyer, 1961) provides us with a clear critique of early twentieth century rhythm research, stating outright: "Music is not a 'universal language'", insisting rather that, "The languages and dialects of music are many" (Meyer, 1961, p.62). Meyer's perspective on musical language reflects a general movement away from the essentialist philosophies of the modernist era, towards

more culturally specific models of meaning and aesthetics in the arts. In line with this, Meyer also challenges the psychophysical correlations between rhythm and emotion and the primacy of “motor response” in the perception of rhythm, asserting:

Everything which occurs as a motor response can be accounted for in terms of mental activity and, since the converse of this is not true, music is best examined in terms of mental behaviour (Meyer, 1961, p.82).

In this regard Meyer advocates a cognitive approach to the study of music, dismissing many of the earlier findings of researchers such as Wundt with the suggestion that rather than measuring “emotion” these experiments focused on “hedonistic” sensations and aesthetics of “pleasure” and “displeasure”, “liking” and “disliking”. Far from being innate responses Meyer considers these to be “...products of learning and experience” (Meyer, 1961, p.5). Meyer’s argument is that the meaning/emotional “reading” of music is primarily acquired through cultural learning and operates within discrete music systems as a form of “musical language” (Meyer, 1961, p.63). While these “languages” may at times resemble one another, Meyer insists that it would be wrong to assign the meanings associated with one language to those of another. As such, he does not question the efficacy of rhythm, nor is he suggesting that rhythm and music have no relationship to emotion, but simply that this relationship is not “universal” or innate but rather it is acquired through association. In this way, Meyer proposes that the processes through which we draw meaning from music cannot be broken down into narrow categories such as rhythm and tempo. Instead, our response to music emerges from complex relationships consisting of many elements. This is more akin to a perceptual *gestalt* than a simple causal link between isolated stimuli as indicated in earlier theories (Meyer, 1961, p.6).

In her book *The Stanislavski system of acting: legacy and influence in modern performance*, Rose Whyman (2008) raises similar questions regarding the validity of these “early” rhythm theories in the context of twenty first century acting practices. Here Whyman asserts that “...the epoch’s emphasis on rhythm is questionable now” (Whyman, 2008, p.242). Whyman questions if Stanislavski’s use of *inner* and *outer Tempo-rhythm* contradicts his assertions of “psycho-physical unity” (Whyman, 2008, p.242), and further questions whether current practitioners take account of the significant advances

in scientific knowledge that have occurred since the initial publication of Stanislavski's theories (Whyman, 2008, p.265). As such, Whyman is questioning the validity and efficacy of these rhythmic principles and practices within a contemporary training context. Her argument is that while these early twentieth century training principles were based and founded on contemporary scientific research, and a general "emphasis" on rhythm, today such principles are no longer substantiated by the scientific knowledge that surrounds us.

Yet such questioning of the validity of rhythmic principles and their efficacy within actor training are not exclusive to our time. In reflecting on the work of practitioners in previous eras, we can observe the intense criticism faced by Meyerhold for his overt use of rhythm in training and performance. Meyerhold defended his use of rhythm by declaring:

I would like to see a genuine director who disregards the importance of rhythm. Say that to Stanislavski and he would throw you out the door (Meyerhold cited in Gladkov & Law, 2004, p.162).

While Meyer and Whyman's arguments raise a number of valid and useful questions regarding the use of rhythm in music and theatre, these criticisms continue to be met by strong claims made by other scholars for the existence of "universal" and "archetypal" principles of rhythm.

Far from rejecting the validity of rhythm, science over the last few decades seems to have further embraced the concept with growing enthusiasm, with studies continuing to link rhythmic principles to psychophysical and biological processes (Evans and Clynes, 1986; Balkwill and Thompson, 1999; Wierzbicka, 1986; Gomez and Danuser, 2007; Levitin, 2009). There has also been a noticeable return to scientific studies of rhythm and music based on psychophysical paradigms and principles of embodiment (Friederici et al., 2000; Saygin, 2006; McMullen, 2006; Chen et al., 2008; Doğantan-Dack, 2006). The continuing high status given to rhythm within the field of psychophysical (scientific) research suggests that rather than being dismissed, claims made at the end of the nineteenth century and the beginning of the twentieth century continue to influence, evolve and

corroborate scientific understandings of rhythm today.¹

A study conducted by cognitive neuroscientists Carolyn Drake and Daisy Bertrand in 2001 identified five “universal principles” in regards to the temporal perception of music of which they found supporting evidence across a range of ages, levels of musical experience and cultural backgrounds. These principles included:

1. “We tend to group into perceptual units events that have similar physical characteristics or that occur close in time” (Drake and Bertrand, 2001, p.20)
2. “Processing is better for regular than irregular sequences. We tend to hear as regular sequences that are not really regular” (Drake and Bertrand, 2001, p.21)
3. “We spontaneously search for temporal regularities and organize events around this perceived regularity” (Drake and Bertrand, 2001, p.23)
4. “We process information best if it arrives at an intermediate rate” (Drake and Bertrand, 2001, p.23)
5. “We tend to hear a time interval as twice as long or short as previous intervals”²(Drake and Bertrand, 2001, p.24)

What distinguishes such principles from those of earlier theories is the focus placed on the organisation and perception of events in time rather than our emotional relationship to them. Over the last few decades we can also observe a noticeable shift in the use of rhythm within therapeutic and medical practices. The trend here has been to move away from models based on social sciences and towards work that draws on the developments made by neuroscience, looking at the ways music perception and production engage and shape the brain (Miell et al., 2005; Thaut, 2007). Such studies offer further insight into the

¹ While the tone of today’s research is often less romantic in its reading of rhythm and in certain ways more ethically informed than research undertaken at the beginning of the twentieth century, it continues to support and develop many of the understandings and assumptions of this earlier period. For example the research of Clynes (1994, 1984, 1973), and more recently the work of Roy (2009), Gomez and Danuse (2007) and Jackendoff and Lerdahl (2006) indicate strong correlations between rhythm and the psychophysicality of emotion. Further, psychophysical links between breath rhythms and emotion are also demonstrated in scientific studies (Homma and Masaoka, 2008), as are correlations between emotional centres in the brain (limbic system) and musical perception (Crowe, 2004, p.111–2).

² This principle concerns the way rhythmic durations are categorised into 1:2 ratios made up of either long or short intervals.

mechanism through which rhythm facilitates and supports the training of actors. Studies into the clinical application of rhythm for treatment of physical and mental disorders gives support to the intuitive understanding that human psychology and physiology are greatly affected by rhythmic and temporal patterns, particularly in the form of musical rhythm, with Thaut stating:

...rhythmicity is a universal function in the control of movement and thus can be effectively accessed and regulated through music in patients with neurological movement disorders. Temporal organization and appropriate arousal – universally appropriate functions in perception, attention, memory and executive function – can be modulated by music in patients with for example, dementia or traumatic brain injury (Thaut, 2007, p.78).

Progressing forward from the psychophysical theories of Wundt and Ribot, today's research into rhythm perception proposes a model consisting of multiple oscillators located throughout the human body. Such timekeeping mechanisms can be observed in hormonal cycles, the motions of limbs, breathing patterns, heartbeats, and the synaptic rhythms of the brain. These theories suggest these bodily oscillators are highly susceptible to synchronising with one another (i.e. heart rate synchronising to the rhythms of breath) and to the rhythms in our environment (i.e. circadian rhythms entraining to the cycles of day and night). By extension the same principle of rhythmic recruitment, entrainment, and coupling are applied to ways in which we perceive rhythm in music, with some suggesting a specialised system of oscillators which corresponds to hierarchical levels of temporal structure found in musical rhythm (Large and Palmer, 2002). While it is still unclear precisely through what mechanisms such forms of psychophysical entrainment occur, there is strong evidence to suggest that these rhythmic phenomena are universal (Strogatz, 2004).³

3.1.1 Rhythm in Contemporary Theatre Practices

Today many theatre companies and practitioners draw strongly on the principle of rhythm within their work. Companies emerging from the practices of Grotowski, such as

³ Recent theories on neural synchronisation suggest that the mechanisms behind these processes function through a dialogue between excitation and inhibition of synaptic firing in the brain, with rhythms at times being stimulated into rhythm through excitation and at other times being brought into synchronous relationship by inhibiting asynchronous firing (Wang, 2010).

Gardzienice (Allain, 1997; Staniewski and Hodge, 2004) and Teatr Piesn Kozla (Zubrzycki et al., 2010) feature many rhythmic elements in their training and performance practices, as do other groups throughout Europe and the Americas, including the Awake Ensemble (Sweden), Obra Theatre Company (France), Para-active Theatre (UK/Brazil), Double Edge Theatre (USA), the New World Performance Laboratory (USA) and the Theatre Research Workshop (Mexico) to name but a few.

We can also observe the use of rhythm exercises throughout the French training practices that have led on from the work of Copeau and Dullin, notably following through into the pedagogy of Jacques Lecoq, with work on movement rhythms and dynamics featuring strongly in his training (Lecoq, 2006, p.88). Growing from these pedagogical traditions organisations such as the London International School of Performing Arts continue to emphasise the importance of rhythm in their training programmes, indicating in their course brochure that students undertaking their “Initiation Course”:

...will explore the fundamental principles of theatrical complicity, construction and creation through a highly physical approach to rhythms in nature and urban life, as well as in architecture, music, painting and poetry (LISPA, 2012, p.2).

Here it is also suggested that students “...will develop a better understanding of the relationship between movement and rhythm and their emotional repercussions in the human body” (LISPA, 2012, p.4).

Regarding the use of rhythm as an emotional tool in contemporary training practices, it is also worth noting the work of Susana Bloch. Her approach, known as “Alba Emoting”, looks to produce emotional states in the actor through the intentional use of corresponding neuro-physiological “effector systems” (visceral, endocrine, muscular). By the actor voluntarily controlling their breathing patterns, physical posture, and facial expression, Bloch found that they were able to effectively re-create “objective states” (feelings) in their performance (Bloch, 1993).

Another important area of contemporary rhythm practice is the work of director Eugenio Barba with Odin Teatret and the International School of Theatre Anthropology (ISTA). These organisations bring together a large body of international practices in

which rhythm features as a key principle (Barba, 2004; Barba and Savarese, 1991). The practices of members of Odin Teatret and ISTA such as Brazilian actor and dancer Augusto Omolú also reflect a wider trend of intercultural performance practice. Here we can observe a growing use of rhythmic dance and song forms drawn from traditional and sacred contexts being applied within the secular setting of theatre laboratories and training studios (Nascimento, 2008). Another significant area of intercultural practice can be observed in the application of various martial arts forms within actor training. Martial practices featuring strong rhythmical elements such as the Afro-Brazilian form, Capoeira (Miranda, 2010) and Kalaripayattu from India (Zarrilli, 2012), have been adopted by a number of practitioners as a basis for actor training.

“Viewpoints”, a training approach developed by the American director Anne Bogart, also includes clear uses of rhythmic elements such as “repetition”, “impulse” and “floor patterns”, along with musical accompaniment as a creative stimulus and means of establishing a group tempo (Bogart and Landau, 2005). Bogart’s SITI Company also combines these practices with those of Japanese director Tadashi Suzuki, whose work demonstrates many prominent rhythmic elements. These can be observed clearly in his “stomping” exercises and his concept of the “grammar of the feet” (Suzuki, 1986, p.3; Allain, 2002).

Vocal training and work on performance text is another area in which rhythm continues to find popular usage. In Cicely Berry’s work with Shakespearean texts and poetic language, actors are encouraged to find the “muscularity” of the language by intentionally “physicalising” the rhythms of a spoken text (Berry, 1992). In these practices, participants walk their text through the space, their movements corresponding to the punctuation and metrical forms found in the written language.⁴

In looking at this growing body of practices, we can observe the continuity of many of the psychophysical principles discussed by Stanislavski, Meyerhold, and Grotowski.

⁴ While a discussion of the diverse and changing uses of rhythm within contemporary performance practice is beyond the scope of this study, it is worth noting the important contributions made by practitioners such as Robert Wilson and Merce Cunningham to our understanding of rhythm as a performance element. Through their innovative uses of performance scoring and notation, artist such as these have furthered the application and understanding of duration and simultaneity within creative arts. Ensembles such as the Wooster Group have also explored the nature of duration within their performances, examining relationships between theatrical and daily temporalities (Goodridge, 1999).

Today rhythm continues to be used as a tool for accessing and luring internal emotional and energetic states, as well as acting as a compositional mechanism for shaping the dramaturgy of performance and the actor's own experience of time. We can also note that the corporal and kinaesthetic origins of rhythm continue to be emphasised within many forms of actor training, approaching rhythm primarily through physical movement and sensitisation.

One of the key ways in which rhythm continues to be used today, is as a tool for connecting and unifying actors. Our ability to connect through rhythm can be seen as a fundamental aspect of human interaction, being based on our innate capacity to entrain with rhythms of movement and sound that are located in our environment. As we will observe within the processes of actor training, these forms of rhythmic interrelationship can offer participants a number of valuable tools. These include the ability to engage and negotiate their way between actively leading and passively following, encountering and working within a shared group dynamic, as well as the possibility of reaching heightened states of consciousness and energetics. Principles of group entrainment have also been identified and used within a wide range of cultural and historical contexts. These range from traditional rituals and festivities, military drills and organised warfare, the shared rhythmic motions of human labour within agricultural and industrial contexts, in addition to a wide variety of collective animal behaviours such as those seen in flocks of birds and schools of fish (McNeill, 1995; Kortmulder, 1997; Strogatz, 2004).

Building on this theme, in following chapter I will examine the use of rhythm as a core principle of ensemble. This discussion will be informed by the work of three practitioners with whom I have had personal experience of training. First, I will discuss rhythmic modes of attention in the work of John Britton. Rhythm's capacity to affect changes in consciousness will then be further explored through the work of Nicolás Núñez, examining the relationship between rhythm and ecstatic and trance states. Finally, the application of polyrhythm as a tool for exploring emergent relationships will be discussed through an examination of the TaKeTiNa practices of Reinhard Flatischler.

3.2 Collaborating in Time

Ensemble Actor Training with John Britton

Our art is an ensemble art. Brilliant Individual actors in a show are not enough. We have to think of a performance as a harmonious union of all the elements into a single artistic creation (Stanislavski cited in Toporkov, 2001, p.109).

What is it that constitutes an ensemble? Is this simply a collection of performers who happen to occupy the same stage at the same time, or, is this condition informed by a more specific quality of relationship?

The theme of ensemble is common to both actors and musicians. As such, it offers us a potential point of insight into the links that exist between these two disciplines by examining some of the common qualities that define their ensembles. At its etymological roots, the term ensemble is linked to *simultaneity*, through the Latin *insimul* (together). In the most general sense, this term can be used to describe events, objects and organisms that occupy a relationship of *togetherness* (4.1.2). The linguist Ron Scollon further elucidates this concept by taking the usage of ensemble from the field of music and applying it to the study of human discourse:

...ensemble refers to the coming together of the performers in a way that either makes or breaks the performance. It is not just the being together, but the doing together. And so a performance of a string quartet can be faulted, no matter how impeccably the score has been followed, if the mutual agreement on tempo, tunings, fortes, and pianos has not been achieved. Ensemble in music refers to the extent to which the performers have achieved one mind, or – [...] one body – in the performance of their work. Of the elements which contribute to the achievement of ensemble, tempo is the guiding element (Scollon, 1982, p.342–3).

While in music we can discuss an ensemble formed through a “...mutual agreement on tempo, tunings” etc., when it comes to a theatrical ensemble, are there any specific elements of agreement which can be referred to, or is the basis for such commonality more ambiguous? While we may have an intuitive sense of what makes a group of actors an ensemble (unlike in music) it is difficult to pinpoint the mechanisms through which this “mutual agreement” is achieved (Britton, 2010b). The roles that make up an ensemble

of Jazz musicians for instance, are relatively clear and straightforward. The drummer, the bassist, the pianist, each has their own sound and function, while also sharing in many common musical conventions and structural understandings. If someone is out of tune or out of time, playing too loud, too soft, or just not “swinging” right, it is identifiable in ways that are not so transparent in the context of a theatrical ensemble. Yet there is a recognisable quality of “ensembleness” that seems to be present and analogous between these two disciplines.

In the definition given above, Scollon identifies “tempo” as being the “guiding element” that enables qualities of ensemble to exist in both a musical as well as sociological context. If we look back to Stanislavski’s use of the term “tempo” described as “...a general pace of life that is found in a shared physical or cultural environment” (Gordon, 1988, p.196), then the basis of this commonality between an acting and a musical ensemble begins to become even clearer. Can tempo then, as a “guiding element”, offer us a way of approaching ensemble from a rhythmic perspective and help set out a framework for understanding the processes through which this quality of togetherness can be cultivated in the context of actor training?

Building on this idea, we can consider ensemble as a process of working *together* within a shared rhythmic environment. This does not mean that everybody acts in the same rhythm, but rather that they share some sense (conscious or otherwise) of the *rhythmic field* within which their actions take place and derive meaning. Drawing on this concept of ensemble as a shared rhythmic field, this section will examine the relationship between rhythm and attention in the context of ensemble training drawing on the practical work and writings of John Britton, director of Duende and trainer in the field of ensemble acting practices.

3.2.1 Attending to Ensemble in Actor Training

...ensemble is generated and sustained by the quality of attention that the individuals who comprise the ensemble pay to themselves and their relationships (Britton, 2010b, p.5).

Central to Britton’s practice as a performer, trainer and academic, has been an enquiry into

the nature of “liveness”, asking, “How can I be live in front of an audience” and “how can I facilitate this in others?” (Britton, personal communication. 19 December 2012). In this sense the ensemble is not a fixed form or ideal condition, rather it is a living process that is realised and encountered in each moment of practice. Britton first began working with the notion of ensemble theatre as an actor and director in the United Kingdom with touring companies including Third Theatre and Aztec Theatre between 1990 and 1997. Britton went on to form Quiddity Theatre with Hillary Eliot in Australia, exploring meetings between physical theatre, dance and text and the integration of choreographed and improvised performance. In Australia, Britton also established and directed the Quiddity Ensemble¹ (2001-2004). In 2004 Britton returned to England, taking up an academic post at the University of Huddersfield where he developed and ran a masters degree in “Ensemble Physical Theatre: Training and Performance” (2007-2011), and formed Duende (2010), an international ensemble of performers. While many of Britton’s notions of ensemble and his strong emphasis on actor training can be traced back to his earlier work with Third Theatre, the theoretical analysis and written articulation of these principles did not take shape until his later work as a researcher and lecturer. Britton continues to perform and direct with Duende, and runs regular workshops in Europe with a focus on improvisation and “ensemble physical theatre”.

Britton’s emphasis on ensemble as a central aspect of actor training follows a long tradition of European ensemble practices, exemplified in the work of many of the practitioners discussed so far including Stanislavski, Meyerhold, Copeau and Grotowski. We can also note the way in which many of these directors also turned to rhythmic and musical devices and analogies in looking to develop qualities of connectivity and responsiveness within their ensembles. As Copeau stated:

I consider the displacements, gestures, attitudes, groupings as a kind of *orchestration* i.e. to the art of making use of each instruments individual tonal quality with an eye to the ensemble effect, so I am sure that the knowledge of certain laws of muscular economy, sacrifice of personal effects, influence on space, elimination of useless effort, co-ordination of attitudes and immediate adaptation to various atmospheres, should allow the actor to blend his temperament with those of the ensemble and to regulate

¹ The Quiddity Ensemble was a subgroup of Quiddity Theatre.

the relationships between the soloist and the protagonist, as in a musical symphony (Copeau, 1990, p.66).

While Britton's approach to actor training is not as explicitly musical as many of the practices discussed so far, he shares with these practitioners an emphasis on psychophysical principles rooted in the indissoluble relationship between perception and action (Roach, 1993; Zarrilli, 2009; Blair, 2008; Hodge, 2010). As a continuation of the "laboratory" approach to actor training (Osiński, 1986), Britton's practices are not predicated on the teaching of specific skills or a performance style, rather their main role is to create structures through which a process of exploration, experimentation and experience can take place. Principles such as these enable participants in this work to develop their own capacity and sense of themselves as performers while also empowering them to make informed choices about how they act and react within an ensemble context.

As with Meyerhold, in the work of Britton music plays an important role in accompanying the training of actors. Music provides a shared temporal context in which actors interact, facilitating qualities of immersion within training exercises, providing a framework for the development of compositional awareness and physical coordination. Yet, where in Meyerhold's work the actor's "body" was referred to as the primary "material" to be "organised" (Meyerhold, [1922]1969 p.198), Britton's training clearly begins with the "organisation" of attention. In the processes of ensemble training Britton suggests that there is a need for a "...precise and appropriate quality of attention" (Britton, 2010b, p.11). As such, much of Britton's training practice is focused on cultivating specific *modes of attention*, developed within and directed towards ensemble.

Britton describes ensemble as a dynamic process that is based primarily on the use of attention (Britton, 2010b). As with Scollon (1982) ensemble in this sense is not a *thing* in itself but rather a quality of relationship that emerges through a shared process. In Britton's training practices, this is a process that must be continuously enacted by participants, regarding the ways they relate to their own actions along with the actions of others. Attention in this sense, like tempo and rhythm, is applicable to theatrical and musical ensembles alike. In this vein (and for the purposes of this examination), I put

forward the following definition of ensemble as *being together* within a *common rhythmic field* accessed and sustained through specific *modes of attention*.

In considering the nature of attention within actor training, Simon Murray and John Keefe state that "...attention is about finely tuned and deep listening, looking, feeling, sensing and knowing" (Murray and Keefe, 2007, p.149). Murray and Keefe further suggest that an actor's attention "...combines the paradoxical combinations of letting go and being fully engaged" (Murray and Keefe, 2007, p.149). Other related aspects of attention are discussed by Phillip Zarrilli (2004) in his article 'Toward a Phenomenological Model of the Actor's Embodied Modes of Experience'. Here Zarrilli extends Drew Leder's (1990) concepts of "surface" or "recessive" body (the former directed outward and the latter inward) by adding his own concept of the "aesthetic inner bodymind". This "mode of experience" takes the form of a "dialectic" between "outward" and "inward" experience, encompassing the actor's voluntary awareness of exteroception, proprioception and interoception (Zarrilli, 2004, p.657). What the actor aspires to in such models is the capacity to attend to and integrate inner and outer experience/perception, being simultaneously engaged and responsive.

Britton also adopts a model of dual "experience" in his work, which he refers to simply as the "self-with-others" (Britton, 2010b, p.9). This term is used by Britton to describe the attentional state of an ensemble actor, whereby inner and outer experience are intrinsically linked:

The self-with-others is a notion of the extended self, of the mindful self at the threshold between the secret, idiosyncratic, unique internal world and appropriate responsiveness to the external universe (Britton, 2010b, p.9).

This notion informs much of Britton's work on ensemble training, in which he proposes that the quality of attention achieved by his actors not only affects the nature of their individual actions but also the quality of the relationships that form the ensemble. "Self-with-others" as such, is a two way process whereby work on oneself is simultaneous with work on the interrelationships within the ensemble, both aspects intrinsically linked and capable of influencing each other. It might be useful to consider ensemble in this sense through a non-linear emergent framework in which individual elements affect the

whole and vice versa. Physicist Herman Haken refers to such forms of two-way interaction between the whole and its parts as “synergetics”:

The upwards direction is the local-to-global causation, through which novel dynamics emerge. The downward direction is the global-to-local determination, whereby a global order parameter ‘enslaves’ the constituents and effectively governs local interactions. There is no supervisor or agent that causes order: the system is self-organized. The spooky thing here, of course, is that while the parts do cause the behaviour of the whole, the behaviour of the whole also constrains the behaviour of its parts according to a majority rule; it is a case of circular causation (Buzsaki, 2006, p.14).

The circular nature of such relationships is of great significance here, this being what allows such “synergetic” systems to function without the need of a singular controlling force. What is being suggested here, is that it is the entrainment of all these elements into a singular rhythmic process that allows them to contribute and be affected by the system as a whole. Such forms of emergent organisation based on rhythmic relationships take place at a cellular level in the formation and functioning of bodily organs. These principles can also be observed on a larger scale, in the synchronized flashing of fireflies, in the coordinated motion of a flock of birds, and in the complex moment-to-moment negotiation of pedestrians crossing a busy intersection (Strogatz, 2004). In all these situations there is no single leader responsible for coordinating the group, rather it is the “circular causation” taking place between each individual’s rhythms and their awareness or responsivity to the group that generates a coordinated field of activity.

In the complicity and mutual listening that takes place within an ensemble process, I have often observed the same phenomenon, whereby subtle changes in rhythmic timings and dynamics are constantly being negotiated within the group. This coordination for the most part takes place below the level of conscious thought, involving split second reactions to multiple stimuli, processes to which our unconscious is much better suited. Yet despite this being a predominantly unconscious process, the realisation of such a field appears to be predicated on the quality of attention afforded by an individual to their own rhythm, to the rhythm of another, and to the emergent rhythm of the ensemble as a whole. In these ways I as an ensemble member train myself to listen simultaneously to myself and the other, to be present and engaged in what is happening in the “here and now”, and to simultaneously “let

go” and surrender control when and where necessary. By encountering the rhythm of the ensemble and, in Stanislavski’s words, “...subordinating to it everybody who takes part in the performance”, we find ourselves within a living ensemble existing as “one harmonious whole” (Stanislavski, 1967, p.93).

In Britton’s training practices, it is through the cultivation of these subtle *modes of attention* that the connectivity of ensemble emerges. Although this is not often discussed in terms of rhythm, the mechanisms that facilitate such forms of connectivity are by their nature rhythmic, being based on the patterning, organisation, and coupling of attention in time. To support this analysis of the rhythmic nature of attention in ensemble practices, we will now turn to the theories of “attentional rhythmicity” as put forward by psychologist Mari Riess Jones (1976), which offer a framework for considering the nature of this relationship and its potentials within a training context.

3.2.2 Attentional Rhythmicity

...music may be a language the brain can read with ease because its temporal-based grammar is fundamental to how the brain processes information (Thaut, 2007, p.79).

We can consider the existence of attention in space (i.e. I attend to the sole of my foot or a point on the wall) as well as in time (the moment I catch a ball, or take a step). However, in most discussions of attention we can note a general bias to spatial and other non-temporal qualities (such as colour, pitch, volume, shape, function and meaning), over temporal aspects such as *when* something happened, and qualities of frequency, duration and simultaneity. This is most evident when looking at the metaphors used to discuss attention, including focusing, shaping, widening, zooming, filtering, and splitting, and the use of theoretical models such as “pools” of attentional resources (Kahneman, 1973) or attention as a “spotlight” (Posner, 1980).²

Yet according to Jones (1976), such understandings of attention remain limited because they fail to encompass the temporal, dynamic and rhythmic aspects of attention, arguing that these play a crucial role in our perception and ability to interact with and

² The dominance of spatial metaphors may be attributable to the sense of space as being concrete in contrast to non-material nature of time. The significance of spatial metaphors is discussed in detail by Lakoff and Johnson (1999).

learn from the world around us (Jones, 1976). Here Jones explains that, "...organisms are basically rhythmical and possess their own temporal structures which are manifest psychologically in a series of tuneable perceptual rhythms" (Jones, 1976, p.328). As such, attention is formed through the processes of an organism synchronising these perceptual rhythms with the rhythmical patterns of events as they unfold. Put simply, attention "...reflects an *interplay* of a rhythmical organism with rhythmicities in the environment" (Jones, 1986, p.19).

Rather than the sustained image of a consistent spotlight representing the way we direct and shape our attention, "rhythmic attention" is understood as a dynamic process that varies across time, giving preference, weight or accent to some moments over others (Jones et al., 1981). While this aspect of attention is not often discussed overtly in actor training practices, Stanislavski pointed towards this when he wrote:

A normal man's attention can be graphically represented as -.-.-. [...] there is always a period of rest and reflection between each moment of attention. [...] In the mentally unbalanced man the rhythm of attention is broken. The intervals of rest [...] do not exist. [...] For him only dashes exist, or in other words attention, attention, and again attention [...] a dance of thought without rhythm or control (Stanislavski, 1967, p.141).

These rhythmic aspects of attention also play an important role in the experience of simultaneity, directly affecting our ability to attend to two or more events occurring at the same time (4.2.2). For example, if I am moving while listening to a piece of music, it is much easier for me to move in "agreement" with the rhythms of the music than to work against or outside of these. And if I wish to attend to both these processes simultaneously, it is through finding a common rhythmic framework that this is achieved. That is not to say that these rhythms need to be identical. They can also take the form of "nested" relationships, whereby smaller patterns operate within larger frameworks, or large structures emerge through the coming together of smaller parts. An example of such nested patterning takes place when we experience an ensemble performing together. This phenomenon is most easily comprehended in the case of a musical ensemble, but the same principles apply equally to a theatrical ensemble. In the case of a music ensemble such as a Jazz quartet, although as an observer I am often exposed to a large diversity of

simultaneous stimuli, I am able to effectively and effortlessly take all of this in as well as shift my attention between the various parts that make up the musical composition. Due to their “nested” relationship (4.1 & 4.2) I can take in a fast melodic line on a saxophone at the same time as the rhythmic chord sequence of a piano, whilst also perceiving their relationship to the larger spectrum of events that encompass the entire ensemble.³

Here the rhythmic relationship between these events directly influences the ease with which I can attend to them *together* as well as facilitating my ability to transfer my attention smoothly between these elements. In contrast if one of the members of the ensemble began playing “out of time”, it would be extremely difficult to attend to their part while simultaneously taking in the rest of composition without one of these compromising the attention given to the other (Jones et al., 1985; Baruch et al., 2000; Keller, 2001).

Building on this Jones also suggests that our attention is shaped by the way events follow or deviate from a predictable rhythmic pattern. In this regard, the repetitiveness and familiarity of a poetic metre assists the listener to locate their attention on significant moments in the text by anticipating the stress patterns that make up a poetic form. Changes or deviations in a rhythm will also catch our attention. While repetition may help me follow a sequence, too much repetition will cause me to lose interest. Yet on the other hand, too much variation can cause a sequence to become difficult if not impossible to follow (Jones, 1986). In this way, the rhythmicity of attention can be understood as based on the balanced interplay of repetition and variation, along with stability and spontaneity, a concept supported by statements made by directors such as Meyerhold and Grotowski regarding the combined use of these elements in their work with rhythm (2.3.2.2 & 2.4.2.1).

At the centre of all of these processes is the perception of an underlying tempo, pulse, or framework, within and on which other perceptual elements are arranged, and through which interaction, the deriving of meaning, and the acquisition of new skills takes place (Condon, 1986; Jones, 1986, p.37; Feldman, 2007; Malloch and Trevarthen, 2008).⁴

3 The relationship between “divided attention” and rhythm is further demonstrated by evidence relating to the integrated simultaneous processing of lyrics and music when listening to songs (Bonnel et al., 2001; Gordon et al., 2010).

4 This phenomenon has been observed in infant and parent interactions where children are seen to move

Such forms of rhythmic interaction can be observed in everyday conversations between two individuals or a group. In this context individuals can be seen to synchronise the micro-movements of their bodies (such as head and finger twitches) to the rhythms of the voice of a person they are listening to (Condon, 1986). It is suggested that these small almost imperceptible movements allow us to follow the rhythms of others, informing the ways we shape our attention and draw meaning from their language. These rhythmic interactions also help to establish a common rhythmic framework and tempo that further facilitate a quality of social cohesion, and within which an individual is able to anticipate the moments to respond or interject within a conversation (Teger, 2007). Fittingly, linguist Senko Maynard refers to these interactions as the “rhythmic ensemble” of a conversation, stating:

...in ordinary casual conversation among speakers sharing a common sociocultural norm, a rhythm is cooperatively established. The established rhythm jointly maintained by speaker and partner affects not only the tempo in which each syllable is pronounced but also how some nonverbal signs are incorporated into the flow of conversation (Maynard, 2002, p.89).

This could be summed up by describing human discourse as a form of rhythmic dance enacted to the musicality of spoken language and physical gestures. The patterns of our attention, along with the rhythms of movement and spoken language, establish a rhythmic framework through which we observe, respond and learn from one another. This framework facilitates not only the ability to unify our rhythms to those of another, but also the ability to relate through the rhythms nested within these structures, facilitating the movement of attention across various levels of a rhythmical relationship (Jones et al., 1981, p.1059).

These principles of “rhythmic attention” also apply to a participant within an ensemble, be they a musician or an actor. In both cases there is common need for multiple aspects of performance to be perceived simultaneously. In these contexts performers are

their bodies to the rhythms of their parent’s voice, this providing the basis for the development of language skills. Parents also unconsciously entrain their voices and action to those of their child as a form of communication and empathy (Condon and Sander, 1974). Infant-parent synchronisation is also seen as a basis for neurological development, socialisation and bonding. Observed in biological processes in humans and other mammal species with the synchronisation between parents and infants correlating with the production of the hormone oxytocin, a neuropeptide that plays an important role in social affiliation and animal bonding (Feldman, 2007).

often required to attend to their own actions at the same time as following and responding to those of others and the emerging composition of the work as a whole (Keller, 2001, p.20-21). Further, the capacity of rhythmic attending to bring about qualities of social cohesion and group bonding is an essential aspect of an ensemble training process.

Based on the research discussed above we can see that rhythm provides an effective mechanism for aligning the performer's attention with the realisation of actions as they emerge in the present moment, by coupling these rhythms to a unified pulse stream. On this basis, the rhythmic aspects of action and attention can be recognised as supporting an ensemble actor's ability to achieve a number of important elements of their practice:

- The ability to shift and balance their attention between themselves and the ensemble
- To use their attention effectively within complex performance scores involving multiple tasks and actions
- To sustain their sense of presence in the “here and now” by synchronising attention to the rhythms of their own and the group's actions
- To learn new skills from fellow ensemble members by directing attention and encouraging empathy
- To interact and communicate effectively
- To build a sense of unity and bonding quality within a group

While many of these processes are seen to be innate, it is also recognised that such capacities can be intentionally cultivated and further developed through training (Parsons and Thaut, 2001; Thaut, 2007).

3.2.3 Training Attention

From my own experience of working within ensemble improvisation practices over the last fifteen years, I can observe a number of changes that have taken place in my rhythmic attention within an ensemble. What early in my training was often experienced as a barrage

of stimuli coming both from within me and outside of me, over time has increasingly taken on a quality of clarity and flow. My experience of disjointedness between my own actions and those of other members of the ensemble has lessened over time, and my perception has gained a greater quality of coherence. This is not just a question of my own and other's actions becoming clearer, rather I would suggest that primarily this is a change in my use of attention, regarding the rhythmic organisation and grouping of events. In this way I would say that one of the most significant developments in my ensemble training has been my capacity to bring together multiple experiences and actions into a united experience of simultaneity, effectively "nesting" my own actions within the rhythmic flow of the ensemble (4.1.2). I would identify my training with John Britton as being one of the key influences on these developments. Many of the exercises used in this training are based on simple tasks such as ball throwing, walking, standing and running, along with movement improvisations which are often based on binary "scores" such as movement and stillness, sounding and silence, leading and following, being the same or different. Some of the basic principles and mechanisms behind these exercises will now be discussed.

3.2.3.1 Ball Games

Referred to commonly within Britton's practices as the "ball game", this simple exercise forms the basis for much of his ensemble training work. The basic format of this exercise involves participants throwing and catching soft juggling balls while standing in a circular configuration (Clip 1). The premise of throwing and catching balls and other objects as a training device is one that can be found in a range of practices. These include the work of Michael Chekhov (Petit, 2009), Maria Knebel (Hodge, 2010), Clive Barker (1977), Mladen Materic (Materic & Hulton, 1997) and Tony Cots and David Zinder (2002).

Throwing and catching exercises such as these display their own rhythmical qualities. The flowing arc of a ball thrown across a circle, the rhythmic motion of limbs receiving and throwing balls as a flow of continuous unbroken action, and the synchronised attention of the group tracking and adapting to an ever changing environment. These practices also contain the rhythmic elements of repetition, accent, duration, predictability and variation.

A clear rhythmicity emerges from within these simple activities, with the throwing and catching of balls forming a tangible quality of fluidity and a pulse-like motif that is shared amongst the group. Within this context the act of throwing and catching juggling balls offers a direct form of feedback through which the participant is able to simultaneously observe the impact their attention has on the situation they inhabit (environmental rhythms) as well as the dynamics of their own internal state (inner/personal rhythms). In Britton's words:

The Bag Exercise [alt. ball game] is an encounter with the self. It serves as a mirror in which the participant can observe the self and, through observation, come to know then change that self. The primary attention the exercise requires is attention to the details of the encounter between self and the requirements of the improvisation (Britton, 2011a).

Through directly observing their quality of engagement with a task, a participant is offered a means of questioning and reformulating their own working paradigms or patterns of behaviour, in light of their training experiences (Britton, 2010a, p.40).

Britton begins this training process with the primary requirement that a participant engage with the task of attending to the "here and now" of the game. The focus of this initial work lies in the processes of developing an increased awareness of self, and of diminishing the gap between impulse and reaction. As the work progresses, Britton often employs further pedagogical devices such as "overloading" participants with more tasks than can be effectively managed (Clip 3). From within such "chaotic" experiences there is often no time for a participant to engage in rational or reflective thought processes or develop "unnecessary" opinions about their behaviour. Under these conditions, a participant is given the opportunity to respond instinctively to the demands of the exercise and through this, potentially develop new and more responsive ways of inhabiting these exercises.⁵

As this work progresses participants are encouraged to observe the nature of the impulses that they receive from other participants in the circle and the ways in which they respond to these. Britton encourages participants to observe the different forms that these

5 The concept of development through chaos has also been linked by Flatischler to biological process of evolution whereby an organism shifts from a state of order to chaos and then stabilises once more at a new level of order (Flatischler, 1996, p.349). See Ch.3.4.

impulses take, and lists these as impulses received...

- 1) ...with ample time to respond consciously (i.e. I can see that someone across the circle is about to throw to me long before I need to react).
- 2) ...at the last moment, to which I respond without being conscious of my actions until after they have occurred (my hand reaches for a ball flying towards my face before I have time to think).
- 3) ...after an event has taken place, thus responding to the “missing” of the impulse (a ball is thrown past me and I only notice it once it hits the floor behind me).
- 4) ...that were intended for another person (a ball is thrown to the person next me and I react thinking that is coming to me) (Britton, 2011)

What is significant about each of these examples is not that the impulse itself is different, but rather that the temporal relationship a participant has to it has changed. The question here is at what point do I become conscious of an impulse (Britton, personal communication. 28 June 2012), or rather (in Jones’ terms) what is the rhythmic relationship between my attention and my “environment”.

In these exercises I, the participant am encouraged to work without judgement or opinion, and to focus on the “core reality” of the exercise, and the ways in which I react, respond or block the impulses that emerge from within these ensemble activities (Britton, personal communication. 28 June 2012) (Clip 5). In this instance, Britton refers directly to a psychophysical paradigm outlined by Grotowski, dealing with the relationship between “stimulus, impulse, and reaction”.

Do not seek methods ready-made for each occasion because this will only lead to stereotypes. Learn for yourselves your own personal limitations, your own obstacles and how you get around them. After that, whatever you do, do it whole-heartedly. Eliminate from every type of exercise any movement which is purely gymnastic. [...] Something stimulates you and you react: that is the whole secret. Stimulations, impulses and reactions (Grotowski, 1969, p.185).

In this regard, Britton asks that the participant work within the reality of each situation *as it is*, not how they imagine *it should be* or would *like it to be*. Referring to this process

of encountering and addressing blockages as “the first phase” Britton relates this to the analogy of free flowing water that is able to fall without any resistance or interference (Britton, personal communication. 28 June 2012).

Starting from this basis of cultivated sensitivity, awareness and flowing responsiveness, participants are then gradually encouraged to make choices about when and how they shape their response to an impulse. Britton describes this as “the second phase” of the work, and it is at this stage that he often introduces the concept of a “spectrum of appropriateness”. While Britton asserts that there is no “right” or “wrong” way of engaging with these exercises, he is clear that there are some responses that are “more appropriate” than others. Britton proposes this “spectrum” is based primarily on a participant’s “embodied understanding” rather than a “verbal linguistic” concept of right and wrong.

This phase often involves processes whereby participants are asked to respond to some impulses and not to others (i.e. pass a ball between you and the person opposite you while ignoring the other balls being passed across the circle), or direct their responses in particular ways (do not throw the ball back to the person who threw it to you). Through these processes, participants begin to experiment with new ways of shaping and directing their responses within the flow of the exercise. Here Britton is not suggesting that participants re-impose blockages but rather find ways to shape their responses within a “spectrum of appropriateness” (Britton, personal communication. 28 June 2012).

As I continue to develop within this work I find that I move between phases of conscious decision making regarding how, when and where I direct my actions and attention and other instances when I simply allow myself to be present and responsive within the context of the game. At times I have a sense that the exercise demands a conscious shaping of my behaviour, such as when I notice that my attention is wandering, or when a specific task demands a precise response. At other times I have no sense of my own decision-making but rather experience myself as simply responding to impulses as they arise. In such moments, I notice that the less I try to consciously control and direct my attention, the more available and responsive I become to my environment. For example

when I see one, two or three balls coming towards me, if rather than *working* on catching them, I simply *allow* myself to respond to the rhythm, I often find that my body will do what is necessary without the need for me to consciously direct or *control* these actions. Here my intention lies in tuning into the rhythmic flow of the game as a whole and as such, I experience the rhythms of my actions and attention entraining to the movements and sounds that emerge from the ensemble. Here we once again encounter the paradox of rhythm, in that the harder I *work on* my rhythm, the more restricted and inaccessible this becomes. Whereas by *working with* the rhythm of the game, my attention is able to open out and effectively synchronise with the flow of actions that unfold around me. In this way, we can consider a “third phase” within these practices in which I as an ensemble member am able to effectively shift between open responsiveness and intentional choices, and at times bring these two aspects together into a unified state that could be termed *appropriate-flow*.

The rhythmic nature of attention can be observed clearly here, with the “ball game” intentionally designed to cultivate a heightened quality of attention to both time and space. In relation to time, Britton sometimes talks about the act of plucking a ball out of the air like an apple from a tree; a sense here of time standing still for a moment. On other occasions he talks about being aware of everything in the exercise but only choosing to direct attention to specific moments, such as when the ball touches or leaves your hand, or the moment you receive an impulse. In some exercises these moments are further accented through the use of vocal sounding, clapping or the synchronisation of actions to the rhythms of accompanying music (Clip 2). In another example, Britton instructs participants to throw the ball in a way that allows their partner to catch it “on the beat”. This requires a participant to consider and shape their action in relationship to a future event, while also observing the various possible ways in which their catches can be experienced in relationship to a musical pulsation (i.e. experiencing a catch between the beats, just after or just before the beat).

All of this work is underpinned by what Britton refers to as the “hierarchy of tasks”. He explains this as follows:

In training I ask trainees to learn to identify and concentrate on a hierarchy of tasks in the present [...] – this means that within the shared task (of for example the *ball game*) each individual might well invest their attention in different subtasks. I might find my physical dexterity is a little lacking so I will focus on the actual act of my hand opening and closing over a juggling bag. A colleague might have brought stress from the outside world into the space and will perhaps choose to concentrate on finding mental and physical stillness. As long as all participants in the exercise are doing whatever is necessary for them to meet its major objectives – and provided they are doing so in a way that does not impede the participation of other trainees – then this requirement that trainees continually set themselves specific tasks within the process contributes to their ability to sculpt the training to their specific daily development (Britton, 2007, p.6).

Through these shared understandings participants are able to shape and regulate their personal engagement with the work on a moment to moment level, making informed decisions about how, when, and where they direct and shape their attention, choosing which aspects to actively control and which to passively experience and relate to instinctively. As indicated previously, what is important is that these choices emerge from an embodied understanding of the work rather than preconceived understandings or conceptual frameworks that are enforced on the participants.

The application of these principles in performance is further facilitated in Britton's work by exploring these elements within ensemble improvisation exercises.

3.2.3.2 Ensemble Improvisation

This process often begins from solo work or improvisations in pairs within a limited vocabulary of choices, and gradually builds up to larger group improvisations where there is a layering of multiple physical and attentional tasks. John Britton's improvisation training has been inspired in part by his training in Australia with the improvisation teacher Al Wunder (2006) and his improvised performances with Hilary Elliott as part of Quiddity Theatre.

In the improvisation exercises used by Britton, participants begin integrating the principles encountered in the "ball game", into more complex and expressive forms of interaction. Where in the "ball game", the main stimulus/impulse comes from the balls, within an improvisation the potential range of stimuli is far greater, including sounds,

shapes, physical actions, language etc. For this reason, these training processes begin with simple movement scores including:

- Two actors alternating between one moving and the other still
- Explorations of other simple oppositional states such as fast/slow, big/small, serious/ridiculous ...
- Working with the making, sustaining and breaking of visual and physical contact
- Directing the gaze towards a limited number of locations (look at your own body, or your partner's eyes or body)
- Choosing to develop, sustain, or decay the dynamics of an action or sequence of actions

Such exercises take place within a playful and supportive atmosphere, with Britton often playing evocative and dynamic music such as instrumental jazz recordings, orchestral and electronic compositions. The use of music in this context is intended to bring about a quality of immersion within the work, offering the participant a way of connecting to the dynamic flow of the ensemble. As with the work of Meyerhold, music also provides here a means of cultivating qualities of musicality within the ensemble (2.3.1). In this way accompaniment is used to develop and sensitise the actor's awareness of compositional aspects such as repetition, sudden dynamic and gradual/incremental development, and the complex layering of multiple elements through counterpoint. As with other uses of music in actor training, such forms of support are highly valuable, yet also have the potential of becoming a "crutch". Having grown accustomed to the support offered of musical accompaniment, when working in silence participants may find it difficult to tune into the ensemble or evoke their own musicality or dynamism within the aid of this external stimulus. Britton will therefore often work the same exercises at different times, with and without accompaniment. This gives the ensemble the opportunity to develop these compositional sensibilities with and without the use of an external stimulus or framework.

In relationship to qualities of musicality, Britton also works with a collection of

improvisation exercises that involve participants observing the direction of the group's energy. Britton highlights this aspect by referring at times to the "music" or the "energetic" of the exercises, yet mostly he simply uses the word "It".

Britton asks participants to observe, "When is *It* increasing, decreasing or being sustained?" (Britton 2011) This work comes directly out of the "ball game" where participants are often instructed to make similar observations regarding individual and group dynamics. Here Britton is very deliberate with the sequential logic of his instructions, introducing these principles through an initial phase of sensitisation, putting in place specific perceptual mechanisms by encouraging participants to "...be still and listen", as a way of exposing them to the general "...flow of the exercise". Such experiences act as points of reference for more complex compositional concepts such as "development" and "decay" which Britton introduces later (Britton, personal communication. 28 June 2012).

These same observations are also applied to simple scores such as "walk-stop-run" in which participants improvise as an ensemble based on this limited physical vocabulary, while observing the dynamic nature of their own actions and the emergent dynamic of the group (Clip 4). In these forms of training, we approach a sense of rhythm that can be related back to Stanislavski's use of the term "Tempo" and Langer's model of rhythm as an organic progression (1.2.1; 2.3.2). Rhythm could be described here through similes such as the rising and falling of energy like waves on a beach, or a contraction and release of tension akin to the flow of breath (Langer, 1953, p.128). Here we find a sense of an organic inevitability and balance, as a decrease in energy is eventually answered by a responsive increase, which in time resolves back to a lower energetic state (Langer, 1968, p.26).

I propose here that a participant's ability to track such energetic trajectories from within the ensemble is built on the modes of attention cultivated through the "ball game", these accessing innate as well as cultivated *modes of rhythmic attention*. As participants learn to apply these modes to more complex situations, they are once again encouraged to make personal choices about how they direct their own actions "appropriately" within this energetic milieu:

- Do I go with the energetics of the group or work against it?
- Do I work by responding to the energy of others or do I initiate my own changes in energy?
- How long do I sustain an energetic state or quality of movement before I choose to change it?

These forms of training offer a way for the actor to thematise the dynamics of the ensemble as a coherent form akin to Malloch and Trevarthen's "dramatic temporal narrative"; an emergent "musicality" that underlies their capacity to respond and communicate through movement and sound (Malloch and Trevarthen, 2008). This emergent aspect of ensemble, thematised by Britton as the "music", the "flow", the *It*, or "the 'it'-ness of ensemble" (Britton, 2010b), provides the shared point of reference that distinguishes an ensemble from a group of unrelated individual performers. Here it is not that the ensemble must act in one rhythm but that they interact through a shared awareness of what could be described as the "rhythm", "tempo", "music", "temporal narrative", "energetic" or the *It* that exists between them, a quality of cohesion that is tangible and recognisable to the observer and participant as "ensemble".

3.2.4 Summary

Here, I have examined the mechanisms of ensemble training through the lens of rhythm, and identified the ways in which an ensemble is supported by a shared rhythm that is responsible for establishing the underlying musicality through which a diversity of expressions may be woven together. Clearly, we could choose to define such ensemble connectivity through other modes, such as spatial or qualitative analogies related to a group's energy or shared sense of space. Yet, in looking at the rhythms of ensemble, we find a collection of highly transferable principles that allow us to establish relationships directly between a diverse array of performative aspects including the fundamental elements of action, sound and attention. Significantly, in rhythm we also find a place of overlap between the practices of the actor and the musician. While the formal structures

and the tools of expression may differ between these art forms, in both instances the participants of an ensemble take on the role of *collaborators in time*, occupying and shaping *the flow of time* both for themselves and for their audience.

In Britton's training, ensemble is approached as both a collective goal and as a mechanism for individual development. The model adopted by Britton of the "self-with-others" operates as an ethical choice to work in relationship rather than simply on the self as an isolated and discrete entity. Building on these principles, ensemble has been discussed here as a condition of being *together* within a common *rhythmic field* accessed and sustained through specific *modes of attention*. In this sense ensemble is an inherently rhythmic phenomenon. Our capacity to synchronise our attention to the flow of another body or bodies, to anticipate, respond and read these patterns of stimuli and impulse, are all based here on the innate rhythmicity of our attentional processes, and the embodied knowledge we have of working together within the rhythm of the ensemble.

Our capacity to simultaneously perceive both ourselves and others, while also acting and reacting effectively within this complex field of ensemble, requires the cultivation of new modes of attention through which *inner* and *outer*, *self* and *others* are effectively integrated into a simultaneous mode of attention. To achieve this, Britton's training uses simple mechanisms such as throwing and catching, standing, walking and running, and developing, sustaining and decaying. The basic and unadorned nature of this work provides the actor with a direct means of encountering themselves within a shared *rhythmic field* of experience. From inside this emerging ensemble they have the opportunity to alter their patterns of behaviour and make new decisions about the relationships between their own actions and those of others. Rhythm in this case is not something that is trained through drilling, or through repetitive "form-based" exercises, nor is it often overtly discussed; rather it is encountered through experiential play, and the removal of blockages and patterns of behaviour (Britton, 2010a). Rhythm understood in this wider sense resists the processes of codification or scoring as seen in other instances. Rather, rhythm operates here as a set of embodied understandings that inform the ways an actor shapes and interacts with themselves and their environment.

Rhythm's capacity to shape personal and collective experiences will be further explored in the following sections in which its use as an instrument for personal transformation will be examined in relationship to the work of Nicolás Núñez and the Theatre Research Workshop.

3.3 Between Organicity and Awareness

Instruments of Ecstasy in Nicolás Núñez's Training Dynamics

At a moment of psychic shock, a moment of terror, of mortal danger or tremendous joy, a man does not behave "naturally." A man in an elevated spiritual state uses rhythmically articulated signs, begins to dance, to sing (Grotowski, 1969, pp.17–18).

The question of whether specific rhythmic forms are in themselves capable of affecting an individual emotionally or energetically to the point of inducing an “altered state of consciousness”, is one that has concerned scholars and practitioners over the centuries. In Stanislavski’s work we have observed the ways in which *outer* rhythms have been used to access or lure specific internal states, and in Grotowski’s practices similar phenomena have been observed in regard to the use of specific dances and songs as tools for accessing archaic or “animal aspects” (2.4.2). Here I will draw on the work of Nicolás Núñez and the Theatre Research Workshop (TRW) to discuss the role of rhythm in relationship to states of ecstasy¹ in actor training. Based in Mexico City, the research, training and performances undertaken by Núñez and the TRW since 1975, represents a valuable body of practices within this field. Through an analysis of their work, I will examine some of the rhythmic principles found within traditional and sacred practices and the ways that these are approached and applied within psychophysical actor training.

With a growing trend for practitioners to draw on sacred music and dance forms within the context of actor training and performance (Nascimento, 2009), questions regarding the application and adaptation of such forms outside of their cultural context are highly pertinent. Where writers such as Pavis (1996), Watson (2002) and Nascimento (2009) have previously discussed the ethical considerations of intercultural practices such as these, here the focus will lie in the nature of these mechanisms and their efficacy when applied to actor training. To better understand the role of rhythm and the ways it

¹ The term ecstasy has multiple and at times contradictory definitions (Rouget, 1985, pp.3–12; D. Aldridge & J. Fachnereds., 2006, pp.17–19). Derived from the Latin *exstasis* and interpreted by some as “to be out of one’s head” (D. Aldridge & J. Fachnereds, 2006, p.18). Ecstasy is often associated with euphoric and blissful experience, while also describing a static meditative trance in which the “soul” or “spirit” is understood as leaving the body.

is approached within this work, it is important that we first consider a wider question regarding the concept of the *actor as shaman* and the ways in which rhythm relates to modes/states of consciousness being approached and worked with in these practices.

3.3.1 Actor as Shaman

...the shaman or the actor is someone who, at will, can go into an altered state of consciousness (Núñez, 1993 cited in Middleton, 2008, p.45)

Núñez ties the work of the actor directly to that of the shaman or *mara'akame* (Núñez, 1996b), with the actor described as a “performer-magician”, who functions “...as a bridge between the sacred and the profane” (Núñez, 1996a, p.84). These two modes are linked by what Núñez refers to as the “actualised instant”, an increased attention given to the “here and now” and to the “enlivening” of time (Middleton, 2001, p.47). Both theatre and ritual take place within this common terrain, centred on a live encounter with the present moment. Núñez’s research is focused on exploring this shared territory and the “psychophysical techniques” and “instruments” used within it. These include the ability to increase one’s level of attention and to go at will, into and out of an altered state of consciousness (Núñez, 1999).

Historically this model of acting can be seen in the work of European theatre practitioners such as Artaud and Grotowski, and can be traced through to a number of traditional and sacred practices around the world in which sacred/magical and performance processes exist as a unified form (Schechner, 1988; Zarrilli, 2011). Núñez worked with Grotowski between 1978 and 1985, with involvement in the *Tree of People* in Poland in 1978, taking part in a “joint investigation” in the Mexican Sierra in 1979, acting as a “co-responsible” in “Theatre of Sources” from 1980 to 1981, and coordinating and participating in a project with Grotowski in Iztaccihuatl, Mexico in 1985 (Middleton, 2001, p.44). We can recognise a number of correlations between the principles found in the work of Grotowski and Núñez. Two significant points of connection include the search and use of sacred forms as means of accessing specific modes of being/consciousness (Grotowski, 1987, p.35; Núñez, 1996, p.30), and the concept of “Performer” as a “warrior”

conquering knowledge through “doing” (Grotowski, 1988, p.36; Núñez, 1996, p.12).

A comprehensive study of these sacred performance paradigms, while of interest, is beyond the scope of this thesis, for now it will be useful for us to look specifically at a number of aspects of shamanism that will help us to consider the role of rhythm within Núñez’s training practices.

In Mircea Eliade’s comprehensive study of shamanism, he begins by proposing a simple definition; “shamanism = techniques of ecstasy” (Eliade, 1964, p.4) Here ecstasy is described in terms of a shaman leaving their body to ascend into the sky or descend into the underworld (Eliade, 1964, p.5). This journeying of the soul or spirit, often referred to as a form of “flight”, is linked to symbols of “cosmic verticality” such as the “sacred tree”, “mountain”, or “pillar”. Acting as a “central axis”, these symbolic archetypes form a connection between the sky, earth and underworld, through which the shaman can journey (Eliade, 1964, p.259). In Eliade’s terms, shamans are those who possess the “techniques” required to undertake such forms of ecstatic “flight”, while also having the skills and knowledge to navigate their way back.

A correlation can also be observed between Grotowski’s use of the term *verticality* to describe a process of energetic transformation (2.4.2.4) and Eliade’s (1964) references to “cosmic verticality” as a central principle of ecstasy. In discussing *verticality*, Grotowski stated:

The point is not to renounce part of our nature – all should retain its natural place: the body, the heart, the head, something that is “under our feet” and something that is “over our head.” All like a vertical line, and this verticality should be held taut between organicity and the awareness. Awareness means the consciousness which is not linked to language (the machine or thinking), but to Presence (Grotowski, 1995, p.125).

Here Grotowski highlights an important aspect of ecstasy: the sustaining of conscious awareness tied to the “Presence” of the body. This may seem contradictory, in the sense that the term ecstasy (from the Latin: *ex-stasis*) suggests a state of being outside one’s body or conscious control. However, it appears that it is precisely this paradoxical tension, between a giving over of control and a sustained awareness, which characterises many descriptions of ecstasy found within shamanic and acting practices.

Performance theorist Richard Schechner describes ecstasy as a form of personal transcendence or “transparency”, a state in which obstacles or blockages that interfere with the flow of impulses within the actor are eliminated (Schechner, 1988, p.175). Schechner relates these qualities of ecstasy to the work of Ryszard Cieślak and other members of Grotowski’s Laboratory Theatre, stating: “...his actors were transparent: they were able to let impulses pass through them so that their gestures were at one and the same time intimate and impersonal” (Schechner, 1988, p.178). Following this line, he suggests that ecstasy be considered as a “performance technique”, operating in contrast to that of “character acting”. Where in ecstasy, actors stripped down to their essence, remains conscious and present, the suggestion here is that “character acting” is closer to a state of possession in which actors lose their own sense of personal identity/agency (Schechner, 1988, p.175).

Figure 7: Schechner’s Ecstasy/Trance Wheel (Schechner, 1988, p.179)

Regarding qualities of “conscious awareness”, others have also attempted to make a distinction between states of ecstasy and those of possession (Eliade, 1964, p.6; Rouget, 1985, p.19). In a state of possession an individual is often described as “overcome”, “mounted”, “ridden” or “descended upon” by an “energetic force”, “spirit”, or “character”. This commonly results in a loss of personal agency and subsequent amnesia. In contrast, shamanic states of ecstasy are characterised by the individual *remaining in control* and *being active* in both *initiating* and *directing* their own behaviour (Eliade, 1964; Rouget, 1985; Shirkogoroff, 2004). Even in instances where a shaman does take on the form or characteristics of a spirit or deity, the “self” is seen as remaining present and active in this process: “It is the shaman who *turns himself* into an animal” (Eliade, 1964, p.93), as distinct from *becoming the instrument* of an external spirit (Rouget, 1985, p.19).

In this sense, ethnomusicologist Gilbert Rouget identifies possession and shamanism

as being diametrically opposed; suggesting that where the former is “undergone” the latter is “acted” (Rouget, 1985, p.132). Shamans have the role of “actualizing” (Schechner, 1988, p.40) or rather “reactualizing” (Eliade, 1958, p.5) their “techniques” in order to bring about a change from a “profane” to a “mythical” quality of time. As part of this process, shamans often play music, chant and dance, the actions they themselves undertake being central to the act of transformation. Where in other forms of induction, a participant may be provoked into a trance through outside influences, in the case of the shaman they themselves are seen to be responsible for both initiating and undertaking such forms of altered consciousness. In this sense, we can consider the shaman as occupying the role of both an “instrument” and its “player”; what Rouget refers to as a “musicant”. This is in contrast to an individual who comes to be possessed due to primarily external musical sources; referred to as being “musicated” (Rouget, 1985, p.132).

Having examined the nature of the *actor as shaman* and “musicant”, we can now return to our initial question by asking what significance music and in particular, rhythm has within the “reactualization” of such “techniques of ecstasy”?

3.3.2 Rhythm and Altered States of Consciousness

In a moment of challenge appears the rhythmization of human impulses. The ritual is a moment of great intensity; provoked intensity; life then becomes rhythmic (Grotowski, 1988, p.37).

Sacred ritual practices (like all forms of performance) are by their nature inherently rhythmical, marking out a time that is distinct from “daily” or “profane” experience (Blacking, 1995; Eliade, 1996). This rhythmicity can be noted in the overt presence and attention given to repetition, alternation, extended durations, and the use of heightened phrasing and stylised gestures throughout ritual practices. Further, as suggested by Grotowski (1988) in the quote above, a body engaged by the intensity of ritual can become in itself rhythmical. A body in a state of ecstasy may display exaggerated movements, referred to by Blacking as a form of “proto-dance” (Blacking, 1989, p.67). In these instances movements may be seen as deriving from the basic mechanics of the body’s muscles and limbs, or from patterns deeply ingrained in human neuro-physiology

through evolution (as noted in the “reptilian” movements tied to the activation of the “reptilian brain” in section 2.4.2). These physical traits may also mirror social actions, such as dominance or submission, or reflect organic rhythms and sensation derived from the natural environment, such as the movements of a wave, a horse, or fire (Blacking, 1989, p.66). Further, we can observe the pronounced rhythmicity of the voice in chants, and vocal calls, the spontaneous use of hand claps, changes in the rhythms of the breath, heartbeat, brainwaves and hormonal releases, and the distortions in temporal perception, with time slowing down, speeding up, or become ambiguous in duration (Lex, 1979; Blacking, 1989, p.67; Weiss et al., 2005).

The significance of rhythm in states of ecstasy is further indicated by the status given to drums and percussion within shamanic traditions around the world (Eliade, 1964; Hart et al., 1998). The drum is often located symbolically as well as practically at the centre of shamanic techniques, with Eliade stating that the drum is “indispensable”, taking on “...a role of first importance” within shamanic practices (Eliade, 1964, p.168). In many shamanic traditions the drum is also seen as being a “vehicle” on which the shaman takes flight. These traditions suggest that the use of a drum allows the shaman “...to fly through the air, [...] summons and “imprisons” the spirits” and “...enables the shaman to concentrate and regain contact with the spiritual world through which he is preparing to travel” (Eliade, 1964, p.168). The drum is commonly referred to as being ridden by the shaman like a horse or bird into the sky or down into the centre of the world (Eliade, 1964; Ellingson-Waugh, 1974). Describing the conditions required to bring about a state of ecstasy in Tungusian shamanism anthropologist Andrei Shirkogoroff stated:

At the beginning the shaman drums, continually increasing and decreasing the tempo and intensity, with a definite rhythm empirically discovered, in order to produce a physiological and psychic state [...] This is achieved by continuous drumming, performed by the shaman himself or by the assistants, and the influence of the audience, which is “helping” the shaman by keeping the rhythm and intensifying the shaman’s ecstasy [...] The rhythmic dancing has the same effect, both for calling in the spirits and for maintaining them (Shirkogoroff, [1935] 2004, pp.93–4).

Here we can note the presence of specific rhythmic elements such as the continuous

increasing and decreasing of tempo and dynamics, and the sustaining of rhythmic intensity over an extended duration. As we will later observe, such aspects also play a key role in the training practices developed by Núñez and the TRW. Shirkogoroff further notes the effect that reaching a state of ecstasy has on the shaman's own rhythms:

The pulse is very fast, but at the moment of deep ecstasy, when the shaman's soul is supposed to be in the other world, the pulse slows down and becomes weaker and sometimes can be felt with difficulty [...] However, when the shamans merely ritualize, there is no such effect on the pulse (Shirkogoroff, [1935] 2004, p.95).

Again, there is a suggestion of a two-way relationship between rhythm and ecstasy. We see rhythmic drumming and movement as inducing such states, as well as the inverse relationship, with ecstasy bringing about a noticeable change in the shaman's own rhythmic qualities. In this way, rhythm is seen to both trigger and mirror the ecstatic states of the shaman.

3.3.2.1 Theories and Mechanisms

...we can say that dance and music are forms of ritual communication whose utilitarian value is to enhance co-operation and educate the emotions and senses. The basic capabilities are innate, in that each individual body carries the necessary equipment (Blacking, 1989, p.67).

The question arises as to why rhythm and drumming have been universally given such a high status within shamanic and other ritual traditions, and, if there are links between these phenomena, what is their nature (Hart et al., 1998; Rouget, 1985). Over the last fifty years a diverse range of theories have emerged attempting to answer these questions, with varying emphasis given to neurobiological and socio-cultural aspects in their approaches (Neher, 1962; Needham, 1967; Fischer, 1973; Lex, 1979; d'Aquili et al., 1979; Prince, 1982a; Jilek, 1982; Rouget, 1985; Weiss et al., 2005; Aldridge and Fachner, 2006; Fachner, 2011). Many of these theories suggest that rhythm affects the body directly at an organic level, through neurological, motor, and chemical processes, altering states of consciousness through psychophysical mechanisms such as “driving”, “tuning”, “entraining”, “synchronising” and “vibrating” the body's internal rhythms through exposure to instrumental accompaniment, and rhythmic physical movements

(Neher, 1961; Needham, 1967; Lex, 1979; Prince, 1982a; McNeill, 1995; Jilek, 1982; Weiss et al., 2005).

One of the most cited researchers in this field is Andrew Neher (1962) who identified a correlation between the rhythmic patterns played on a drum and the brainwave frequencies of those listening. His theory proposed that *alpha* and *theta* brain waves (often found to accompany trance and meditative states of conscious) could be brought about by sustained exposure to external rhythms corresponding to these frequencies (theta waves operate at a frequency of 4-7 cycles per second and alpha waves at 8-12). This research suggested that the conscious state of a participant could be altered if they were exposed to such rhythms over an extended period of time (Neher, 1962). While the validity of this research has attracted some criticism (Rouget, 1985, p.172–5), further research undertaken by Maxfield (1990) supports many of Neher's earlier findings, suggesting that brainwaves can and do entrain with external rhythmic frequencies, while the nature of the mechanisms behind such synchronisation is still unclear.

Another significant study in the field of neurobiological rhythm was presented by Barbara Lex (1979) who observed that rhythmic activities such as dancing, drumming, and clapping, commonly activated dominant right hemisphere neural activity (Lex, 1979, p.126). This is tied to the observation that qualities attributed to states of trance and ecstasy such as atemporality, holistic unity, and limited access to language, correlate with the specific functions of the right hemisphere of the brain including: gestalt perception, ambiguous sense of duration, and reduced language capacities.

Lex furthered this theory by linking the left and right hemispheres of the brain with Walter Hess's (1933) concepts of "ergotropic" (sympathetic) and "trophotropic" (parasympathetic) systems (d'Aquili et al., 1979, p.175).² Along with d'Aquili and Laughlin (1979) and Fischer (1973), Lex suggested that these

2 The "ergotropic" system is related to energy expending processes and operates within the sympathetic nervous system. It governs arousal states and "fight or flight" responses. It is related to increased heart rates and increased secretion of catabolic hormones, "epinephrine". "Generally speaking, the ergotropic system affects behaviour in the direction of arousal" (Turner, 1986, p.27). The trophotropic system deals with the parasympathetic nervous system, (vegetative and homeostatic functions), as well as the central nervous system (maintaining the baseline stability). This relates to reduction in "heart rate, blood pressure, sweat secretion, pupillary constriction as well as increased secretion of insulin, estrogens, androgens" (Turner, 1986, p.27) associated with inactivity, drowsiness and sleep.

systems can be “driven” and “tuned” either through sustained physical and mental effort (as seen in many ritual dance practices), or by reducing behaviour in the form of sustained stillness and calm attention (as is observed in static meditation). Again similar uses of rhythm can be observed in Núñez’s work, in which sustained stillness as well as extended periods of highly dynamic and strenuous movements are regularly encountered (Morris, 2009b). Engaging either one of these systems in the extreme is said to produce a state of “hyper” or “hypo” arousal (Fischer, 1973, p.59). This in turn can lead to a “spill over” or “rebound” whereby one system triggers simultaneous and balanced activation of the other (Figure 8 & Figure 9).

Figure 8: Three Stages of Tuning, based on d’Aquili (1979)

The subsequent state is one of “equilibrium”, whereby processes that had previously been experienced as independent and oppositional, are unified.³ This unification of opposites (*conjunctio oppositorum*) is an important characteristic of ecstatic states in which polarities such as “pleasure” versus “pain”, “life” versus “death”, and “engaged” versus “relaxed”, are often dissolved (You, 1994, p.368).

³ Turner (1986) associates this phenomenon with religious/sacred experiences including yogic *samadhi*, Christian *unio mystica* and Zen *satori* (1986, p.230).

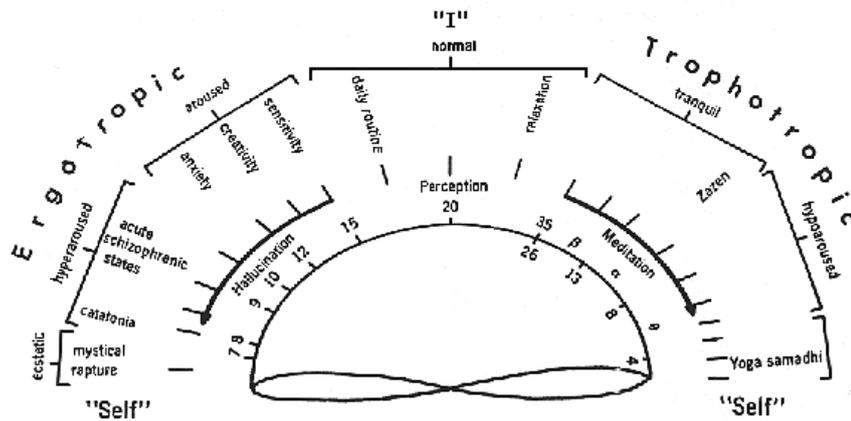


Figure 9: Cartography of Ecstatic and Meditative States (Fischer, 1973, p.60)

Other relevant theories regarding rhythm and altered states of consciousness include those of McNeill (1995) who writes on the significance of unified group movements, proposing that ecstatic experiences emerge from a basis of synchronised group motion found in traditional dance practices and the emotional bonds that such activities form (McNeill, 1995, p.73). Additionally Prince's (1982) review of the role of endorphins in shamanic trance states suggested that natural endorphins are released by the body as a result of "prolonged motor effort" relating to "vigorous dancing" (Prince, 1982a, p.421).

More recently, scientific studies have also observed that repetitive rhythmic movements can result in "respiratory-cardiovascular synchronisation", i.e. the rhythms of breathing and the heart rate entrain with the rhythmic movements of the body. These forms of entrainment are seen to coincide with an increased variability of blood pressure (barostimulation) which can result in "...augmented pain thresholds, increased theta activity, and reduced muscular reflexes" (Weiss et al., 2005, p.107); attributes commonly associated with trance and ecstatic states.⁴

In general, these neurobiological studies have focused predominantly on the rhythmical aspects of tempo, duration, and dynamics. In this way, they address questions regarding the use of a sustained driving beat as a mechanism for entraining various functions or modes of behaviour, or sudden changes in dynamics or tempo as a way of

4 Additional rhythmic and biological contributors to trance stimulation include hyperventilation, sleep deprivation (Jilek, 1982, p.327; Weiss et al., 2005, p.104-5) and perturbations of the inner ear through vibration and bodily motion (Needham, 1967).

triggering endorphins, or disorientation. What is not addressed here, is the role played by specific rhythmic forms or patterns as a means of inducing or guiding states of consciousness. While some have suggested universal correlations between “archetypal” rhythmic forms and associated psychophysical states (Grotowski, 1987; Flatischler, 1996), the neurobiological research around such phenomena is more ambiguous in its findings. In this regard, theorists have tended to look towards more socio-cultural areas of study, investigating cultural associations, and learned behavioural patterns.

3.3.2.2 *Socio-Cultural Theories*

Each is only affected by accents familiar to him; one's nerves will respond only to the degree to which one's mind prepares them for it (Rousseau [1781] cited by Rouget, 1985, p.168).

The argument for a correlation between rhythms and trance states, while supported by much of the above evidence, has also come to be challenged by a number of scholars who have pointed to the greater significance of learnt and cultural aspects in the processes of trance induction (Courlander, 1944; Verger, 1969; Rouget, 1985; Blacking, 1995; Fachner, 2011). Here the suggestion is that such biological aspects form only part of a larger process, encompassing learned behaviours, emotional associations, symbolic understandings, and encultured techniques.

The main proponent of this “socio-cultural” perspective on trance is Gilbert Rouget (1985), who argues, “No rhythmic system is specifically related to trance” (Rouget, 1985, p.317). Instead Rouget suggests that trance states are context-dependant and rooted in learned cultural symbolism; proposing further, that these states do not result automatically, but must in some way be actively “willed” by the shaman (Rouget, 1985, p.182). Rouget establishes his argument by citing examples in which trance states are triggered without the use of music, where the same use of music produces vastly different results, and where different forms of music and instrumentation produce the same results. He argues that if trance was simply caused by rhythmic drumming, then “...half of Africa would be in a trance from the beginning of the year to the end” (Rouget, 1985, p.175).

Rouget does not dismiss the significance of rhythm and music in ritual practices, rather he proposes “... that music, words, and dance create at the same time a great physical

effervescence and a state of ‘monoideism’ that, in combination, create psychophysical conditions apparently very favourable to the occurrence of trance” (Rouget, 1985, p.317). Building on these “collective” emotional experiences, symbolic structures and belief systems are seen as being the main contributing force in the emergence of trance.

More recent research in this field has also suggested similar sets of relationships (Aldridge and Fachner, 2006; Fachner, 2011), with these studies commonly viewing trance as a “biosocial” phenomenon that draws on a multitude of aspects of which music and rhythm play a significant yet non-exclusive role. In this way, the use of rhythm as a tool within sacred practices is not limited to a single process, but rather is seen as reflecting a multitude of aspects. These include the use of rhythmic forms and elements such as the increase and decrease of tempo and dynamics, sudden accents, sustained rhythmic durations, and group synchronisation (Fachner, 2011), neurobiological techniques such as driving and tuning (Lex, 1979; Weiss et al., 2005), as well as psychological aspects related to attitudes, intentions, associations, and other cultivated and encultured sensibilities (Meyer, 1961; Rouget, 1985). As such, the ability to recognise and actualize these qualities, and use them to bring about altered state of consciousness, can be seen as the “technique” of the shaman/actor. Such “techniques” are not a given, but rather, like Mauss’s “body techniques”⁵ (Mauss, 1936), are learned forms of behaviour that must be acquired and cultivated through personal study and/or processes of enculturation.

While it may be incorrect to claim that rhythm “causes” states of ecstasy, it is clear that it plays a number of important roles. These include: acting as an emotional catalyst (Penman and Becker, 2009, p.64), coordinating and synchronising group movements (McNeill, 1995; Winkelman, 2002), offering effective associative stimulus (Verger, 1969) and providing temporal structures that support and help direct attention (Jones, 1986) and energetic states (Lex, 1979).

Here strong correlations can be observed between the use of rhythm within many of the TRW’s training exercises and its application within the context of sacred rituals. In both contexts, rhythm can be seen to play a role of both organising and stimulating the attention

5 French sociologist Marcel Mauss puts forward that “...at the bottom of all mystical states there are techniques of the body” and proposes that these constituted a “...biological means of entering into ‘communication with God’ (Mauss, 1973, p.86–7).

and actions of the participants through sustained group rhythms, supported by instrumental accompaniment and unified movements of the participants. At the same time, there is also a requirement for participants to play an active role in producing, engaging with, and encouraging these elements. We will now examine the ways such principles are realised in practice by looking specifically at *Huracán*, one of a number of training *dynamics*⁶ developed by Núñez and the TRW.

3.3.3 Huracán

Figure 10: Graphic representation of rhythmic and spatial aspects of 'Huracán'

Huracán was developed by the TRW through research undertaken in 1984 at sacred sites in the regions of Yucatán and Quintana Roo in Mexico (Núñez, 1996a, p.89). This *dynamic* is made up of multiple components that encompass a range of psychophysical tools used by TRW in their work. *Huracán* involves three groups of participants, with each

⁶ *Dynamic* is the term used by the TRW to refer to the training structures they have developed. Middleton describes these as "...structured sequences of psychophysical actions in which participants play an active part and through which they may access altered states of experience" (Middleton 2001, p. 43). Here I will use italics to distinguish this term from the music term "dynamic" relating to the softness or loudness of sound.

group assigned an individual leader. A key aspect of this work is the formation of three consecutive circles in which the three groups undertake distinct activities simultaneously and in rhythmical relationship to one another. Over the course of this *dynamic* (lasting approximately an hour) these groups interchange their positions and roles, regularly shifting between various choreographies and rhythmic patterns (Figure 10). I will now describe the actions of each of these groups in turn, beginning with the outer circle. For video material see Clip 8.

3.3.3.1 *Contemplative Running*

One of the key components of *Huracán* is “contemplative running”. Contemplative running is a tool found throughout a number of different training *dynamics* used by the TRW.⁷ This takes the form of a flowing running motion through the space in which the participants’ primary task is the directing and maintaining of their attention in/on the “here and now”, bringing the rhythms of their “mind” into synchronous relationship with the rhythms of their “bodies”. Núñez describes this as a “meditation in motion”. This activity is often sustained over extended periods, with the group moving through the space in an anticlockwise direction. Here Núñez offers the following guidance regarding contemplative running:

...we trot floating through the area, relaxing at every step, avoiding the tension in the arms which one gets in a running race, and do not try to advance, since there is nowhere to reach and nobody to beat. We keep our look open, i.e. without focusing, and the same goes for our active internal chant; we must feel that we are hanging by a thread which comes from the crown of our head and is tied to the stars, and flow at our own pace in a constant here and now (Núñez, 1996a, p.88–9).

Through these actions the participants look to focus their mental attention while at the same time releasing unnecessary physical tensions and energetic blockages throughout their body. Through scientific research Núñez has identified that over sustained periods of time (more than 20 minutes) contemplative running begins to “...work with the inner fluids through locomotion and concentration” leading to the production of endorphins

⁷ Núñez developed this mode of running during his research with Grotowski in Poland in 1980 (Middleton, 2001, p.51).

(Núñez, 1996a, p.88–9).

In the case of *Huracán*, contemplative running is used in two distinct ways. Firstly, it is used to the beginning of the dynamic, and subsequently as a bridge between the various phases of the process. In this way, “contemplative running” acts as a means of “tuning” and sensitising the group as they run at the same time in an anticlockwise direction around the space. After a period of around five to ten minutes, Núñez gives a signal on his bells for the three groups to break into separate actions. In this phase “contemplative running” is used again, this time by the outer circle of participants forming a ring around the two inner groups (Figure 10). This group looks to constantly balance and maintain a quality of “equilibrium” while moving collectively through the space, again in an anticlockwise direction. Over the course of this *dynamic* there is an alternation between these two phases, switching between the entire group contemplative running and phases of the *Huracán* form in which the outer circle continues to run (i.e. running –Huracán form – running – Huracán – running... etc.)

3.3.3.2 *Conchero Dance*

From the outer circle, the next circle in takes the form of participants stepping out a rhythmic phrase in unison, moving alternatively from left to right (Figure 11). The tempo of such steps fluctuates throughout a session, yet generally increases in speed and dynamism as the work progresses, rising to a moment of peak intensity towards the end.

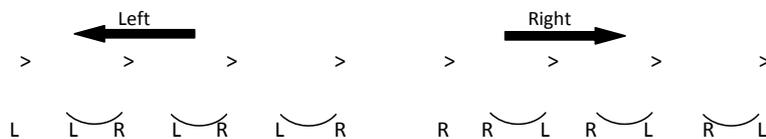


Figure 11: Rhythmic stepping patterns in Conchero dance

This choreography is derived from a traditional Conchero dance, a “sacred warrior dance” practiced in Mexico. TRW have been authorised by representatives of the Conchero tradition to use these forms in their research, approaching these forms as an “instrument” for “updating the consciousness” (Núñez, 1996a, p.26). In TRW’s research into these forms, they have identified three key aspects related to the internal structure of

this “warrior dance” which they draw on directly in their practices:

1. It is a dance—or meditation in motion—performed through a defined body alphabet, a type of mandala in motion, which charges the performer with energy.
2. The performer, allegorically, is a warrior fighting his battle through the dance, to achieve individual and group freedom. The dance is performed in a circle.
3. This battle is essentially internal. The performer is striving to maintain the level of attention in the “here and now”, by offering energy to the essences, with energetic resonance in the external world (Núñez, 1996a, pp.29–30).

What is significant here is the presence of physical aspects (circle structure and corporal form), linked directly to mental aspects (meditation, attention and metaphor). The simultaneous realisation and synthesis of these two aspects (*inner* and *outer*) is an important principle throughout much of Núñez’s work.

The “body alphabet” that defines this dance is predominantly located in the motion of the feet. A Conchero dancer explains: “It is the feet that are most important; [...] the secret of the dance is the contact that these attain with the energy of the cosmos” (cited in Rostas, 1991, p.8). These movements are described above by Núñez (1996a) as a “mandala in motion”, seen as a mechanism for connecting to and generating the energy of the dance.

While the physical technicalities of these steps are important, in leading these practices Núñez generally emphasises the process of accessing the flow of energy within these forms, over a technical perfection, or imitation of external form. This “catching” of the energy can be seen here as a means of “reactualizing” (Eliade, 1958, p.5) the steps, finding their vitality and connecting to the rhythm of these motions and the movements of the group in the present moment. In this regard, participants are rarely taught, or corrected in the execution of specific steps, but are rather encouraged to learn through doing and following the flow of the group, with Núñez’s instructions mostly relating to the energetics and equilibrium of the group, and the use of attention.

3.3.3.3 *Mayan Position*

The central group in *Huracán* adopt the form of an “energetic Mayan position”⁸ (Núñez 1996a, p. 97). TRW’s use of these “positions” derives from their research into ancient energetic forms found within the Mayan and Olmec traditions. As with yogic *asanas*, these positions are designed to raise and direct the body’s mental and physical energy. The “Mayan position” involves the feet and legs taking up a parallel position, knees slightly bent, arms extended by the sides, the upper body leans forward, the chin is tucked in, and the gaze of the eyes are directed slightly upwards (Núñez, 2004).⁹ Using this stance as a psychophysical tool for focusing and raising energy, Núñez offers the following directions to participants as they search for the right mental and physical “conditions” through which to activate the energetic potentials of this form:

Long luminous roots hold us to the earth from our feet. The energy rises up through the energy centres in the feet, up the legs, up the spine, up to the crown of the head. Energy comes in through the crown down the spine, out of the hands and down the legs, through the feet into the ground (Núñez, 2004).

Alongside the visualization of energetic pathways and centres, further mental tasks include the specific usage of attention and intention. These mental tasks provide a key mechanism for what Núñez describes as “activating” or “cooking” these positions:

...cook your body so it can illuminate the stage, we are wet so we must get dry [...] Gentle and continuous physical effort and gentle and continuous mental effort; the spirit only appears when the body and mind are in the right shape. [...] Look at how the energy flows inside and how it flows outside and how these relate to each other. [...] We become sacred by bringing together mental and physical effort - only then something else may appear. [...] We must look for the right situation not a mechanical position (Núñez, 2004).

Again, the focus lies in the flow of energy, with participants encouraged to observe and shape this flow through their use of attention and intention. The marriage of such mental

8 On other occasions this position has also been referred as *Acechador* (the Watcher), “the Hunter” and also “the Skier” (Núñez, 2004).

9 Grotowski describes a similar stance as a “...primary position of the human body” (Grotowski, 1987, p.34). In the field of anthropology this position also corresponds with a “body-technique” found in many cultures around the world. The anthropologist Alan Lomax demonstrated that this form was found commonly within hunting communities, allowing for quietness and stability in the legs, and strength and dynamism in the upper body (Lomax, 1974).

tasks with the physical demands of this corporal form, are seen as functioning as an allegorical “key” with which a participant “unlocks” the dynamics of the form (Núñez, 2004).

3.3.3.4 *Hu – Ra – Cán*

As the three groups move through their distinct patterns, they are connected by a shared awareness of rhythm. This rhythmic connection is sustained directly by a vocal chant that is realised in sequence across the groups, starting from the centre and moving outwards. The central group chants a repeating pulsation on the syllable “Hu”, the middle group responding with “Ra”, and the outer group completes the phrase with the syllable “Cán” (Figure 10 & Clip 8). These three syllables (forming the word *Huracán*) are each themselves a form of sacred chant, their sounds carrying specific symbolic and energetic meanings. In Sanskrit *Hu* means to invoke or to pour, with this believed to be the root word from which the western term “god” derived. In Sufism the syllable *hu* is associated with unity and creation. *Ra* is the name given to the ancient Egyptian deity associated with the mid-day sun, and *Cán* is the Mayan word for sun. In preparation for work with these three rhythms, Núñez instructs the participants:

We are trying to stick to one rhythm in particular, and open ourselves to the other two, to feel and integrate them in ourselves. The universe is a symphony of many rhythms. Energy is an infinite variety of rhythms. We begin with one, get to know it, to sustain it, and then we amplify our perception (Núñez, 2010).

Beginning with the attention given to their own rhythm the participants train themselves to open out their awareness and perceive their actions in relationship to a wider field of rhythmic events. As with Buber’s theory of *Ich und Du*, the participant here aims to achieve both a unified experience of self and an “unbounded” relationship with the other (2.4.2.2).

3.3.4 Rhythmic Instruments

The body is man’s first and most natural instrument
(Mauss, 1973, p.75).

Núñez suggests: “Some instruments are not for making music, but a kind of vibration that raises up your level of attention, your consciousness” (Núñez, 1996b). The search for such “instruments” is a pivotal aspect of the work undertaken by Núñez and the TRW, with the intention of connecting theatre with its archaic roots in ritual (Middleton, 2008, p.41) while also “transplanting” these technologies into a secular context of actor training (Núñez, 1996b; Middleton, 2001, p.46, 2008). This investigation has led the TRW to a diverse range of sources including: pre-Hispanic Mexican traditions of Nahuatl, Huichol, Mayan and Olmec cultures, Tibetan Buddhist practices studied in Dharamsala, India, Western approaches to acting including the work of Stanislavski, Brecht, Strasberg and Grotowski, and aspects of scientific research into human neurobiology and quantum physics (Núñez, 1996a). From these sources, they have acquired and developed a broad selection of instruments that they use regularly in their training sessions and performance work.

Within the category of instruments used by the TRW, we can observe the use of material instruments such as: conch shells, drums and rattles, as well as “body-techniques” including: “slow walking”, “whirling”, “contemplative running”, “corporeal alphabets” and “energetic positions”(Middleton, 2008, p.47). Additionally we can note the use of sonic instruments including drumming, chanting, and vibratory singing which are used as a way of heightening, accessing and shaping the energetics of this work (seen in *Huracán*, Clip 8) and *Citlalmina*, Clip 9)

Underpinning the use of all these instruments are “four fundamental principles” that have also emerged from the group’s cross-cultural research (Middleton, 2008, p.47). These include: “continuous movement; continuous mental focus on one’s experience; changing, specific rhythms; alternation between tension and relaxation” (Middleton, 2008, p.47). These principles encompass the physical, mental and temporal aspects of this work and underpin a participant’s engagement with all these “instruments” and their further combinations within the various training *dynamics* developed by Núñez and the TRW.

We can note the rhythmic nature of these principles. Firstly, the “continuous” nature of this

work establishes a context in which sustained durations are capable of psychophysically “tuning” and “driving” participants. This principle supports the theories outlined previously regarding the overload of the ergotropic system through extending periods of strenuous effort. Continuity in this context can also be seen to aid the processes of “respiratory-cardiovascular synchronisation”, with these rhythms capable of establishing themselves clearly as the group works together consciously over long durations (often working intensely for one or two hours without breaking the focus or rhythms of an exercise). In contrast, “changing and alternating rhythmic patterns” are effective means of disrupting the group’s energy, as well as generating energy by alternating between dynamic sequences of movement patterns. We can observe this principle clearly in *Huracán* where participants are regularly shifting between different rhythmic patterns. Yet despite these changes, the work maintains a sense of forward momentum as the energy continues to build over the course of the *dynamic*. This phenomenon also relates to the principle of “alternating and balanced use of tension and relaxation”. Like a pump, such alternation effectively adds to and builds the energetics of the group. Núñez relates the above principles of alternation to the Nahuatl deity *Tloque Nahuaque*¹⁰, symbolising a dialogue between, and balancing out of oppositional energies such as contraction/expansion and centrifugal/centripetal forces (Núñez, 2010) (See end of Clip 8 and 9). This is a fundamental principle of organic rhythm that has been observed previously in the writings of Goethe and Langer (2.1).

It is also worth noting the psychophysical nature of these instruments, with their (re) actualization dependant not only on the realisation of an “external score” of actions, but also on specific uses of attention, intention and visualisation that make up the “internal score” of these practices (Middleton 2001, p.50). The importance given to attention, intention, and visualisation within these practices also further supports the suggestions that rhythm is not singularly responsible for bringing about altered states of consciousness, but rather that these patterns act in accordance with other psychophysical aspects to create the “appropriate” conditions and framework through which such transformations

¹⁰ On some occasion the TRW sing a traditional Nahuatl song dedicated to *Tloque Nahuaque* as they dance the closing steps of Citlalmina (see end of Clip 9). The use of this song is not a fixed element within this form, but rather reflects the use of personal and cultural elements within these training practices.

of consciousness can be “willed” by a participant.

Instruments		
<i>huéhuetl</i> (drum) <i>atekokoli</i> (conch shell) <i>ayakaxtli</i> (hand rattle) <i>ayoyote</i> (ankle rattle) <i>tlapitzalli</i> (whistle)	slow walking whirling contemplative running corporeal alphabets energetic positions	Drumming chanting vibratory singing

Principles
continuous movement continuous mental focus changing rhythms alternation between tension and relaxation

Table 1: Instruments and Principles used in TRW’s Training Dynamics

3.3.4.1 Rhythmic Actions and Group Dynamics

What is striking about the use of rhythm within this work is the bold sense of corporality that these rhythms possess, a quality that is often highlighted by the use of dynamic drumming, hand rattles and other instrumentation played by leaders and participants (Clip 9). In contrast to qualities of rhythm described in previous sections, here we encounter rhythms that at times take on qualities approaching aggression and abandonment. The overt visceral and muscular nature of this work produces a sense of these rhythms working directly on the body’s organs, shaping qualities of energy, awareness, and group connectivity, and at times bringing the participant to a point of crisis. These visceral qualities also offer a further link to the research in neurobiological “tuning” (Lex, 1979), the production of endorphins (Prince, 1982), and the synchronisation of heart and breath rates (Weiss et al., 2005) noted earlier.

In these practices, a distinct quality of rhythm emerges that is not so much based on the specifics of individual phrases or patterns of accents, but rather relates to the vitality and overall energetic shape of the group’s rhythm. This is similar in many ways to the sense of the rise and fall of *It* referred to in Britton’s ensemble training (3.2.3.2) with the sense of rhythm here emerging from the collective actions of the group and not designated to an individual participant. Here these rhythmic aspects can be experienced as surges

or waves of energy passing through the group, at times disorientating and provoking, on other occasions calming and settling. I made the following notes in my journal in reflection on the work I undertook with TRW in Mexico:

This experience is far more visceral and immediate, dominated by an awareness of my own body in motion, and the physical impulses and gestural signals that connect and entrain my actions with those of the group. The sound of rattles and ayoyotes wash through me, their jangling high frequencies offer an immersive sense of comfort while being arresting in their harsh immediacy. I feel supported by these waves of sound which surround and travel through me. While I cannot distinguish the sound of my own feet hitting the floor from the overall wash of the group, the swish of the rattle in my hand occasionally cuts through, alerting me to it and my own presence (November 22, 2010).

Rhythm in this sense takes on the physical qualities of an action. These *rhythmic actions*¹¹ could include driving, lulling, disorientating, subduing, uniting, alarming, relaxing, hypnotizing, awakening, carrying and agitating. In these ways, rhythm not only emerges from the actions of the group but also works directly on them, at times offering further stimulus or provocation and in other instances consolidating and stabilising them. There is sense of an energetic equilibrium that is being strived for, either through the alternation of *provoking* and *consolidating rhythms*, or through a sustained process of working through either of these directions.¹²

Provoking	Consolidating
Working	Resting
Driving	Lulling
Disorientating	Uniting
Alarming	Hypnotizing
Awakening	Carrying
Agitating	Relaxing

Table 2: Rhythmic Actions

11 My use of the term *rhythmic actions* takes inspiration from developmental psychologist Daniel Stern's term "activation contours" (Stern, 1985, p.59).

12 Here we can note a correlation between these two categories of action and the roles of the ergotropic and trophotropic systems, supporting Lex's proposal that the use of rhythm within ritualistic contexts is a means of re-establishing neurobiological equilibrium (Lex, 1979, p.146).

In the practices of the TRW such *rhythmic actions* are primarily laid out by the structures and forms found in the *dynamics* themselves, with many of the *dynamics* used by TRW following specific structures including various phases of intensification and rest.¹³ Often these phases alternate and progress towards the generation and the raising of energy occurring over the course of a session.

In addition to the use of structural aspects, the energetics of the group are also directed by the actions of a “leader” who in many training *dynamics* is responsible for establishing and leading the tempo and dynamic quality of the group.¹⁴ In this work, it is necessary for the leader to be attentive and responsive to the changing rhythms of the group, knowing when and how to drive, disrupt, sustain or soften the rhythmic dynamics in order to maintain an energetic equilibrium within these training practices. In this way the rhythms of the group are shaped as the leader, along with the other participants, advances through various phases involving changing, alternating, and sustaining aspects of the group’s rhythm. Here once again we can observe the use of a number of common principles identified earlier: gradual increases or decreases in tempo, sudden shifts between different rhythmic qualities, alternation between one rhythm and another, and sustained energetic dynamics over extended periods.

3.3.4.2 *Rhythmic Ecologies*

When we study our body, we are also studying part of the cosmos
(Núñez, 1996a, p.xviii).

In looking to the sacred traditions of Mexico and Tibet the TRW discovered that these ancient cultures revealed a particular quality of “ecological thinking” based around structures seen as connecting the individual to the rhythms of the cosmos (Núñez, 1996b). This ecological “worldview” underpins the TRW’s work in what is known collectively as “Anthropocosmic Theatre”.

From this perspective, the rhythmic principles described here can be seen as having

13 Turner offers a detailed examination of the phases involved in ritual practices and their role in bringing about individual transformation and *communitas* (Turner, 1969).

14 Most *dynamics* are led by Núñez, but in some the leadership role is given to various experienced members of the group, who either lead in sequence (one after the other as seen in *Citlaltlmina*) or simultaneously (as in *Huracán*).

two key “functions”. The first is that of encountering the self; a process involving the cultivation of greater self-awareness and the deprogramming of habitual patterns of behaviour, and the second role is (re)integration into the cosmos; the individual realising themselves as part of rather than separate from their immediate and extended environment.

Núñez indicates the relationship between these two functions when he states:

The primary function of acting systems is to qualify the human being to master his instrument, which in this case happens to be his own organism, with all its states, internal and external. This, by any reckoning, is a principle of development and knowledge; to get to be self-regulated is to take the appropriate steps towards evolution; to discover that every single part of our body and our emotions is connected to, or rather interplaying with, the cosmos, is to realise that when we study our body we are also studying part of the cosmos (Núñez, 1996a, p.40).

From an “anthropocosmic” understanding these functions are intrinsically linked (both philosophically and practically). As such, in the TRW’s *dynamics* all work on the “self” takes place within the context of the “group”(Núñez, 1996a, p.66), a concept that corresponds with Britton’s principle of “self-with-others” (3.1.1). These ecological principles are often communicated by Núñez through allegories and metaphors. Examples of these include the body as an “echo box of the cosmos” (Núñez, 1996a, p.xvii), and the act of becoming a “perforated mirror” through which we can read both our own body and the stars within a single vision (Núñez, 1996a, p.69). There are also instances where cosmic symbolism is applied directly to individual actions and the movements and formations of the group. At times these forms are described as reflecting or embodying the nature of the sun, the planets, or basic elements such as earth, air, fire and water.

Eliade suggests that forms of “anthropocosmic” symbolism such as these “...make it possible for man to move freely from one level of reality to another” (Eliade, 1996, p.455). In the act of embodying such symbolic metaphors:

Man no longer feels himself to be an “air-tight” fragment, but a living cosmos open to all the other living cosmoses by which he is surrounded. The experiences of the world at large are no longer something outside of him and therefore ultimately “foreign” and “objective”; they do not alienate him from himself but, on the contrary, lead him towards himself, and reveal to him his own experience and his own destiny (Eliade, 1996, p.455).

From a rhythmic perspective, we can observe a similar phenomenon in the embodiment

of fundamental rhythmic principles and forms (i.e. alternation, pulsation, rhythmic cycles and rhythmic actions/dynamics) across a wide range of scales within Núñez's work. In this sense, such principles act as a continuum, from rhythms rooted in the biology of the body itself, extending out to the scale of cosmic activity.

On a molecular, chemical and biological scale, rhythm is encountered in this work through the vibratory singing of the voice and the use of instruments such as conchs, drums and rattles, activating the body at a vibrational and energetic level. At slower frequencies we can observe the rhythmic pulsation and alternation of the cardiovascular systems and the use of dynamic alternations of the contraction and expansion of muscles that dominate many of the movement patterns used in training, often accompanied by the pulsation of a drum or rattle. Extending these time-frames, we can note the use rhythmic patterns reflected in the cycles and alternation of actions and sequences as observed in the compositional structures of the Mexican "Conchero" and Tibetan "Monastic" dance forms used by Núñez. Further, cycles involving working to a twenty-four hour rhythm¹⁵, and cycles that span an entire year¹⁶, constitute some of the more extended durational work undertaken by the company. (For an example of rhythm operating across a range of scales in the work of TRW see graphic scores of *Citlalmina* in Appendix 7.4).

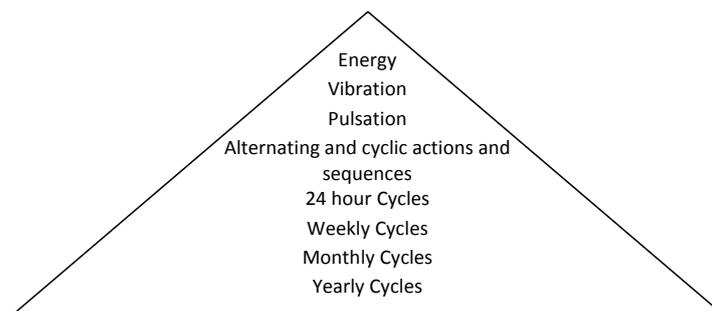


Figure 12: Nested rhythms in an anthropocosmic ecology

Operating within a rhythmic ecology, participants in this work are afforded a means of encountering themselves as part of, rather than separate from the universe they inhabit.

¹⁵ *Nictémero* is the name given to a *dynamic* that took place at the Sculpture Space at the National University of Mexico (UNAM) in 1982. Participants actively occupied this space for twenty-four hours. This name comes from the Greek term *nichthémeron*, meaning a period of twenty-four hours (Núñez, 1996a, p.73).

¹⁶ In 2000 TRW ran a year-long project titled "The Flight of Quetzalcoatl", in which activities were sustained from January through to December on the site of Teotihuacan.

Here such forms of integration are not simply conceptual, rather they are realised practically through the psychophysical tools, instruments, and techniques adopted by the TRW.

3.3.5 Summary

This section has explored the application of sacred rhythmic forms and principles within actor training, examining the relationships between rhythm and states of ecstasy. The use of such rhythmic technologies within Núñez's work can be understood as operating in two distinct yet interconnected ways: one being as a support structure that helps to guide and consolidate the group's energy, forming perceptual and emotional bonds between its members. In this sense, as with the work of Meyerhold (2.3) and Britton (3.2), rhythm offers a means of shaping the use of attention and perception of time and action. The second principle seen here is rhythm as a means of forward momentum that can drive, provoke, and at times disrupt the energy of the group. Here these two aspects of rhythm have been described as providing a framework of support and a catalyst for change. Rhythm both drives and subdues the energetics of the group, disorientating, "deautomatizing" and "deprogramming" the participants, as well as grounding and integrating them into a wider field of activity and encouraging a sense of connection with the cosmos.

Such rhythmic structures and dynamic actions along with the neurobiological and socio-cultural aspects that are associated with them are seen to provide a means of entering, sustaining, navigating, and leaving altered states of consciousness within these training dynamics. Yet, as we have seen here, there is more at play in these practices than a linear equation of cause and effect (rhythm=ecstasy). There is a multitude of aspects involved in these processes, including the individual's own cultivated knowledge and psychophysical capacity to shape and sustain attention and to guide intentions. While rhythm may be at the heart of such "techniques of ecstasy", the ecstatic "journey" involves aspects that would appear to extend beyond the field of rhythm.

As with the work of Grotowski and Stanislavski, it appears that the actor/shaman needs to not only engage with the rhythmic structures and formal aesthetics, but also

consciously work on the cultivation of an inner quality of *intention* and *attention* as a means of “re-actualizing” these rhythms in the present moment. These *dynamics* take place at the interface between the ritual forms that have been sustained through tradition, and a personal and spontaneous encounter being realised in the “here and now”. Rhythm exists at once as a form of “traditional knowledge” located in the “body alphabets” and the “objective” forms that make up these practices, while also being highly personal, emerging from an individual’s own rhythmic dynamics as these subjectively fluctuate and change in the moment. It is in the meeting of these two aspects that this work happens, the participant at once surrendering to a rhythm greater than themselves, while remaining vigilantly present in this encounter.

Here, “anthropocosmic” integration approaches a description of ecstasy: a “cosmic verticality” through which individuals become “transparent” and pervious to the rhythms existing inside and outside of their bodies. Remaining attentive and present in the flow of this work, the participants look to hold themselves (in the words of Grotowski) “... taut between organicity and the awareness” (Grotowski, 1995, p.125). At once remaining concentrated and tied to the “here and now” of each moment, while also surrendering the vital momentum of the *dynamic*.

The application of traditional knowledge and forms within a secular context will be explored further in the following section in which Reinhard Flatischler’s TaKeTiNa practices will form the basis of an examination of the relationship between the individual and emergent rhythmic phenomena.

3.4 I Make Plans, but It Evolves

“I and It” in the TaKeTiNa practices of Reinhard Flatischler

*Rhythm teaches you at the metalevel – not in an environment
that is coloured by daily habits and emotional reactions
(Flatischler and Flatischler, 2010).*

As an actor working with rhythm, there are times when I am acutely aware that I am directing my own actions; I place my foot down on a particular beat, I intentionally pause between speaking two syllables, I coordinate an action so that it corresponds with the duration of my outward breath or a musical phrase. There are other times however, when I have a sense that my actions take place without me directly initiating or controlling them. For example: while running alongside others I have the sense of being carried forward by a shared tempo, I find that I have reached to catch a ball flying towards me microseconds before I was conscious of its presence, or the external sounds of musical rhythm affect the qualities of my actions giving me the sense of forward momentum, connectivity and fluidity.

Rhythm practitioners Reinhard and Cornelia Flatischler refer to these two aspects in terms of “*the ‘I’ and the ‘It’*” (Flatischler and Flatischler, 2008), and explore this dynamic relationship through polyrhythm within their “TaKeTiNa” practices. In contrast to the other practices discussed in this thesis, TaKeTiNa has not been developed primarily as a form of actor training. Rather, it finds application within a wide range of contexts including personal development practices, the training of musicians, management training, clinical practices and medical research¹ (Flatischler and Flatischler, 2010). Although this work is not strictly located within the category of actor training, many of its principles and structures are clearly applicable to this field and demonstrate significant value at a number

¹ Areas of medical research using TaKeTiNa include cardiovascular research into “heart rate variability”, as well as EEG research looking into “neuro-vegetative rhythmicity”, and research exploring applications in pain therapy for individuals suffering from chronic pain (Flatischler and Flatischler, 2012).

of levels.² The high degree of research and development that has gone into these rhythm practices also offers this investigation further insight into the potentials of rhythm within actor training. This section will outline some of the key mechanisms found in TaKeTiNa and propose a number of ways in which these are applicable to acting practices.

3.4.1 Background

In 1996 I attended a seminar on the theme of archetypal rhythm, given by Reinhard and Cornelia Flatischler during their visit to Melbourne, Australia. As a young actor and musician, this presentation revealed a perspective on rhythm that I had not previously encountered. Up until then rhythm had been taught to me as a specialist skill, something that I had to work on and perfect. In my studies and training the emphasis had generally been placed on achieving speed, accuracy and a consistency of rhythm. In contrast, the Flatschlers presented rhythm as a lived experience, inherent in the physiology of our bodies and our encounters in daily life, and through which we could access new ways of experiencing and transforming our relationship with ourselves and the world around us. Many of the experiences and ideas presented that evening resonated strongly with me and continued to play on my mind and the work that I undertook in the fields of music and acting, contributing significantly to my current research.

The practices of TaKeTiNa emerged from Reinhard Flatischler's detailed studies of percussion and rhythmic practices in various traditional contexts around the world, including Korean Shamanism, Indian Tabla music, and Afro-Caribbean music from Brazil and Cuba. Through his encounters with these musical and philosophical traditions, Flatischler formed an understanding that despite obvious cultural differences and distinct instrumentations, "...the underlying principles of how rhythm affects our mind and body are the same in all cultures" (Flatischler, 1996, p.343). Flatischler's work was also informed by his earlier classical training as a pianist, and in many ways TaKeTiNa can be seen as a bridge joining these seemingly distinct approaches to rhythm. Flatischler explains:

² TaKeTiNa teachers including Henning Von Vangerow, Fabian Bautz and Tania Bosak have applied aspects of TaKeTiNa within the context of actor training in Europe and Australia.

In classical tradition, we first comprehend the structures intellectually and then transfer that to the body and playing. In non-European cultures, however, the bodily experience comes first so that with subsequent reflection the rhythmic structure, already understood by the body, becomes clear. Both ways can be used to advantage if we develop their possibilities and incorporate them in the exercises so they complement each other (Flatischler, 1992, p.17).

The incorporation of “bodily experience” into “European” music education is an ethos that can also be found in earlier practices such as those of Émile Jaques-Dalcroze (1865-1950) and Zoltán Kodály (1882-1967) who approached the study of musical rhythm primarily through movement and the speaking of mnemonic syllables. What Flatischler brings to this field of musical pedagogy is a broad experience and comprehension of musical rhythms from around the world and a detailed understanding of the science behind these processes. Through this, Flatischler is able to combine a diverse array of practices into a unified approach capable of operating at what he describes as an “archetypal level” of rhythmic principles and structure. TaKeTiNa looks to apply these aspects in a contemporary “Western” context that is accessible to both musicians and non-musicians alike. As with the actor training work of Núñez (3.3), TaKeTiNa draws on many traditional sources of rhythmic knowledge and practice. Through the processes of re-exploration and “re-actualization” such practices can be seen, in Núñez’s terms, as a way to “...bring these tools up to date” (Núñez, 1996a, p.97). It is in these ways that the practices of TaKeTiNa have been refined, developed and disseminated to teachers and students throughout Europe, North America and Australia over the last forty years.

3.4.2 TaKeTiNa Process

...the brain that engages with music is changed by this engagement
(Thaut, 2008, p.62).

Most commonly, a TaKeTiNa process will take the form of a circle of participants formed around a drummer and a leader. Sessions generally last between one and two hours and are often built up from participants speaking simple rhythmic syllables in unison (such as *Ta-Ki*, or *Ga-Ma-La*, or *Ta-Ke-Ti-Na*, or a number of combination of these), which are

then embodied through simple stepping patterns. Once these movements are established within the group, a new set of vocal syllables is introduced creating a polyrhythmic relationship between the stepping pattern and the voice. Here the feet might be stepping a slow pattern based on a cycle of *Ga-Ma-La*, while the voice, over the same duration might take up a pattern at twice this speed such as *ta-ki-ta-ki-ta-ki*, or *ga-ma-la-ga-ma-la* (see Table 3). Eventually this is followed by the gradual introduction of hand-claps (or accents marked on *caxixi* rattle) corresponding with the pattern created by these new spoken syllables. Through these three layers (steps, voice and claps), a rhythmic cycle is formed, over which the leader can then introduce the process of call and response.

Original Syllables	Ta	Ki	Ta	Ki	Ta	Ki						
Steps	right	Left	right	Left	right	Left						
Change of Syllables	Ga	Ma	La	Ga	Ma	La						
2nd Change of Syllables	ga	Ma	La	ga	ma	la	ga	ma	la	ga	ma	la
Claps				X		X						
Call and Response	go	doom	bah	doo	go	doom	bah	Doo				
		(Example of a lead call)				(Group response)						

Table 3: An illustration of simultaneous rhythmic elements in ‘TaKeTiNa’

The leader will often break down these phases of the process, reverting back to earlier phases and building up the sequence a number of times over the course of a session. Throughout this process, participants are also offered the possibility of stopping and lying down in the middle of the circle or walking freely around the outside, at any moment they choose. This flexible structure allows for participants with diverse levels of experience to share in a complex rhythmic process in which they can freely modulate their own engagement with these practices while remaining part of a structured collective process (footage of TaKeTiNa can be seen at: <http://youtu.be/Inr0coWTYIA> and <http://youtu.be/jzhtW7zSn-U>).

3.4.3 Levels of Organisation

Like many of the other rhythmic models described in this thesis, Flatischler approaches

rhythm as a system containing multiple levels of organisation. These levels are built up from the basis of pulsation, seen here as a fundamental element of rhythm. From this emerges other elements including cycles, intervals and off-beats. Together with pulsation, these form a collection of “basic rhythmic phenomena” that Flatischler suggests are common to all musical forms (Flatischler, 1996, p.346). Flatischler has also found that these elements are commonly grouped and subdivided in particular rhythmic ratios, which can be identified within many distinct cultures. These groupings include cycles of twos, threes and fours, which are further combined into a number of common arrangements, both sequentially (i.e. 2+3) and simultaneously (2 over 3). As in the description given earlier, we can observe such groupings in the use of cyclic phrases such as *ta-ki*, and *ga-ma-la* (see Table 3). These assertions of universality are based in part on the observation of these phenomena throughout many aspects of human life. They include bodily rhythms, such as the heartbeat, consisting of an alternation of *systole-diastole*, a *pulse* and an *interval*; tripartite breath cycles, made up of combinations of *inhalation - exhalation - rest*; and walking patterns involving an alternating cycle of *left - right* (Flatischler, 1992, pp.19–27). On a larger scale we can experience the cycles of days and nights, seasons, and years (Flatischler, 1992, p.86); and on a far smaller scale, in the “realm of vibration” and pitch, we encounter the same elementary rhythmic ratios again (1:1, 1:2, 1:3, 2:3, 3:4 or 4:5) this time forming tonal harmonies³ (Flatischler, 1992, p.84). Building on these concepts Flatischler categorises the above phenomena as “rhythmic archetypes”.

Flatischler also proposes that these “archetypes” support the development of creative rhythmic processes found within many cultures. Here we can observe the ways in which these elements are combined and arranged into more expressive forms referred to by Flatischler as “rhythmic figures”(Flatischler, 1992, p.117). As an extension of these basic elements, “rhythmic figures” are seen as a more creative cultural and expressive collection of devices, evolving out of traditions as well as being invented by individuals. “Rhythmic figures” can take on a broad range of forms and personal characteristics, allowing for creative interpretation through the combining of “rhythmic archetypes”, and

³ Research into musical perception indicates the existence of a rhythmic threshold, with events occurring at a frequency of between 0.33Hz -10Hz (3 second intervals to a 10th of a second) being perceived as rhythm, while faster frequencies of between 20Hz and 20000Hz fall under the category of pitch (Sethares, 2007, pp.7–8).

variations in form, instrumentation, tonal or dynamic quality (Flatischler, 1992, p.117). While “rhythmic figures” often have an expressive or spontaneous character, they can also take the form of fixed repetitive patterns, referred to by Flatischler as a “guideline”:

Certain rhythmic figures are played unvaryingly as a “fixed figure” which orients the musician and the listener, and also serves as a reference point for improvisation. These figures and their persistent repetition manifest as a structural essence which guides the musician through the thicket of surrounding rhythms (Flatischler, 1992, p.119).



Figure 13: Example of a rhythmic “guideline”: West African “6/8 Bell Pattern”

Another form of “rhythmic figure” is found in “recitative rhythms”, which like spoken words are made up of combinations of long and short syllables or sounds (Flatischler, 1992, p.59). The combination of these long and short sounds can take the form of a repeated phrase (*agogic* metres of Greek poetry⁴) or can form an extended sequence (like in syncopated phrasing of a jazz soloist). This is a rhythmic principle that can be observed in many cultures, where musical instruments will often imitate the rhythms of the spoken voice (West African “talking drums”) as well as the voice imitating the sounds and rhythms of musical instruments (*bols*: mnemonic syllables used in Indian Classical Music).

Recitative rhythm	ga	ma	la	ta	ki	ga	ma	la	ta	ki		
	●	.	.	●	.	●	.	.	●	.		
<hr/>												
Divisive polyrhythm	ta			ki			ta			ki		
	●			●			●			●		
	ga		ma		la		ga		ma	la		
	●		.		.		●		.	.		
<hr/>												
Additive polyrhythm	ta	ki										
	●	.	●	.	●	.	●	.	●	.	●	.
	ga	ma	la									
	●	.	.	●	.	.	●	.	.	●	.	.

Table 4: Three ways of combining archetypal rhythms (ga-ma-la & ta-ki)

4 See appendix 7.1 for a definition of *agogic* accents and metres.

In relationship to the description given earlier, we can observe the ways that TaKeTiNa explores the relationships between these aspects, (archetypal rhythm and rhythmic figures), building up from an embodied understanding of basic elements, and leading into an encounter with rhythm as an expressive and creative medium. Through the combining of these basic building blocks, a participant with little or no musical knowledge is able to encounter and explore a complex range of rhythmic experiences. They can come in contact with fundamental relationships involving the layering and integration of *spontaneity* and *structure*, *subjective* and *objective* forms, and *active* and *passive* qualities of behaviour; all fundamental aspects found in psychophysical actor training. As a way of contextualising these aspects, Flatischler has developed the concept of *the I and the It*, a theme that will now be discussed in more detail.

3.4.4 I & It

In introducing this theme Reinhard and Cornelia Flatischler describe “*I* as the personification of one’s own egocentric identity”, whereas “*It* represents the larger perspective and powers beyond the individual” that cannot be “...directly influenced or controlled by the *I*” (Flatischler and Flatischler, 2008, p.7). For the Flatischlers these two aspects are understood as existing both in opposition and in dialogue with one another. Encountered practically within TaKeTiNa these aspects are also seen to signify a fundamental dialogue that can be realised at various levels and across a range of contexts:

“*I*” drum, but “*It*” pulsates; “*I*” make plans, but “*It*” evolves; “*I*” search for meaning, but “*It*” knows already. The “*I*” acts in the realm of voluntary action, analytic thinking, and emotional longing. In contrast, we come in contact with the “*It*” through intuition, openness, and inner silence (Flatischler and Flatischler, 2008, p.7).

We can consider here a difference between actions that originate in an individual (his or her steps, thoughts, questions, longings), and those actions that have no fixed point of origin and cannot be assigned to a specific individual (an atmosphere, a quality of relationship, a composition). Both of these aspects demonstrate strong correlations with a number of actor training principles discussed so far within this thesis (i.e. *inner/outer Tempo-rhythm*, *total act*, *self-with-others*, *anthropocosmic ecologies*), and as such offer

a useful point of reference in looking to further understand the significance of rhythm in actor training. In the cases of both Britton and Núñez, work on the individual is intrinsically linked to a relationship with something outside of the self, with the individual seen as encountering the *other*, the *It*, or the *cosmos* by working through the *self* or vice versa. As with TaKeTiNa, many of these practices make use of the dynamic relationships between the actions of the individual and the field in which these actions take place. What distinguishes these practices is the way that each approaches and thematises this dialogue. In this regard, TaKeTiNa is unique in the primacy given to rhythm as a mechanism for exploring such encounters.

3.4.4.1 *Emergent Phenomena*

As referred to earlier, *It* is a term also adopted by Britton (3.2), used to talk specifically about an individual's relationship with the emergent aspects of an ensemble. Further explaining the logic behind this he states:

...I found there was no word I could comfortably employ to describe what is happening in a room when an ensemble really connects and its members transcend their individual performances to participate in something 'other'. I started talking about 'It' - "it" is in the room. "it" requires the energy to alter, "it"'s left... (Britton, 2010b, p.2).

Britton discusses the way *It* emerges within his work, born from the responsiveness and qualities of attention cultivated by individuals within a shared training context. *It* is understood here as an emergent phenomenon or "epiphenomenon", arising out of events taking place at a lower, more basic level of organisation. Britton compares this to the way consciousness can be seen to emerge from the specific interactions of neurons firing in the brain⁵, a process akin to the interactions of members within an ensemble, encountering *It* through their actions and use of attention (Britton, 2010b, p.10). Based on this understanding, Britton proposes that the "Itness of an Ensemble" can be formed and developed through a process of individuals "...decoding [...] thought paradigms and psychophysical blockages that obstruct the ability [...] to respond instantaneously, vulnerably and appropriately to stimulus given by others" (Britton, 2010b, p.10).

5 See Buzsaki (2006) for a discussion of the rhythmic nature of neurological processes in the brain.

Similarly, such aspects are approached in TaKeTiNa through processes of disrupting participants' thought processes and challenging pre-existing patterns of behaviour that may be obstructing them from being fully engaged with their environment. Here Flatischler, like Britton, also adopts a principle of development through encountering chaos. Where in Britton's work, the throwing and catching of balls is often intentionally used to provoke psychophysical states of "overload" (3.2.3), Flatischler achieves comparative states through the layering of multiple rhythms and kinaesthetic tasks. In these instances, the psychophysical organisation of an individual or the group is disrupted and subsequently reorganises itself, often leading to deeper qualities of connectivity and integration.⁶ In TaKeTiNa, it is this combination of the stabilising and supportive qualities of group synchronisation, alongside the - at times - intentionally provocative and disorientating uses of rhythm, which facilitates participants encountering and redefining their own psychophysical states and their relationships with the group.

3.4.4.2 *Active/Passive*

In addition to viewing *I and It* in regard to principles of *self* and *others*, this theme can also be applied directly to the actions of an individual actor. Another way we can view this theme is a dichotomy between "voluntary" and "involuntary", or "active" and "passive", as suggested in Flatischler's description:

On the one side, the realm of letting go and allowing something to happen on its own accord – just as our heart pulsates involuntarily – and, on the other side, active intention, voluntary creation combined with awake conscious and logical thinking (Flatischler, 1996, p.348).

Again, rhythm presents itself as a valuable mechanism for exploring these themes. The synchronised rhythms of simple group movements offer a participant a clear encounter with the passive experience of involuntary motion. In such contexts, participants may find their legs moving in step with the group and the beat of the drum without the need to

⁶ Flatischler makes a correlation between the psychophysical experience of chaos encountered in TaKeTiNa, and biological process whereby an organism evolves through a period of instability leading to a "new level of order" (Flatischler, 1996). In neuro-physiological research undertaken by Michael Überall, "objective changes of bioelectric brain activity" were observed as a result of the TaKeTiNa process. After "chaotic phases" in which participants "fell out" of rhythm, the subsequent phase of "falling in" to rhythm was accompanied by a deeper level of relaxation, indicated by an EEG analysis. These experiences were also transferable beyond the context of TaKeTiNa (Überall, 2012).

consciously direct or coordinate this complex process. If the process is then layered with the intentional movement of the arms, (to clap, point, or manipulate the body of another), participants are given the possibility experiencing a relationship to their actions that is simultaneously *active* and *passive*.

3.4.4.3 *Ownership*

Theatre practitioner Thomas Richards raises a further issue related to this dichotomy, that of ownership and personal agency. *What do I own and what do I assimilate or inherit from others?* He writes about this theme of ownership in relationship to the “knowledge” that emerges within his practice (developed with Grotowski) involving ancient vibratory songs and physical actions, explaining:

It’s both yours, and not yours. The knowledge is yours, up to a certain extent, because you *do*, but that which the knowledge serves and moves towards is not yours (Richards, 2008, p.177).

Here Richards identifies the “doing” of an action as the distinguishing feature of self-ownership; it is yours because it is *done* by you. While at the same time, there is a sense that these actions exist within a wider field of “knowledge”, existing beyond the realm of the individual “doer”. These statements support Flatischler’s proposal that *I* is located in the “realm of voluntary action”, while *It* remains “involuntary”. In this way we can consider *I* as related to a quality of personal authorship or agency that can exist as part of, come into contact with, or move towards *It*. *I* am author of my own actions, owning and directing these consciously and intentionally. In contrast, *It* cannot be owned or attributed to a single individual, process, property, or object. *It* occurs of its own accord (or at least appears to from the perspective of the *I*). If we wanted to locate *It*, we might do so in the spaces and silences in between, in the liminal processes of becoming or evolving, in the meetings or relationships between two or more elements or in the realm of “global order” as referred to by Haken (3.2.2). *It* is neither the one thing nor the other but rather a phenomenon that exists between or encompasses the many. Richards describes in his process of working with songs and actions, the emergence of another element, what he refers to as “something third,” that is neither the song nor the actions themselves:

You're singing, leading the song and looking for this 'something third' through the song and your actions, and when it arrives, to a certain extent it's as if you follow it and you lead no longer. So who is leading? The wind or the boat? (Richards, 2008, p.133)

Here, it is initially the *I* who is seen as actively leading, and looking, and then at some point this relationship is reversed; "*it* arrives" and the *I* in turn comes to "follow *it*". Perhaps the easiest way for us to consider such relationships is through the use of metaphor and analogy; like the relationship between the "wind" and "boat", or the experience of being carried by a stream, a wave or some form of flow. Alternatively we might consider *It* as an emergent field, a "grid" or a "framework" in which our actions takes place, or as a "tool" or "instrument" or "vehicle" that is capable of acting upon us. While such descriptions offer valuable ways for learning and communicating this principle, in the end, it is only through practical encounters and embodied experiences that these concepts gain transferable meaning and value for a participant. To further comprehend the role that rhythm plays in facilitating such encounters, let us now look in more detail at the mechanisms operating within TaKeTiNa.

3.4.5 Rhythmic Interaction Field

Just as rapid neuronal oscillations bind together different functional parts within the brain and nervous system, so rhythm binds together the individual nervous systems of a human community (Sacks, 2007, p.247).

In TaKeTiNa the relationship between *I* and *It* is approached through the interactions of rhythms located both in the body and in the space around them. Flatischler refers to this phenomenon as a "rhythmic interaction field". This field is built around a number of aspects that Flatischler separates into two categories: "external musical rhythms" and "body and mind rhythms" (Flatischler, 1996, p.346) (Table 5).

It is the correlations between these "internal" and "external" rhythms that are seen to facilitate the emergence of an "*interaction field*". This field becomes the basis for interaction through the synchronisation and entrainment of these elements at various scales and degrees of interrelationship. Through the rhythmic processes of TaKeTiNa, these patterns are seen to come into sympathetic relationship with one another, with

corresponding rhythms entraining, longer cycles enveloping shorter cycles, and faster rhythms “nesting” within slower ones. As with Haken’s concept of “*synergetics*” (3.2.1) the composite elements of this field are able to effectively interact and influence each other across a range of scales, allowing for “downward” (global-to-local) and “upward” (local-to-global) causal relationships to occur simultaneously (Vrobel, 2011, p.100).

<i>External Musical Rhythm</i>	<i>Body and Mind Rhythms</i>
<ul style="list-style-type: none"> • Pulsation • Cycle • Pulsation in the Interval • Off-beats • Rhythmic figures • Sounds of rhythmic figures • Tempo 	<ul style="list-style-type: none"> • Rhythms of sleep and wake cycles • Rhythm of walking • Rhythm of breathing • Rhythm of heartbeat • Rhythm of brain waves • Glandular rhythms • Primal rhythmic imprint

Table 5: External-musical and body-mind rhythms (Flatischler, 1996, p.346)

3.4.5.1 Fractal Time

To get a better sense of the nature of these temporal relationships and how they form, it will be useful for us to turn briefly to the work of mathematician and philosopher, Suzie Vrobel. This theoretical discussion will form the basis for a further examination of rhythm here and in the following chapters. In Vrobel’s terms, multi-layered structures such as those described above, can be considered as forms of “temporal fractals” (Vrobel, 2004; Vrobel, 2011). As Vrobel explains:

Both spatial and temporal fractals are ubiquitous in nature: From the filigree blood vessels in our kidneys to the nested oscillators in our brains – the dynamics which govern our physiology and behaviour display more often than not fractal patterns (Vrobel, 2011, p.28–9).

Here Vrobel translates the principles of fractal geometry from the dimensions of space to those of time. A fractal is defined here as “...a structure which exhibits detail on various levels of description” (Vrobel, 2004, p.16), the principle being that the more we zoom in on an image, the more detail we can observe (Vrobel, 2011, p.18). This principle has commonly been observed in the shapes of coastlines, pinecones, fern trees, and

blood vessels. These forms also demonstrate high degrees of “self similarity” or “scale invariance”, being structures “...in which the whole is actually *made up* of smaller copies of itself” (Vrobel, 2011, p.19). In applying these principles to temporal phenomena, Vrobel observes strong correlations between the rhythms of the human body and those found in our environment, stating:

...the dynamics within our bodies and those of our environment often display statistical self-similarity, i.e., the rate of change or variability of a time series is scale invariant. There is substantial evidence that a high fractal dimension, which measures the degree of, for instance an individual’s heart rate variability, correlates with a healthy state (whereas rigidity, i.e. poor variability, correlates with a lower fractal dimension and disease) (Vrobel, 2011, p.29).

Vrobel puts forward a system of temporal and spatial measurement, whereby an object or an event can be described in degrees of “fractality”, indicating the range of scales or “levels of description” in which qualities “self-similarity” can be observed. Here it is proposed that higher degrees of “fractality” make for a greater adaptability, with all the elements in these systems being capable of responding instantaneously to change (Vrobel, 2007; Vrobel, 2011). An example of this can be found in the harmonic overtones that make up our experience of pitch. If we listen to a naturally produced tone, it is not only a single frequency that we hear, but rather a series of overtones that occur at the same time as the “fundamental frequency”. For example if the fundamental frequency was 440Hz (i.e. *A above middle C*) then this would automatically produce a simultaneous overtone that will “phase-lock” to the fundamental at 880Hz (*one octave* above) as well as producing a third overtone of 1320Hz (a further *fifth* up to *E*) and so on (1:1, 2:1, 3:1 etc.) (Vrobel, 2007, p.3).

Figure 14: Integer harmonic frequencies (Vrobel, 2007, p.3)

In this example we can see how a change occurring at one level or scale can instantaneously affect events taking place at another level. If the fundamental frequency is altered (shifting up or down in pitch) then all integer frequencies will change as a direct result. The opposite form of causal relationship can also take place, whereby if the fundamental is artificially removed from an audio signal (as is the case in some forms of telecommunications or high frequency speakers), then the listener will still hear the tone as if the fundamental were still present. This phenomenon will continue to occur even if other overtones are removed as well, with listeners responsible for producing slower frequencies at appropriate ratios through their own perceptual processes (Vrobel, 2007, p.5). This illustrates the two-way causal relationships that can occur within such heavily entrained fields of activity making them highly adaptable and responsive to change.

In reflecting on the nature of rhythm within ensemble practices, similar forms of relationship can be observed, with groups becoming increasingly responsive and adaptive as their rhythms entrain with each other. This process of an individual's internal rhythms entraining with the rhythms of their environment can also bring about another phenomenon, sometimes referred to as "boundary loss". Vrobel describes this as "...a state of total immersion [...] and infinite trust" (Vrobel, 2011, p.223). From a rhythmic viewpoint we can consider this "total immersion" as a process whereby *I* is rhythmically coupled with *It*, the two forming a singular rhythmic phenomenon. Rhythm as such, defines the boundaries of an event, a phenomenon or an individual, delineating where *I* ends and the world around the *I* begins. We recognise that we are separate because each of us exists in a different rhythm to the other. Far from being a fixed boundary though, the perception of a rhythmic "self" is capable of being extended to encompass a greater field of events. Through this, one's agency may be experienced as reaching beyond the confines of the body, or retracting inwards, whereby an individual may come to disassociate with parts of their own body or actions (Vrobel, 2011, pp.60–61). In this way, we can observe rhythm's capacity to affect the way an actor experiences themselves and the world around them, facilitating their connection or separation from objects or events, as well as developing responsiveness to change and qualities of group coordination.

While such forms of immersion are considered highly valuable to our wellbeing, they also have the potential of being restrictive or even harmful (Vrobel, 2004, p.29). Advantages of such states include "...smooth and efficient behaviour, allowing almost frictionless navigation", while disadvantages include "...the loss of perspective and self" (Vrobel, 2004, p.223). As an example, the entrained firing of neurons in the brain which in the context of meditation or trance induction can be extremely beneficial (3.3.2), can in extreme cases lead to a form of feedback in the circuitry of the brain resulting in epileptic seizures (Vrobel, 2004, pp.29 & 103).⁷ On a larger scale, we can note the nature of entrainment amongst groups of humans. This can be highly empowering in the case of the harmonious interactions within a community, festivity or ritual. However, these forms of entrainment are also potentially dangerous, as in the case of violent crowd or mob behaviour in which the actions of individuals are determined by the emerging dynamics of the group (Strogatz, 2004, p.264).

Similar principles can be observed within creative practices, where entrainment between ensemble members is seen as an essential aspect of their work, yet a total surrender of individuality is generally not desirable. Without individual variation or deviation, a performance can easily become monotonous and dull. There would appear to be a need for a dialogue between these two elements in which the performer can both surrender and direct their actions, encountering unity and multiplicity in the same moment. In this way, our capacities to both synchronise and desynchronise can be seen as highly valuable to a healthy human existence as well as to our creative potential as artists. Further, our ability to sustain both states simultaneously (i.e. to synchronise with while at the same time maintaining some level of rhythmic independence) would appear to be a desirable mode through which to encounter the world and in which to perform. The nature of such simultaneous phenomena will be further discussed in the following chapters in which Vrobel's theories of "simultaneity" and "fractal time" will be given further consideration (4.2).

⁷ The rhythmic behaviour of neurons in waking consciousness are characterised by a desynchronised EEG in which levels of synchronisation are fewer and more subtle than in restful states such as non-REM sleep. The suggestion here is that such desynchronised behaviour can be advantageous as it allows information processing to be maximised and aids in choice making processes (Wang, 2010, p.1196).

3.4.5.2 Encountering Simultaneity

Flatischler refers to such forms of multilevelled synchronisation as “simultaneity”. In this regard, he suggests that in order to encounter and realise these rhythms simultaneously it is necessary for a participant to give over some form of voluntary control of their own rhythmic movements (Flatischler, 1996). He bases this assertion on the principle that the conscious mind can only actively deal with one process a time. The implications of this are that the simultaneous realisation of multiple rhythms cannot be approached directly through a purely logical, conscious or active thought process (Flatischler, 1996, p.348).

As an example, in TaKeTiNa if I am stepping one pattern in my feet, then before taking on another pattern in my hands or voice I must embody, or “surrender” to the first pattern to the point where it can continue without the need for active attention. Once I am able to relinquish active control of this pattern, then I can begin to engage with a second pattern such as speaking a different rhythm with my voice (as described earlier). Initially I approach this new task actively, intentionally directing my own actions in relationship to the existing pattern in my feet, but eventually this pattern can also take place without the need for active control. And so the process can continue, with claps being added and other forms of interaction taking place through “call and response”, and other more subtle forms of interaction between participants and the leader.

Within this process I often find myself occupying two realms simultaneously: being *active* while at the same time *passive*, *conscious* while *unconscious*, *voluntary* while *involuntary*. It is in this way that I encounter the relationship between *I* and *It* in TaKeTiNa. As I alternate between actively controlling and passively following actions such as stepping, clapping, and singing in various rhythmic patterns simultaneously, the threshold between these two aspects is at first made lucid. Over time, the possibility then arises for the *I* and the *It* to evolve from being mutually exclusive (*I* do **or** *It* does) to being mutually inclusive (*I* do **and** *It* does). At first these experience may only be a brief passing encounter, yet over time these experiences become further integrated into my processes and increasingly familiar and sustained.

3.4.5.3 Organising Freedom

...rhythm at once gives a sense of 'freedom' [...]: an organism 'in' a rhythm feels itself impelled by a transpersonal momentum that gives it a sense of assurance – particularly when coping with the future (Golston, 2008, p.45).

In the practices of TaKeTiNa, we can observe the ways in which control is given over with the support of rhythms that pulsate, both inside and outside the participant. We find inner pulsation in the form of a somatic awareness of rocking from side to side as part of a stepping pattern, of speaking repeated syllables, or through the entrainment of the breath and the heartbeat. While from the outside, pulsation is encountered as a sense of being carried by the unified movement and singing of the group, and the central beat of the drum that resonates throughout the circle.

At times “surrendering to” or “falling” into rhythm can also bring about a strong emotional response. Possible feelings of elation and joy or a sense of apprehension or uncertainty can arise as I move beyond the realm of *I* (i.e. conscious control and understanding) and approach the more liminal state of *It*, a state that resists being fully grasped or fixed. For these reasons this work requires a safe context in which I can experience the necessary support that allows me to “fall” from a state of organised active rhythm into one of potential chaos, while also feeling empowered to make choices about when to stop my own process or start building the elements up again from the beginning (Table 3, p.132).

From my own experience of drumming and participating in these practices, it is the rhythmic forms and simple movement patterns found in TaKeTiNa that offer me the clearest support, and through which such shifts from organisation to chaos and back again are realised. Here again (like in the “ball game”) it is the layering and combining of simple elements that brings about an encounter with complexity. Through these forms, I as a participant feel safe to “let go” and be “carried by” the rhythm, while at the same time remaining aware and present in my own actions and choices. I observe that if I become too “involved in”, or try to “force” or “chase” after an action or a rhythm, I quickly find myself in an experience that is stressful and awkward and in the long term both mentally

and physically exhausting. Through exposure to these support structures and personal experiences within this practice, I learn that I can effectively give over control of certain elements of my behaviour, while remaining aware and present in my actions. This in turn frees up my capacity to engage with other aspects of the process taking place inside and around me, leading to a greater sense of simultaneity and ultimately freedom to choose how, when, and where I direct my actions and attention within the present moment.

Paradoxically such giving over of control can lead to an individual's greater sense of freedom. Here the "assurance" offered by working within a rhythmic "field" potentially offers the actor a tool for building self-confidence, while removing unnecessary or negative aspects of "self-consciousness". In my own experience, I have encountered such principles as beneficial to the development of confidence in the use of my voice. While I had often felt self-conscious about singing in front of other people, in the context of working with TaKeTiNa in my early twenties, I encountered myself singing from a new perspective. From within the "rhythmic field" of "call and response", and while in continuous motion within a shared rhythm, singing no longer felt like a technical action which I needed to get right, but rather an immediate response to what was happening around me. I experienced this responsiveness as a sense of *being sung* rather than singing, in the same way as a string can resonate in sympathy to a note without being directly struck. By *allowing* rather than *initiating* the act of singing, I was able to experience my voice from another perspective and through this process discard certain negative associations with the *use* of my voice. From this perspective, later experiences of initiating sound began to feel more integrated and supported from within. Here the confidence and support offered by a "rhythmic field" facilitated a shift towards a more balanced relationship between the active and passive elements of the voice.

Out of the practices discussed in this thesis, it is in TaKeTiNa that I engage with these dichotomies most lucidly. Stripped back to basic principles of rhythmic interaction (i.e. pulse, cycles, off-beats, and rhythmic figures), I am able to effectively explore and negotiate the relationships between these aspects, free from the concerns of creative expression or forms of technical achievement.

3.4.6 Applications in Actor Training

While it is clear that these practices present an actor/participant with a valuable collection of principles and approaches to rhythm, in looking to apply these practices within an actor-training context a number of considerations and questions emerge.

Firstly, it is important to note that the ability to facilitate and lead this work is based on an extensive training process, and relies on the cultivation of specific technical skills and modes of attention. Without the support of an experienced leader and drummer, the effective processes of dropping into and out of rhythm cannot be realised effectively or constructively. In this regard, TaKeTiNa is not so different from other specialist forms used in psychophysical actor training such as Meyerhold's use of Biomechanics exercises (2.3) or Núñez's training *dynamics*, each requiring the guidance and modelling of an experienced practitioner.

Secondly, in contrast to many rhythmic practices discussed in this thesis that involve dramatic shifts in tempo and dynamics, the processes of TaKeTiNa are based on a relatively stable use of tempo over which various degrees of complexity are then added or removed. This quality of stability may seem to be in opposition to other training approaches that encourage the actor not to get "stuck" in one tempo, but rather, constantly change the dynamics, rhythms and tempo of their actions in a responsive and "vitalistic" manner. While on the surface these two approaches may appear contrary, I would argue that the capacity to sustain a sense of rhythmic pulsation and find unity in the rhythms of a group, provides the necessary basis from which an actor can then experience what it is to disrupt, or "work against", the rhythm of the group or a scene. In this way, participants retain a point of reference from which they can spring and return to. Further, as indicated by Vrobel, the fractal nature of the forms found in TaKeTiNa means that these structures allow for more, rather than less variability, as they are capable of adapting across multiple levels of organisation simultaneously (Vrobel, 2011, p.28–9).

In relation to actor training, TaKeTiNa is perhaps best understood as operating at what Barba refers to as a "pre-expressive level" (Barba, 1994, p.9). In this sense, TaKeTiNa does not have the intention of teaching a performer to execute specific phrasing, nor does

it teach them directly to play an instrument, or dance in a specific style. Instead, it offers the actor a far more essential set of mechanisms related to how they occupy the present moment of each action on stage, and respond and relate to their fellow performers and the context in which they work. Further, at this “pre-expressive level” the participant can encounter the most fundamental of skills, that of “learning to learn” (Barba, 1994, p.9). One way TaKeTiNa achieves this essential aspect of education is by supporting the participant in effectively inhabiting and moving between states of stability and instability. In this, new possibilities can be realised through the dissolution of order into chaos from which new forms of “self-organisation” emerge (Flatischler, 1996; Strogatz, 2004; Vrobel, 2011). It is in this way, that principles such as pulsation, repetition, simultaneity and *I and It*, offer a means through which many other skills and abilities can be approached and cultivated.

3.4.7 Summary

In this section we have observed the nature of the *I and the It* as representing aspects including the self and the other, conscious and unconscious, active and passive, voluntary and involuntary. Here I have noted the complex interpersonal nature of these phenomena and the ways that rhythmic practices can make such encounters more lucid and accessible to an actor. Further, it has been suggested that the polyrhythmic forms and processes found in TaKeTiNa afford a participant the experience of transcending what are commonly experienced as oppositional dichotomies, experiencing these as simultaneous and complementary aspects of a singular process in which the individuals themselves are nested. Such concepts feed directly into the discourses found in psychophysical acting practice described within this thesis. Tying in clearly with Grotowski’s principle of *conjunctio oppositorum* (2.2.1.1), such approaches offer a practical means of encountering what can otherwise seem to be a baffling logic of contradiction and paradox.

While TaKeTiNa was not originally designed as a form of actor training, it clearly offers effective mechanisms that can be used to facilitate an actor’s capacity for connecting, responding and transforming their relationships within the context of

performance and training. This work provides a framework for the cultivation of specific states of consciousness or *modes of attention*, which allow a performer the freedom to both synchronise with and remain independent of their fellow ensemble members and the environment within which they work. Through the use of “archetypal” rhythmic forms, TaKeTiNa establishes a clear set of structures and support mechanisms through which actors can gain an understanding and effectively change the ways they function at many levels of their practice. The supportive and yet direct nature of these mechanisms means that these changes can be realised at a fundamental level while also being effectively transferable to other aspects and contexts.

TaKeTiNa, Anthropocosmic Theatre, and John Britton’s ensemble training offer us three distinct perspectives on rhythm and the process of cultivating states of consciousness and qualities of connectivity within groups. While in each of these practices rhythm takes on unique characteristics influenced by specific principles and the requirements of each context, common to them all is the use of rhythmic mechanisms through which participants connect to what is at once greater than them, and yet formed through their own participation. In the case of Britton’s training, *It* is understood as an emergent aspect of ensemble, within Núñez’s practices aspects of *It* can be found in our relationship with the “cosmos”, and in TaKeTiNa *It* is encountered in the form of a “rhythmic field” emerging from direct contact with “archetypal” rhythmic elements. In each of these instances rhythm (in the form of attention, movement, spatial configuration and sound) acts as a means of bringing multiple aspects together into a unified relationship.

The analysis of these practices also raises questions about the further ways in which rhythm can be used to influence an individual’s relationship to both their own actions and those taking place around them, and the lasting impact that such work can have on an ensemble’s capacity to connect and perform together. While rhythm’s capacity to create bonds between individuals and establish greater qualities of ensemble is an attribute that is seen exploited across a wide range of actor training practices, the nature of how these bonds are formed and the creative potentials that these afford, is an area that deserves further investigation. In contrast to the complexity of rhythmic relationships observed in

TaKeTiNa, most use of polyrhythm in actor training remains relatively superficial and simplistic.

Rhythm's capacity to unify multiple aspects within a "rhythmic field" of human perception will be discussed in greater detail in the next chapter of this thesis which deals specifically with the phenomenon of simultaneity, its significance in performance, and approaches to cultivating it within the field of actor training.

PART 4 SIMULTANEITY

4.1 Vertical Rhythmicity

Together in Time

*Music: breathing of statues. Perhaps:
silence of paintings. You language where all language
ends. You time
standing vertically on the motion of mortal hearts
(Rilke, [1927] 1995, p.143).*

Where most definitions of rhythm emphasise the roles played by duration, succession and accent in organising and shaping our experience of movement and time (see Appendix 7.2), I propose here that we consider the significance of simultaneity as a key aspect of rhythm. As will be discussed in this chapter, simultaneity is integral, to our experience of time and rhythm, in our experience of temporal form, in locating these forms within a temporal context, in relating multiple rhythms to each other, and most significantly in encountering the “here and now”. Identified through the course of this thesis, we can also note how such aspects of rhythm are central to the work of the actor. This theme has been touched on in regard to ensemble (3.2) and in discussions regarding unity and multiplicity, as observed within Plato’s philosophies and in the principles of *conjunctio oppositorum*, *yantra* and *fractal time*. Through this chapter this theme will be elaborated, with the first section acting as a general introduction to the concepts of simultaneity and

the following discussions exploring the application of these concepts within performance practices. This will lead to an examination of approaches to cultivating greater capacities for perceiving and working with simultaneity in actor training.

4.1.1 Two Dimensions of Rhythm and Time

We have to bear in mind that all our propositions involving time are always propositions about simultaneous events (Einstein, [1905]1989, p.141).

The portrayal of time in Western culture is predominantly horizontal, taking the form of a line or metaphorical arrow travelling from left to right, journeying from the past towards the future. Similarly, the concept of time in Western theatre practices has traditionally been considered along a similarly linear perspective. Actors and directors have reflected on developments in a character and plot as a succession of actions or events following one another as a deterministic sequence. Popular concepts inherited from Stanislavski such as the “through line” and the “super objective”, were designed to take actors through the course of their role, linking each action to the next through a causal arrow connecting the past to the present, and present to the future (Pitches, 2005, p.33). Further, through the common practice of basing an analysis of their role primarily on written text, the field of acting has established a strong emphasis on the sequential nature of events over that of the simultaneous and parallel.

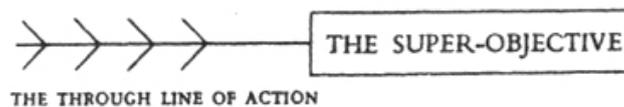


Figure 15: Graphic representation of “through line” (Stanislavski, 1979, p.276)

However, there are a number of alternative ways of considering and representing time. The model which we will focus on here involves time unfolding within a two dimensional framework consisting of a horizontal as well as vertical axis (Jones, 1987; Barba, 2010; Vrobel, 2011). Along the horizontal axis, we can locate rhythmic aspects such as duration, succession tempo, and metre. This dimension describes the length of time and the ways events occur one after the other in succession (“before-after-relations”). In contrast, the

vertical axis describes the depth of time, indicating the relationship between events that are experienced as being simultaneous (“during-relations”) (Vrobel, 2004, p.6). Polyrythm, counterpoint, unison, and “temporal nesting” are some of the rhythmic aspects we could locate within this dimension, and together all these aspects could be said to fall under the category of simultaneity.

Figure 16: Two dimensions of time

While most discussions of rhythm and time have focused predominantly on aspects of succession and sequentiality, it is arguable that simultaneity is not only of significance, but, as will be discussed here, precedes and informs the very realisation of these other aspects. As Vrobel puts it, “...there is no succession without simultaneity” (Vrobel et al., 2008, p.6). This proposition is in accordance with Albert Einstein’s pioneering definition of simultaneity published at the beginning of the twentieth century. Einstein proposed that: “If, for example ‘the train arrives here at 7 o’clock,’ that means, more or less, ‘the pointing of the small hand of my clock to 7 and the arrival of the train are simultaneous events’” (Einstein, [1905] 1989, p.141). In this definition, simultaneity forms the context/framework through which we encounter all temporal experience. Therefore, any encounter with time must (by necessity) involve some degree of simultaneity. This concept is further elaborated by philosopher Gerald Whitrow, who suggests that the very experience of

successive events is in itself an experience of simultaneity, with all these events being represented in the mind at the same time.

Our conscious appreciation of the fact that one event follows another is of a different kind from our awareness of either event separately. If two events are to be represented as occurring in succession, then— paradoxically— they must also be thought of simultaneously (Whitrow, 1961, p.75).

As such we can consider simultaneity as providing the basis for all temporal phenomena, as all of our perception of time (past, present and future) must by necessity take place in the present moment, the “Now”.

In considering the relationship between these two temporal dimensions, rhythm is seen as a central principle that in a sense binds these two dimensions together, establishing a temporal form in which both “sequentiality” and simultaneity can be observed (Miell et al., 2005, p.174). This concept is evoked clearly in the early Greek definitions of *rythmós*; “...form in the instant that it is assumed by what is moving, mobile and fluid” (Benveniste, 1971, pp.285-6). Rhythm in this sense is both instantaneous and transitory, operating within the framework of “vertical” as well as “horizontal” temporality. Our comprehension of a rhythmic phrase is based not only on its durations and sequential groupings, but also as a result of the context in which the phrase occurs. In Western musical theory this context is established by the location of a phrase within a *bar* or *measure*, alternatively we might also consider the location of a phrase within a *guideline*, or *cycle* (3.4.3).

On this basis, simultaneity is an integral aspect of rhythm, existing alongside the other aspects discussed so far, including *pulsation*, *grouping*, *cycles*, and *tempo*. With this in mind, if we are to approach an understanding of the role of rhythm within actor training, we would be wise to give some consideration to the nature of simultaneity and its role within our experience of rhythm, and by extension, time.

4.1.2 Defining Moments

Simultaneity describes the world as the nucleus of the Now
(Vrobel, 2008, p.vii).

On the surface simultaneity is a relatively simple concept: *x* happens at the same time

as y . Yet if we take into account Einstein's concept of "observer frames"¹ any sense of "absolute simultaneity" based on a Newtonian concept of "absolute time", is thrown into serious question (Vrobel, 2011, p.48). Time as such, is a highly subjective experience that we cannot simply observe from some remote location, but rather must experience from within as "observer-participants" (Vrobel et al., 2008). Simultaneity is a process in which we participate by bringing together the perception of multiple stimuli and events to form our experience of the "Now".

The expression of temporal simultaneity can be traced back to the hieroglyphics of ancient Egypt, where  was used to denote "the simultaneity of events" (Otto 1954 cited in Jammer, 2006, pp.8–9); expressing the way one event took place within the same timeframe as another (i.e. statue x was built during the reign of y). Yet the use of the term simultaneity itself, derives from the Latin *simul* or *simultas* (the same roots as *in-simul/ensemble*) which in turn comes from the Sanskrit *sem* or *sema*, meaning "together". Originally, not exclusive to temporal togetherness, this term has also been used to mean "together in space" as well as "together in nature" (Fox, 2006, p.51; Jammer, 2006, p.11). Since being introduced into the English language in the fifteenth century, this term has come to focus predominantly on temporal togetherness (Fox, 2006, p.51). In this sense for the purposes of this study, I will limit myself to a definition of simultaneity as *the experienced relationship of events that can be described as happening together in time, or during the same timeframe*. However, as we will see, even within this limited framework simultaneity still covers a wide potential of temporal relationships.

In actor training simultaneity can take a number of forms. It can occur within an individual (i.e. simultaneously I speak, move my arms, shape my attention, and breathe) as well as within a group of performers (I walk, as she speaks, while he dances). At

1 Einstein defined simultaneity through the following description: "If there is a clock at point A of space, then an observer located at A can evaluate the time of the events in the immediate vicinity of A by finding the clockhand positions that are simultaneous with these events. If there is also a clock at point B—we should add, "a clock of exactly the same constitution as that at A"—then the time of the events in the immediate vicinity of B can likewise be evaluated by an observer located at B. But it is not possible to compare the time of an event at A with one at B without a further stipulation; thus far we have only defined an "A-time" and a "B-time" but not a "time" common to A and B. The latter can now be determined by establishing by definition that the "time" needed for the light to travel from A to B is equal to the "time" it needs to travel from B to A. For, suppose a ray of light leaves from A toward B at "A-time" t_A' , is reflected from B toward A at "B-time" t_B' , and arrives back at A at "A-time" t_A . The two clocks are synchronous by definition if $t_B - t_A = t_A' - t_B'$ " (Einstein, 1989, p.142).

times the rhythms of these events may be synchronised into a unified rhythm (a chorus speaking in one voice, a dancer moving to the rhythm of a drum). Such relationships can be described as “locking in”, being “coupled”, “entraining”, or existing in “unison” with one another. While these are more obvious forms of simultaneity (i.e. events are experienced together in the same *instance*), in training and performance we encounter a large number of other examples of events synchronising in ways that are more complex.

To broaden this definition we can also consider simultaneity as encompassing events spanning varying intervals of time, overlapping and “nesting” within each other. In the context of theatre these forms of “temporal nesting” can be seen clearly in structural devices such as *jo-ha-kyu* (Quinn, 1993) and *otkaz, posil, tochka* (2.3.2), operating simultaneously across multiple levels of organisation, from the structure of a play through to the development of a single gesture.

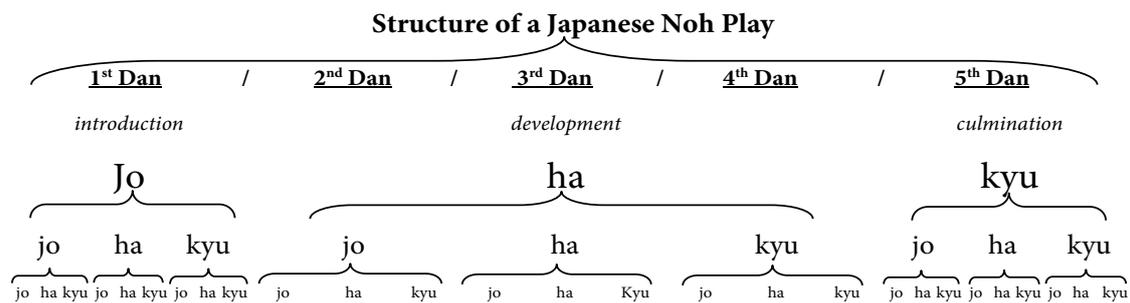


Figure 17: ‘Jo-ha-kyu’ as a form of temporal nesting: based on guidelines set-out by Zeami (Quinn 1993)

Similarly, temporal nesting can be observed in the conventional structure of a play such as Shakespeare’s *Hamlet*: at one level we have a single play, at another, a succession of five acts, at further levels: scenes, dialogues, sentences, lines, words, syllables and phonemes. While each of these descriptions can be considered as a “horizontal” succession of events, together they form a complex nested temporal structure involving the simultaneous realisation of multiple “levels of description”.²

2 The term “levels of description” is used by Vrobel to describe the way a fractal can be experienced at various scales. For example, a coast line can be described at a scale of one metre or one hundred metres. In the case of temporal form, Vrobel offers a two hour train journey as an example, suggesting that one level of description could be 120 one-minute intervals and another would be two intervals of one-hour (Vrobel, 2011, p.13). Both these description occupy the same period of time while operating at different levels.

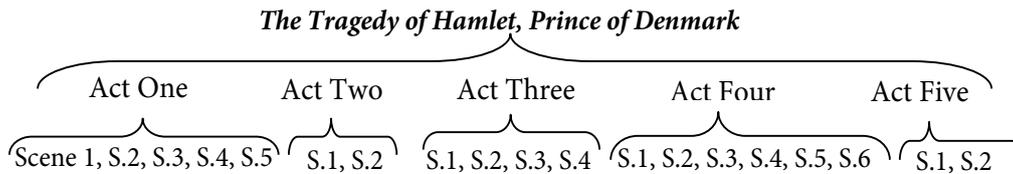


Figure 18: 'Hamlet' as an example of temporal nesting

Barbara Schmiedtová's definition of simultaneity based in the study of linguistics offers a further way of considering simultaneity in the work of the actor. Her definition of simultaneity is as follows:

If two situations are simultaneous they must have a common subinterval on the time axis. Temporal boundaries need not coincide.

This definition includes all types of temporal overlap or inclusion and every possible relatum (Schmiedtová, 2004, p.9).

In this way Schmiedtová proposes five “constellations” that can be categorised as being simultaneous, and illustrates these through the following diagrams (for the purposes of this study I have replaced Schmiedtová's written examples here with examples from the context of performance practices).

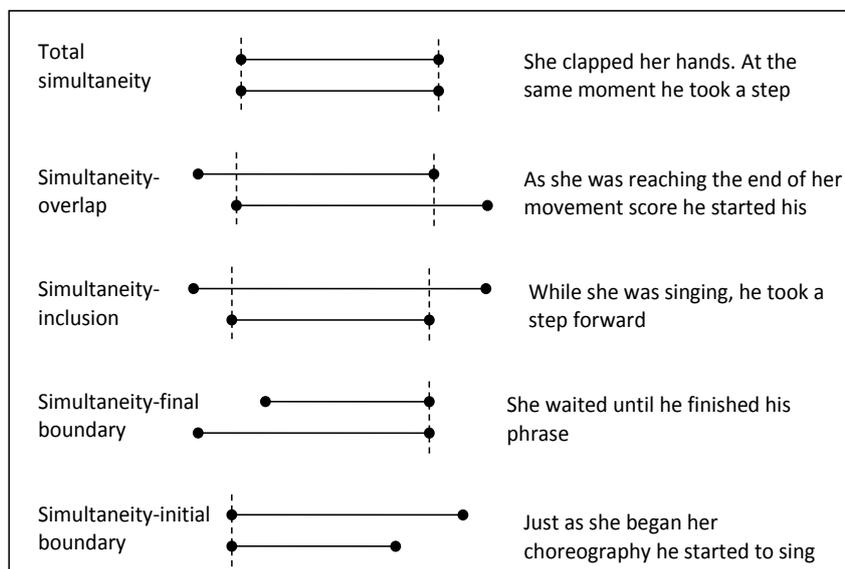


Figure 19: The author's interpretation of Schmiedtová's linguistic categories of simultaneity within the context of actor training (see Schmiedtová, 2004, p.10)

These categories describe the temporal relationship between the actions of two individuals, but they could just as easily be applied to the simultaneous actions of a single individual or to an entire ensemble. What is common to all the phenomena described in this section

is the fact that they can be experienced as sharing a moment of time. Whether this is two actions undertaken in perfect synchronicity, (total simultaneity) or actions which overlap or contain one another (simultaneity-overlap and simultaneity-inclusion), all of these can be said to occur *during* the same timeframe, and can be described as forms of simultaneity. While this is a far more inclusive definition of simultaneity than the one commonly used within the fields of physics and musicology (i.e. total simultaneity), the broader concept of simultaneity presented here will allow us greater access to some of the rhythmic mechanisms involved in our perception of time within training and performance.

Building on these principles, in the context of this thesis simultaneity will be used to describe an aspect of rhythm based primarily on how an individual experiences the “Now”. This is a highly subjective, and as will be demonstrated, a highly malleable temporal framework. While limited by certain perceptual constraints, simultaneity offers the actor a large field of creative potential, in the way they construct their own performance scores, and in how they shape their attention within each moment.

4.1.3 Simultaneity in Dramaturgy

Simultaneity occurs when the actor can represent several things at the same time
(Turner, 2004, p.34).

Despite the traditional tendencies towards horizontal models of time in acting, over the course of the twentieth century many of these linear concepts of acting and performance have come to be challenged by the intentional use of simultaneity within dramaturgy and new methods of scoring and arranging performance texts. We can observe how over the last century the concept of simultaneity has gained increasing currency within the fields of science, philosophy, visual arts, music, dance and theatre (Postlewait, T, 1988; Meyer-Dinkgräfe, 2006; Jammer, 2006; Gordon Hughes, 2007; Vrobel et al., 2008; Barba, 2010). We have already noted some of the ways in which directors such as Meyerhold intentionally layered and teased apart the rhythms of movement, music and text within their performances, and how Stanislavski worked with contrasting simultaneous “inner” and “outer” rhythms. During the same period, we can also observe the growing use of polyrhythm within Western music and dance, in the depictions of multiple perspectives

within Cubist artworks, in the staging of multiple concurrent narratives in modernist theatre, this leading on to more recent uses of multi/inter-media/modal conventions in post-modern performance practices. These trends are also reflected in a questioning of causal relationships and temporality in general, accompanying the growing popularity of non-linear theories in philosophy and the sciences. The backdrop to all of this is an increased presence of complexity and multiplicity within popular culture and the experience of daily life within modern and postmodern societies.

We will now look briefly at a number of ways in which simultaneity has come to be applied specifically within theatre practices as a means of identifying principles of significance to the training of actors within a contemporary performance context. Performance theorist Patrice Pavis refers to the significance of simultaneity as a key aspect of performance, suggesting that performance by its very nature requires the bringing together of a number of distinct aspects to form the unified singular experience that constitutes an audience's engagement with "the performance". As Pavis explains:

Our analytical experience of performance is always vertical and synthetic (and not purely linear and fragmentary); the spectator perceives all the elements of a *mise-en-scene* as temporal totalities, which coincide with and manifest themselves as synthetic scenic signs. In short, the spectator does not break up a performance into pieces, but employs broad spatiotemporal cross-sections within which meaning forms a coherent ensemble (Pavis, 2003, p.307).

Here Pavis highlights the unifying aspects of simultaneity, the coming together, the "ensembling", a "vertical" synthesis of a performance through which meaning takes form.

We can also note the increased usage of simultaneity as an aesthetic model within contemporary theatre, observed as being "...self-consciously insistent in its multiplicity" (Postlewait, T, 1988, p.7). As theatre historian Thomas Postlewait suggests, "...simultaneity is not only a pervasive trait but also [...] one of the defining conditions of modern theatre that cuts across various styles and movements (Postlewait, T, 1988, p.5). Simultaneity, in the sense of a quality of "multiplicity", can be recognised as a performance aesthetic that continues to dominate within contemporary practices, with many productions featuring multiple events taking place simultaneously on stage, or in

many cases across multiple stages, modalities and media (Chapple et al., 2006).

We also see these principles permeating dramatic texts, whose linear format is increasingly challenged by the use of simultaneous spoken language and/or stage directions, for example: the use of simultaneous monologues in plays such as Martin Crimp's *Attempts on her Life* (Crimp, 1997) and Judith Adams *Sweet Fanny Adams in Eden* (2002). On her use of simultaneous text in this production, Adams writes:

...the fragments of text in the simultaneous middle sections are like squares on a quilt that can join up in any way we choose, (since they all share the same pattern in miniature) according to choice and setting. [...] To construct text like this, one needs new composing structures. Typing a linear sentence on a flat page just won't do the job (Adams, 2007).

Another overt example of simultaneity as a performance aesthetic can be found in *Electric Fields*, a production I worked on with IOU Theatre Company in 2009. This work incorporated the simultaneous layering of live and projected performances, along with live and pre-recorded musical accompaniment, written language and sculptural design. Playwright and performance theorist Tim Moss offers the following description of this work as an experience of "intermediality", a term used to describe the interface of the different "realities" created by a performance and the observer who experiences these (Chapple et al., 2006, p.12). Moss explains:

...the performance has two frames of distinct action, two distinct theatrical worlds, one contained within the other. The first is the simple narrative of a woman and a man making a journey to a beauty spot, after the death of the woman's goldfish. [...] But outside of that narrative there is a second frame, another theatrical world, which designs, manipulates and presents the couple's narrative. There are eight other characters all dressed identically as 'ghost-like film technicians' who variously film the couple's every action, and have this action relayed to a number of monitor screens [...] The audience wears headphones throughout the indoor section of the performance, and all the sound, music and spoken text is heard in this mediated manner.[...] We are experiencing the performance in a mediated fashion through the use of headphones and projected visual image, but we are also experiencing the 'liveness' of the event, with performers enacting and presenting in close proximity to the audience (Moss, 2011, pp.7-9).

As a performer working within this context I was asked to manage a growing complexity of simultaneous tasks and disciplines, requiring me to simultaneously play the role of actor, musician, and technician, and integrate each of these unique disciplines into my own

personal performance score moment by moment. While simultaneity is not often directly referenced in theatre practices, I would suggest here that many of today's dramaturgical terms such as "multimodality" "multimediality", "intermediality", "hypermediality" and "intertextuality", could be encompassed within simultaneity as an umbrella aspect of contemporary performance practices.

How then, does (or can) the use of simultaneity affect a performer or an audience member's encounter within a performance? In this regard, Daniel Meyer-Dinkgräfe's (2006) research into theatre and consciousness suggests that simultaneity can profoundly affect an audience's experience. Here he proposes that the growing significance of simultaneity in contemporary performance practices offers a way of cultivating "...higher states of consciousness" in audiences:

Simultaneity of space and time is a characteristic of pure consciousness. On this level of creation, past, present and future coexist. If a form of theatre forces the human mind to engage in the experience of simultaneity, it trains it in functioning from that deep level. Repeated exposure to such theatre stimuli may serve in parallel to repeated exposure to pure consciousness in meditative techniques. Theatre, understood and practised in this way, may thus well serve as a means of developing higher states of consciousness (Meyer-Dinkgräfe, 2006, p.251).³

Again we can observe a coexisting of temporal aspects, the synthesis of which is seen here (as in the work of Flatischler and Núñez) to offer a mechanism for the cultivation of "higher states of consciousness".

In looking at how the dramaturgy of simultaneity can shape the experience of an audience, we cannot ignore the work of director Eugenio Barba. Barba adopts his notion of simultaneity from its usage in early twentieth century cinema and Cubist art.⁴ This reading of simultaneity is one based in multiplicity and dynamic oppositional tensions, with Barba proposing that the more difficult it is for an observer to interpret or judge the

3 Luetchford (2008) also makes links between Eastern philosophies and simultaneity, relating this to the concept of Now in the Buddhist philosophies of Dogen. The suggestion that encountering simultaneity has the potential to alter the state of consciousness of both the performer and audience member is also supported by the frequent use of polyrhythm in ritual and healing practices throughout the world (Maas and Strubelt, 2006; Flatischler, 1992; Tedlock, 2005). In such contexts it is not uncommon that "participants may stamp their feet to one rhythm, clap their hands to a second rhythm, and sing syllables to yet a third" (Tedlock, 2005, p.81).

4 In the context of Fine Art, simultaneity refers to the layering of multiple images or multiple perspectives within a single image, a notable attribute in the work of Picasso and other Cubist and Futurist artists.

meaning of a performance, the stronger the "...sensation of living through an experience" (Barba and Savarese, 1991, p.70). As with Pavis, Barba proposes that in approaching the "meaning" of a performance, we not only consider the succession of events but also their simultaneity. For this purpose, Barba establishes a dialectic framework that places simultaneity in opposition to "concatenation" (a linear sequence of actions based on cause and effect). Barba explains:

Concatenation and Simultaneity are the two dimensions which trigger the interlacing of actions or, in other words, the weaving of the plot. They are the two poles whose tension and dialectics spark the *bios* of the performance (Barba, 2010, p.106).

In this way, a performance "lives" through the dynamic tension of these oppositional poles, which bring the spectator into a direct encounter with the present moment of a performance as a "lived" experience of the "here and now". Franco Ruffini further frames this dialogue of tensions through the following almost mathematical formulation of performance aspects:

Concatenation = poverty, rigidity,
the essential, programmability = the text.
Simultaneity = richness, flexibility,
variety, non-programmability = the stage.
(Ruffini in Barba & Savarese, 2006, p.242)

"Concatenation" and "Simultaneity" take on the form of an oppositional paradigm, with the actor/director managing the balanced realisation of these temporal polarities. Like many of the other principles discussed within this thesis, we have a sense that of not only of a dialogue between opposites, but also of the actor transcending this duality to achieve a state of unity, a *conjunctio oppositorum* in Grotowski's use of the term (2.4.2). Such principles can be found within many actor training practices where participants are encouraged to adopt opposite modes of behaviour simultaneously (Oida and Marshall, 1997, p.42; Allain, 1997, p.59; Barba and Savarese, 1991, pp.176–185; Potter, 2002). Opposites commonly used within actor training include: energetic (strong-v-weak), directional (up-v-down), physiological (arms-v-legs), psychological (desire-v-repulsion), ideological (mechanical-v-organic), relational (self-v-others), or conceptual (objective-v-subjective). Working through such paradigms, many forms of actor training are designed

to support the actor in developing the specific modes of attention necessary to bring together such oppositional elements into a unified totality (2.2.3; 2.3.4; 2.4.2; 3.2.1; 3.3.4.2 & 3.4.4). The psychologist Etzel Cardeña suggests that without the “integration” of multiple aspects, acting can often be perceived as “empty”.

The fully realised performance involves the organic integration of experience, psychology, cognition and behaviour, whereas less realised acting may miss an element or lack proper harmony among various somatic and psychological components (Cardeña, 1996, p.34).

As has been observed throughout this thesis such forms of unity and togetherness are a core principle of psychophysical actor training. This training paradigm is based (at least in theory) on the dynamic relationships and unity of “physical” and “mental”, “outer” and “inner” aspects of the actor (Merlin, 2007, p.21; Zarrilli, 2009, p.29). As we have noted throughout this thesis, rhythm’s capacity to both separate and synthesise these aspects, is a clear reason why it has been so highly regarded within many training and performance practices.

4.1.4 Summary

Simultaneity has been defined here as *the experienced relationship of events that can be described as happening together in time, or during the same timeframe*. Building on this definition, I have indicated a number of ways in which simultaneity is and can be applied within performance practices. These include the synthesis of multiple elements of *mise-en-scène* into a temporal totality, the use of multimedia and intermediality within performance practices, and the non-linear treatment of text within contemporary performance scores.

Simultaneity has also been applied to the principle of *conjunctio oppositorum* related to both the unity of dramaturgical elements as well as the achievement of unity within the actor themselves. Simultaneity offers us a way of (re)considering performance and the performer as operating, not only in one dimension of time, but in two dimensions (vertical and horizontal) that exist in relationship to one another. As a temporal framework, this allows for the co-existence of multiple aspects, a realisation that is incompatible with a model of

time that is purely linear or sequential. We can also observe the aptness of a simultaneous dimension to the medium of live theatre whose forms often require the bringing together of multiple elements (i.e. sounds, images, languages, levels of imagination, sensations etc.) into a singular experience of performance. Simultaneity presents us with the theoretical basis for a broader examination of key aspects of performance such as the actor's "score", considered not simply as a string of events following a linear causal relationship (as described by Stanislavski and his contemporaries), but as a dynamic process made up of various "levels of description" and dimensions, "interlacing" and interdependent. Further we can observe simultaneity's capacity to cultivate "heightened states of consciousness", a theme that will be further developed in the discussion of my own practices (5.1).

We can note that most of the above descriptions of simultaneity are from the perspective of an outsider looking in, observing the *mise-en-scène* or dramaturgy of a performance. If we are to approach the creative potentials of simultaneity here, then we must also look to the experiences of the actor/participant within these temporal frameworks and examine how simultaneity is and can be encountered and cultivated from within acting practices, a topic to be discussed in the following sections.

4.2 Simultaneous Acts

Time in the Hands of the Actor

The experience of simultaneity results in a new way of perceiving daily life which is never exactly the same. The experience of a particular speed means that time (one's own time) can be perceived from a new and other dimension (Christoffersen, 1993, p.127).

As simultaneity becomes an increasingly prevalent aspect of theatre-making (4.1), it may be useful for us to reflect on the specific demands that this places on actors, and how these are addressed in training. Here we will look at the ways in which simultaneity is experienced and reflected on from the perspectives of actors/participants, examining some of the psychophysical mechanisms that underpin their engagement with simultaneity within their practice. So far, simultaneity has been considered for the most part as an innate perceptual process through which multiple elements are synthesised into an experience of the “now”. In looking to apply these principles to actor training, the concept of simultaneity as an “extra-daily technique” (Barba, 1994, p.15) will now be considered here. In this way, such mechanisms will be examined with a view to their use in cultivating and supporting heightened qualities of attention and coordination in actor training. Building on these understandings, the following examination will look at the ways that simultaneity can distort an actor’s perception of time, and further the actor’s ability to shape temporal experience through their rhythmic use of actions and attention.

4.2.1 Simultaneity from a Participant’s Perspective

The different phases of an exercise make the actor experience his or her own body not as a unity but as a centre of simultaneous actions (Barba, 1997, p.129).

To develop a greater insight into simultaneity as an aspect of training, we will now look at some of the ways that participants encounter, experience and cultivate simultaneity from within their practices. Describing his experience of training with Gardzienice, through a

process known as “night running”,¹ actor Mariusz Gołaj gives the following description:

You experience nature through the senses. It is dark, you can't see the way... You feel the wind and you hear the breathing and touch the bodies of partners. It's a very full experience which integrates the group and is also working on many levels. You have the feeling that you are dealing with nature, that you are part of it (Gołaj cited in Hodge, 2010, p.279).

Despite (and possibly due to) his visual perception being limited by the dark, Gołaj describes an integrated and “full experience” that operates on “many levels”, “dealing with” while simultaneously being “part of it”. As with Flatischler's *I and It* we encounter here the paradox of at once relating to and being part of a wider field of events. Director Włodzimierz Staniewski ties the participant's experience within these practices back to Artaud's concept of the “multiplied actor” capable of transforming into “many existences” and “...who can deal with many realities at one and the same time” (Staniewski 1993 p.25). Offering further commentary on these practices, Staniewski gives the following description:

Your being, your experience is scattered everywhere, inside of your partner, to your right, to your left. Suddenly the wind blows strongly and you feel you have made a sudden and quick journey and then you are back with yourself. The gate of your perception is open, and in this way you can deal with many things around you (Staniewski 1993 p.25).

In these training descriptions, there is a sense of the participants' awareness being both present in themselves and spread open across the space. There is also an impression of temporal distortion, involving a non-linear experience of time, durations passing suddenly and perception jumping from one context to another part of an immersive temporal experience.

As we will observe throughout this chapter, in training simultaneity is often seen to bring about a heightened experience of space and time in which attention is not focused on a single point, but rather spread, or opened out to many simultaneous experiences unfolding within the same timeframe and across multiple sensory modalities, “levels of description”, and levels of “existence”. To use Barba's terms, we could consider simultaneity here as

¹ “Night running” is a core aspect of Gardzienice's training as a company. This a rhythmically slow paced running done in a tight group of participants for between half an hour and an hour (Allain, 2002, pp. 204-5). This practice shares a number of common aspects of Núñez's contemplative running, both in its form and its intention as form heightened experience (3.3.3.).

a form of “extra-daily technique” (Barba, 1994, p.15), with attention used in a decidedly non-habitual or “daily” manner. This “technique” involves a heightened use of awareness and action, and the cultivation of specific modes of attention capable of synthesising and flowing between multiple elements effortlessly and effectively. We can observe the actor in such modes, as being capable of not only perceiving time, but also participating in it, in Núñez’ terms “enlivening time” (Middleton, 2001, p.47) or rendering “time-in-life” as expressed by Barba (Barba and Savarese, 1991, p.211). How then does a participant approach these “techniques” or “modes of attention”, and what role does rhythm play in their cultivation?

Looking back, we can note that although much of Stanislavski’s rhetoric could be said to preference a linear model of time, his work with rhythm (2.2) contained many elements that operate within the domain of simultaneity, often exploring principles of polyrhythm, and counterpoint within his training and staging of scenes. Actors would train through “etudes” involving multiple performers working in different Tempo- rhythms, as well as exercises involving the sustaining of multiple rhythms within their own bodies at various levels (Stanislavski, 2008, pp.477–480; Benedetti, 1998, p.85) Here Stanislavski offers an example of an actor working with four *Tempo-rhythms* simultaneously:

Let’s say you’re playing Esmeralda, being led away to her execution, [...].
The procession moves slowly forward to the ominous rolling of the drums.
But her heart beats wildly inside her. She feels these are her last moments.
At the same time, the hapless criminal recites a prayer for her life to be saved in a third Tempo-rhythm, while rubbing her hands over her heart, slowly in a fourth Tempo-rhythm (Stanislavski, 2008, p.479).

To achieve this level of complexity Stanislavski proposes that the actor starts by working with a single line of action until it becomes “second nature”, once this is achieved they focus on adding another layer of action and so on and so forth (2.2.3.3). Stanislavski is clear that such actions should never be allowed to become simply mechanical gestures (Stanislavski and Rumyantsev, 1998, p.7), but must always embody some form of “justification”, keeping them alive and rooted in the moment (Benedetti, 2004, p.68). An important distinction arises here between “embodied” and “automated” actions. Stanislavski observes that through the realisation of multiple *Tempo-rhythms*, “[e]

xperiencing is heightened, inner dynamism increased, [and] feeling aroused” (Stanislavski, 2008, p.479). This suggests that rather than producing rote mechanical actions, such layering of action has the potential to heighten the performer’s quality of vital presence and perception.

Although operating within a different aesthetic, Barba, like Stanislavski, proposes a system of encountering dramatic “emotions” through the layering of multiple rhythmic elements, some in accord and others in opposition:

...my legs behave courageously, for example; my torso and arms, slightly introverted, reveal assessment and reflection; my head reacts as if to move away; while the rhythm of the blinking of my eyelids reconstructs the equivalent of the autonomous involuntary reactions (Barba, 1997, p.131).

These aspects are woven together forming a complex network of simultaneous actions and reactions, manifesting in the complexity of “lived” emotion.

The complexity of the result is attained by working on simple elements, each one separate, then put together level by level, interwoven, repeated, until they melt into an organic unity which reveals the essence of the complexity that characterizes every living form.

It is this passage from the simple to the “simultaneous multiplicity” that the exercise teaches: the nonlinear development of minute perceptible actions, subject to peripeteias, changes, leaps, turns, and contrasts, through the interaction of clearly defined phases.

In a word, by artificially reconstructing complexity, the exercise encounters drama (Barba, 1997, p.131–2).

Complexity is approached here as with many training practices through the layering of multiple simple tasks, that through their interrelationships, tensions, and synthesis form what is perceived as “drama”. For Barba, one of the key characteristics of an actor training exercise is the way in which the participant encounters simultaneity. He states:

In the beginning, the experience coincides with a painful sense of expropriation of the actor’s own spontaneity. Later it turns into the fundamental quality of the actor: a presence ready to be projected in diverging directions and capable of attracting the attention of the spectator (Barba, 1997, p.129).

What begins as loss of personal spontaneity, eventually leads the participant to greater quality of presence and vitality. Again we observe a shift from work on the technical/

mechanical task of managing multiple tasks at the same time, to an embodied experience in which the participant is entirely present and “ready”.

Another framework through which to consider simultaneity in training is through a “hierarchy of tasks” (Britton, 2007, p.6). Drawing on the principles of the “ball game”, Britton describes the way in which an improvised performance is realised through an engagement with a collection of “tasks” and “sub-tasks”, encountered by the performer in the present moment.

At any point when I am creating in real-time in front of an audience there is the task – performing – which comprises multiple, detailed possible-tasks – responding to a sound, a muscular impulse, a thought, an architecture, a memory, a particular gaze from an individual audience member. What allows the performance to live and grow in the present is my ability to identify possible sub-tasks and to choose which of them to invest with my attention. In training I ask trainees to learn to identify and concentrate on a hierarchy of task in the present, thus endowing all of their creative process with their undivided attention, for the ‘product’ can only be the sum of the moment by moment tasks that the performer undertakes (Britton, 2007, p.6).

In this description, we can observe the active role played by the participant in shaping their experience of simultaneity, making choices about where and how they shape their attention across multiple “levels of description”. We are reminded here again of the fractal nature of simultaneity whereby multiple simultaneous phenomena are nested within one another. At the top of this “hierarchy” we find the overall “product” of the work, this underpinned by all the sub “levels of description” descending into infinitely finer levels of detail. In this model, the participant may choose to focus on the detailed subtleties of a small action such as a gaze or an impulse to move, or they may attend to the gross elements of the overarching form of their work, the dynamics of the ensemble, or engage with all of these aspects simultaneously.

Another place where simultaneity is often encountered in actor training is in duet exercises. Thomas Richards offers a clear personal account of two participants working simultaneously, interacting with one another while also following their personal line of action. Richards describes:

...passages in which two doers have simultaneously occurring autonomous lines, which connect in precise moments. In these passages, an intricate and

structured intertwining of sound takes place. In order to accomplish these inter-related ‘couplings of actions,’ each doer needs to strive for a living flow of attention towards the other while maintaining his autonomous line (Richards, 2008, p.172–3).

In this instance simultaneity does not deal exclusively with a single actor working through multiple tasks (as seen in previous examples), but rather the realisation of an individual’s own actions coinciding with an awareness of the other. Paradoxically these two “lines” of action are seen as “inter-related” and “autonomous”, “coupling” while maintaining independence.

In the examples noted here, the participants’ encounters with simultaneity occur in various combinations. These processes at times relate exclusively to a single individual (intra-personal simultaneity) as described by Stanislavski and Barba, or involve the interactions of multiple performers (inter-personal simultaneity) as observed in Richards’ account. Further, simultaneity can involve a number of combinations of action and attention. The actor may be required to integrate and synchronise a number of separate lines of action, or at other times, realise a line of action while attending to another stimuli, or possibly attend to two or more separate forms of stimuli simultaneously.²

We can observe a number of ways in which simultaneity is approached within actor training. Most commonly we see these capacities worked on through the gradual building up of multiple tasks. A director/trainer may instruct actors over an extended period of time to: begin by walking through the space, to continue walking through the space while observing the movements of their own body while also knowing where everyone else in the room is at all times, building on this they may be instructed further: to speak a text, while additionally enacting a physical and/or imaginative score. This form of additive process can be observed within many training forms and is often achieved through either of two ways. Most commonly such tasks are approached through habituation. This is often achieved by repetition over time whereby tasks become automatic or “second nature” to the actor, thus freeing up their attention

² Other examples of approaches to simultaneity in actor training can be observed in Anne Bogart’s “Viewpoints” (Bogart and Landau, 2005), Alison Hodge’s training referred to as “polyphonic attention” (Hodge and Hulton, 2007), Philip Zarrilli’s use of yogic breathing exercises in his training of “Kalarippayattu” (Zarrilli, 2002, p.186), and James Slowiak and Jairo Cuesta’s “Four Corners” exercise inspired by Samuel Beckett’s “Quad” (Slowiak and Cuesta, 2007, p.112).

to focus on additional elements (as seen in Stanislavski's work with multiple *Tempo-rhythms* (2.2.3.3). Alternatively, simultaneity is approached through "overloading" the performer with an abundance of tasks by which they are forced to surrender conscious control of their action (as noted in the work of Britton 3.2.3.1). While these approaches can be effective in achieving degrees of simultaneity, they often do not address the ways in which tasks are integrated into a unified field, nor do they actively facilitate the capacity to shift attention between tasks while sustaining these multiple lines.

Figure 20: Illustration of a performer in simultaneity

These observations raise a number of further questions: through what mechanisms does the actor/participant sustain multiple levels of action/attention simultaneously? By what means are these levels effectively integrated within their practice, allowing them to remain responsive and present in their actions? Are some forms of action/attention easier to integrate than others? Moreover, are these capacities developed simply through repeated engagement with the complexities of a performance score, or can these "techniques" be cultivated through specific forms of training? In the following section we will examine the role played by rhythm in such processes and its potential use as a tool for cultivating these capacities.

4.2.2 Rhythmic Mechanics of Simultaneity

The nature of simultaneous actions and attention has been the subject of a number of scientific studies (Klapp, 1979, 1981; Deutsch, 1983; Jones et al., 1985; Keller and Burnham, 2005; Keller and Repp, 2008). While the results of these studies are not conclusive, they predominantly point to the significance of “rhythmic compatibility” in determining the amount of interference one task has with another. Put simply, the more rhythmically compatible two tasks are, the easier they are to realise/perceive simultaneously. Inversely, the more incompatible or complex a rhythmic relationship, the greater the difficulty in attending to and actualising its various components simultaneously (Keller and Repp, 2008). This does not mean that all actions must occur in exactly the same rhythm (unison), but that they are made easier if they are perceived as functioning within the same “rhythmic framework” or “field”. Frameworks such as sharing a common pulse, metre, or a rhythmic guideline, are observed to further facilitate such forms of simultaneity, as are rhythms operating in simple ratios of one another (1:2, 1:3, 2:3), these patterns allowing for an effective shifting of attention and sustaining of multiple actions (Jones, 1986, Flatischler, 1996).

Figure 21: Interlacing rhythmic ratios of 1:2:3:4:6:8

It is also worth noting that action-to-attention coupling has been observed to be weaker than action-to-action coupling. This suggests that while it may at times be difficult to realise two simultaneous rhythms, the capacity to perform an action in one rhythm while attending to another is not as difficult (Keller and Repp, 2008).

These theories are also supported by a consistent body of clinical research (Thaut, 2007), that further indicates that the use of attention can be affectively trained through

rhythmic exercises (Morton et al., 1990). Evidence also indicates that rhythm is particularly effective in the development of neurological processes. As Thaut explains:

The intrinsic rhythmicity and temporality of music create a framework to postulate that musical-rhythmic stimulation, by temporally structuring learning and training, is a highly effective driver to facilitate and shape neuroplasticity through synchronisation and entrainment (Thaut 2007, p.131).

Developments in rhythmic attending also often correlate with improvements in other functions such as memory, reasoning, psycho-social and psycho-motor skills (Ben-Yishay et al., 1987). This suggests that these capacities are highly adaptable and transferable to other modalities and aspects of behaviour.

Regarding the training of simultaneity, research into attentional training has demonstrated the effective use of rhythmic exercises in training clients in “divided attention”; the “...ability to sustain attention between two different things” (Thaut, 2007, p.203). In these therapeutic practices, “...clients are taught to attend to two stimuli simultaneously and follow instructions from both” (Thaut, 2007, p.201). The use of rhythm as a means of cultivating and coordinating simultaneous movement throughout the body is also supported by clinical research that has found that “...rhythmicity is a universal function in the control of movement” (Thaut, 2007, p.78). For this reason, research suggests that rhythm provides an effective framework through which the neurological processing of motor activities is realised globally as well as locally throughout the human body. Rhythm is seen to mediate the relationships between multiple elements, effectively working with the movements of the body and relating directly to the neurological processes of the human brain. Here, rhythmicity is responsible for both enabling and inhibiting our ability to achieve simultaneous tasks, based on the level of rhythmic “agreement” between these multiple aspects.

While such clinical research relates for the most part to the application of musical rhythm in the treatment of neurological disorders and injuries, in an actor training context we can infer from these findings:

1. Rhythm is an effective tool for training the use of attention

2. Rhythm is central to the coordination of movements across the entire body
3. Training through rhythm can make a lasting impact on functions that extend beyond the parameters of rhythmic and musical behaviour
4. Our capacity to simultaneously actualise and attend to multiple aspects of a performance score is affected by the degree of rhythmic synchronisation/agreement between these elements

Many examples of these principles can be found within non-clinical training contexts. For example, Flatischler's concept of a "rhythmic interaction field" (3.4.5), demonstrates that through the realisation of polyrhythmic relationships, multiple elements can be effectively entrained and integrated into a unified process, capable of responding across multiple levels simultaneously, and being applied effectively to other non-musical process. The "ball game" (3.2.3.1), *Huracán* (3.3.3), and TaKeTiNa are all examples where rhythm (explicitly and implicitly) can be seen to facilitate an encounter between multiple aspects simultaneously, forming qualities of unity and at times separating out these aspects into more complex discrete relationships. The evidence here suggests that participants capacities for simultaneity can be enhanced by intentionally leading them through processes which helps them identify the rhythmic relationships between their own actions and those of the wider context in which they act.

The further application of rhythmic principles into the cultivation of simultaneity will be discussed in more detail in the following chapter, which will examine how these principles have been applied within the development of my own practice (5.1). In support of this later analysis, we now examine the nature of simultaneity as a mechanism for shaping temporal perception.

4.2.3 Carving Time

The actor or dancer is she who knows how to carve time. Concretely she carves time in rhythm dilating or contracting her actions (Barba and Savarese, 1991, p.211).

Barba describes the actor as one "...who knows how to carve time" (Barba and Savarese, 1991, p.211). This offers us a useful framework for considering the actor as being an

active participant in the process of time, and not simply observing it passively. Barba states that it is rhythm that “materialises” the duration of actions and gives “life” to our temporal experiences, achieving this “...by means of a line of homogeneous or varied tensions” (Barba and Savarese, 1991, p.211). Erik Christoffersen further describes this capacity stating:

Through the continuous use of technique and training, he or she must re-create the ability to be present. Action has a space dimension and a time dimension and thus is different from most other art forms. Action dilates or diminishes the space.

Through work with rhythm and tempo, time becomes the actor’s time and can be intensified or delayed until it becomes almost immobile yet dynamic. The actor changes time into a dramatic process and the space becomes a fictive universe (Christoffersen, 1993, p.199).

Through the use of their actions and attention the actor is not only capable of “dilating” and “diminishing” space, but time as well. Moreover, where space is shaped in three dimensions, we can consider here the ways that time is shaped in two. To better comprehend this phenomenon and gain some understanding of the “techniques” and mechanisms involved, it will be useful for us to return to Vrobel’s theory of “fractal time” (3.4.5.1). This will offer us a further understanding of the ways in which rhythm is capable of altering our experience of time, and the role played by attention in an individual’s encounter with the present moment.

In her theory of Fractal Time, Vrobel draws on extensive research within the field of fractal science and phenomenology to uncover a dynamic framework of time in which we are at once “observers” and “participants” (Vrobel, 2004, 2011). In this, Vrobel is not suggesting that we as individuals generate time *per se* but rather that we have an “impact” on the structure of time (Vrobel, 2004, p.13), and thus, a capacity to influence and shape our own temporal experience.

As indicated in earlier chapters, the boundary between an individual and their environment can be considered in terms of rhythmic entrainment, expanding through synchronisation with one’s environment, or reducing through de-synchronisation (3.3.4.2 & 3.4.5). Similarly, Vrobel suggests that the boundaries of our temporal experience can

be extended or reduced through our relationship to rhythm, thus shaping our encounter with the “Now” (Vrobel, 2004, p.207). This “shaping” of time can be understood as taking place within the two dimensional model of time that has been referred to previously (Figure 16 on page 188). This model is made up of both “temporal length” (duration) and “depth” (simultaneity) (Jones, 1987; Barba, 2010; Vrobel, 2011).

Vrobel proposes a causal link between these two dimensions, suggesting that as our experience of simultaneity is dilated (i.e. increase in levels of description), our experience of duration reduces, while if our experience of simultaneity were to be reduced (i.e. decrease in levels of description) then duration would be dilated; in effect time would slow down (Vrobel, 2004, p.176).

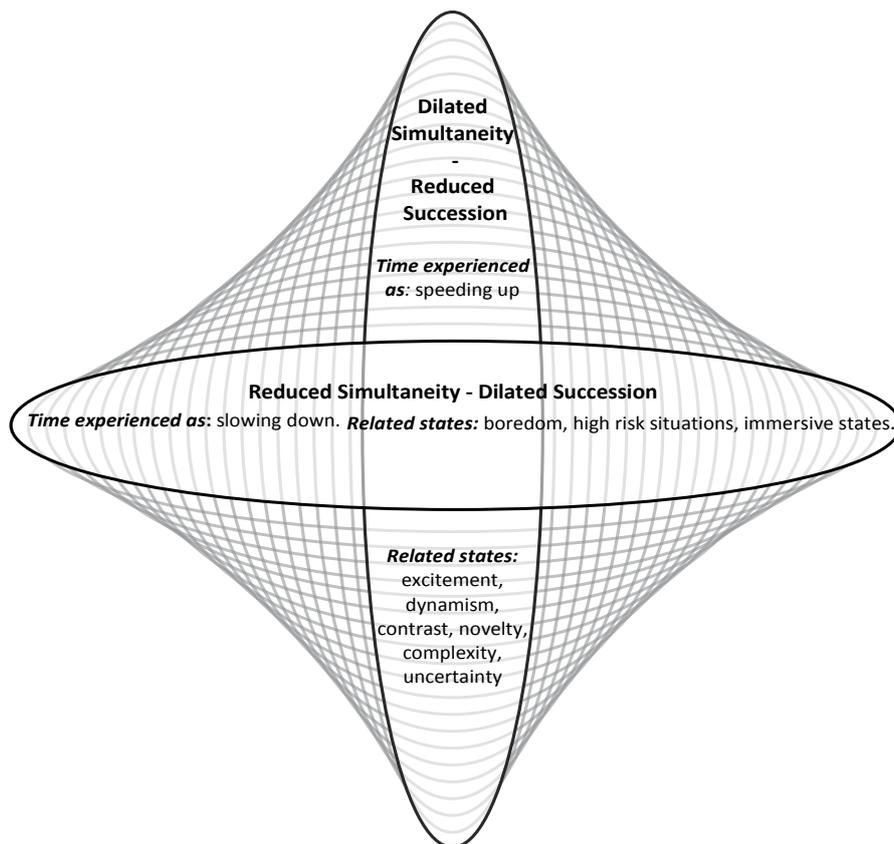


Figure 22: Correlations between simultaneity and temporal perception, based on Vrobel's (2011) theory of "Fractal Time"

This model offers us a means of comprehending the ways in which our experience of time is shaped and transformed within many training and performance contexts.

From this we can infer that as the actor/participant encounters and layers more and more simultaneous actions, tasks, and points of focus, time will be experienced as “speeding up”; events seeming to fly by as the experience of duration is reduced. Whereas, when an actor reduces the simultaneity of their experience, by, for example, focusing their attention onto a single action or task, (i.e. focused attention on breathing, or a single point of focus in space or in the body), then time may be observed as “slowing down”, as durations expand (Figure 22).

In the following description of a Balinese performer working with the mask of Panji, (a traditional hero character), we can observe the way these principles operate within a performance context. Observing the effect that the performer’s actions have on her perception of time, Kathy Foley notes:

A sphere of energy is created, but it slows down time, negates space, and is turned back on itself rather than grabbing the audience. It pushes the dancer into the self and urges him/her to savour the slightest moments... (Foley, 2002, p.171)

This correlation between a reduction in the perceptual field and a slowing of time appears to be in accord with Vrobel’s theory as outlined above. As attention reverts inwards to the self and the slight details of each moment, an expanded sense of duration emerges.

A similar phenomenon of expanded duration has been observed in Samuel Becket’s play *Waiting for Godot*, where the use of repetition and minimalist dramaturgy can be seen as shaping the temporal experience of the audience. As Günther Anders relates:

...life is ‘treading water’, so to speak; and it is for this reason, and quite legitimately, that events and conversations are going in circles [...] after a while this circular movement gives the impression of being stationary, time appears to be standing still... (Anders, 1965, p.146).

While Anders’ observation may be a conceptual one, the use of repetitive and cyclic experience without contrast or change is a practical means of reducing simultaneity. As events become habituated, fewer and fewer levels of description come to be experienced. The use of monotony and regularity in this way can be seen as a narrowing of the “verticality” of time. Taken to its extreme (i.e. depth = zero and length = ∞), this could lead to an encounter with what in theory would be an endless or static temporality; “time

appears to be standing still”.³

While such extreme forms of “temporal distortion” may be rare or possibly only exist in theory, these principles can be applied to many common temporal experiences. We can relate these concepts to the way that time often seems to slow down in relationship to boredom, or alternatively within states of deep immersion within an activity or task. This latter state is at times referred to as “flow” (Csikszentmihalyi, 2002), or “being in the zone” (Vrobel, 2011, p.2), or as “peak experience/states/performance” (Maslow, 1968). These states are commonly reported by athletes and musicians who refer to a distorted sense of time and qualities of effortlessness within their practices. Vrobel also observes that these states are regularly “...accompanied by a high degree of concentration on a narrow focus and complete absorption in a task, up to the point of merging awareness and action” (Vrobel, 2011, p.3).

In Eric Hetzler’s (2007) survey of actor’s experiences of performing, he recorded a number of accounts of temporal experiences that correlate with these principles. When respondents were asked “...if they have ever found themselves in an altered state of being while performing”, 93.71% replied yes (Hetzler, 2007a, p.168). Descriptions of these states relating to simultaneity included the following accounts by actors:

All the separate things I am aware of will blend and flow together – I’m more aware and more alive than at any other time (Anon. in Hetzler, 2007a, p.169).

While another actor commented:

It is similar to an adrenaline rush of a superior athletic performance. Time slows down, awareness is heightened, focus and concentration is acute, things not related to what is happening on stage recede (Anon. in Hetzler, 2007a, p.169).

In these descriptions we can observe a number of principles; firstly, a merging of multiple experiences, leading to a heightened sense of vitality, and secondly, an experience of immersion and “acute” concentration leading to an experience in which “Time slows

3 In Anders’ reading of *Waiting for Godot*, this encounter with “infinite duration” is seen as analogous with Hegel’s “bad infinity” (or “bad eternity” as termed by Anders) (Anders, 1965, p.146). “Bad infinity” is based on a linear model of an endless straight line; an experience with no resolution. In contrast “true infinity” forms a circle “...the line which has reached itself, which is closed and wholly present, without *beginning* and *end* (Hegel, [1816] 1969, p.149).

down”. In Hetzler’s interviews, another actor describes the inverse experience in which time “speeds up”, stating:

I didn’t realise the scene was like half an hour, I thought it was ten minutes. Like I had no concept of time even in the course of the scene. Chris and I would do the scene and we didn’t realise that it was a quarter of the play! (Broulik in Hetzler, 2007b)

The account given by this actor is of a highly complex scene with multiple competing elements and interactions, which could be referred to as multiple “levels of description”. We could infer from this that the increased number of “levels of description” (i.e. temporal depth) resulted in a decrease in perceived duration (i.e. temporal length), bringing about the perception of time passing rapidly.

Another example of temporal distortion is offered by an actor describing a moment when the performance “goes askew”. Here his experience of being in character or rather what he terms: “thinking the character’s thoughts”, is disrupted for a few seconds as he reverts back to what he terms “thinking the actor’s thoughts”:

And I kind’a let the character just sort’a go on autopilot for a little bit, just for [...] a second or two. It’s usually [...] just a second or two. I know it feels like... oh my god it’s forever. But it’s not; it’s really in reality like just a fraction of a second [sic] (Coral in Hetzler, 2007b).

This description given by an actor offers further verification of accounts presented by Vrobel of “dilated durations” within extreme circumstances or moments of increased stress; when an individual’s perception suddenly narrows, or they shut off certain modes of perception in order to give the necessary attention to the task at hand (Vrobel, 2004, pp.1–2). Similar to the immersive experiences described previously, in these moments there is a noticeable change in perception and use of attention, whereby either, a number of elements are integrated into the flow of the actor’s attention, or elements are stripped away down to a limited number of mental processes or perceptual stimuli. In these examples we can observe a correlation between the way these “levels of description” increased or decreased, and the perception of increased or decreased duration.

While the nature of a task or the environment can clearly influence the number of “levels of description” an actor experiences, it is suggested here that their encounter with

time is primarily influenced by the way they perceive these aspects, which is in turn based on their use of attention (Vrobel, 2011, p.158). As such, the temporal experience of the same event or process can be highly variable between different actors and even across different encounters by the same actor. For example, when I encounter a new task, training form, choreography or skill set, I may at first feel that I have very little time available, the process may seem to be rushed with no sense of the silences or pauses between one action and another. However, over time and repeated engagement in a task my perspective may change, finding that I can accommodate a larger amount of detail into each moment.

I suggest that a number of elements can influence such changes. These include:

- A task that felt alien or detached becoming embodied through repetition or personal association
- A number of elements, which at first seemed unrelated may become integrated or unified, bringing about a composite form, perceptual schema/gestalt, or clear sense of “through line”
- Extraneous elements or mental distractions may be stripped away leading to a more efficient or focused engagement in a task
- What appeared to be a complex offset of ideas or processes are suddenly comprehended and reduced to a coherent principle in the case of “insight learning” (Vrobel, 2011, p.210)

Here we see processes that were experienced across multiple levels of description (i.e. a high degree of simultaneity/nesting) being accommodated within or reduced to fewer levels of description (i.e. reduced simultaneity/nesting and increased duration). Vrobel describes this phenomenon in terms of “de-nesting”. This can take place either through a process of de-contextualisation, narrowing or limiting the field of attention (as observed in the example of the Balinese dancer, and the actor on “autopilot”), or alternatively through a process of integrating/merging multiple levels of description into one (i.e. the embodiment of a complex physical score, a merging of tasks, or moment of insight) (Vrobel, 2011, p.210).

This latter phenomenon is of particular interest here, as it relates directly to the processes of synchronisation and entrainment discussed throughout chapter three of this thesis and the previous sections of this chapter. In these cases, what existed on multiple “levels of description”, is reduced to a single level, with multiple rhythms entraining into a single pattern. Not only does this alter the relationship between the elements themselves, but also transforms our experience of time. As elements come to be unified in rhythm, time may seem to open out, as suddenly simultaneity is reduced and duration is instantaneously dilated (Vrobel, 2011, p.226).

As discussed previously, the rhythmic nature of attention is one of the key elements involved in facilitating such unity of perception, allowing us to perceive multiple elements within a framework of “nested rhythms” (4.1.2) while also allowing us to distinguish one “level of description” from another.

4.2.4 Summary

As identified in this chapter simultaneity can be considered as an “extra-daily technique” that is applied and cultivated by the actor/participant within training and performance. In these contexts simultaneity has been described as involving open and fluid qualities of awareness, and seen to bring about heightened qualities of presence and responsiveness. While a number of approaches to achieving simultaneity have been identified here, I have suggested that rhythm has an integral role to play in developing and supporting these capacities through actor training, a claim supported by the findings of clinical research and further research undertaken by Flatischler in the use of TaKeTiNa. Additionally, the ways actors/participants rhythmically organise their attention and actions, coupling and decoupling, narrowing down or expanding their field of attention, offer a means of effectively “shaping” their (as well as their audience’s) experience of time. Yet in addition to rhythm, the perception of time in each of these examples is also directly affected by the actor’s own use of attention, personal intention/justification, and through the use of the imagination. This further supports claims made by Stanislavski, Dalcroze, Grotowski, Britton and Núñez, regarding the importance, of not only what an actor does, but also

their mental engagement with these actions and the ways these relate to one another.

This chapter has presented the views of a number of scholars and practitioners who have pointed towards the significance and value of simultaneity in theatre practice. Yet despite this clear interest, to the best of my knowledge there have been no in-depth studies carried out into the nature of simultaneity within this field. It would appear that as directors and dramaturgs engage increasingly with the use of simultaneity, a great deal more research needs to be undertaken, looking into the training of actors and the means through which they can effectively shape their own presence within these multidimensional frameworks, with confidence and creativity.

In exploring the ways rhythm can be used to facilitate the cultivation of simultaneity in actor training, a wide range of questions emerge: is it possible for a performer to sustain multiple tasks without compromising the integrity of each separate action? Is a “hierarchy of tasks” needed within these processes, by which primary tasks provide a basis from which further secondary tasks can be established or nested? Does musical accompaniment facilitate greater simultaneity by creating a more immersive training experience for the actor? How does the cultivation of simultaneity as a mode of attention alter the performer’s sense of presence and connectivity with an ensemble, as well as the way an audience experiences their performance?

Addressing all of these questions is clearly beyond the scope of this present study, though some of these issues will be further addressed in the following chapter. In the sections that follow, I will describe some of the practical research I have undertaken in an attempt to approach questions regarding the cultivation of simultaneity within ensemble training practices, using rhythm as a primary tool.

PART 5 DEVELOPING A PRACTICE

5.1 Orbits

Simultaneity in Time and Space

This reality is endowed with Vastness (we see as far as the stars), and it then becomes Rhythmic Simultaneity. Simultaneity in light is harmony, the rhythm of colors which creates the Vision of Man (Delaunay 1912 cited in Chipp, 1992, p.319).

Following on from the previous chapter's examination of simultaneity as both an aspect of rhythm and as a key element of acting practices, this chapter will report on my own research into the practical application of simultaneity and its associated principles within actor training. This chapter will focus on Orbits, a collection of training forms that were devised over a two-year period through practical research with various performance groups and individual artists. These training forms were developed with the intention of bringing actors into an encounter with simultaneity and polyrhythm as a means of cultivating new modes of attention, greater qualities of connectivity within ensemble practices and heightened qualities of performance presence. What follows is an account of the processes involved in developing these forms, an analysis of their impact and efficacy, and graphic forms of notation developed as a means of documenting them.

In looking through the body of research that has constituted the making and exploration of these forms, a diverse range of personal experiences and encounters with

rhythm have taken place. As with all the practices discussed within this thesis, in looking to analyse this process we must reckon with the fact that for the most part this work has taken place in the individual experiences of each participant, and (as with an ensemble) in the qualities of relationships that have formed between these individual participants. We might consider these experiences and their effect on each participant as forms of “tacit knowledge” (Nelson, 2006), a concept that could also be applied to my own development as a facilitator of these practices. From the outside, we may be able to get some sense of the overall effect that these experiences have on the emerging dynamic of the work, but such an analysis remains limited and dependent on a large amount of subjective speculation. While it may also be possible to analyse these training forms objectively as quantifiable structures in their own right, and to examine the mechanics within the pedagogical processes through which these forms were arrived at, the totality of this research cannot be fully articulated here in words, images, digital recordings, or external observations. Rather a final analysis of these processes can only take place in the “doing” of this work itself. To quote Grotowski: “Knowledge is a matter of doing”(1988, p.37). Bearing this in mind, the writing that follows will for the most part be descriptive, with key themes reflected on and discussed primarily from my own perspective as a leader of these research sessions. Further analysis will also be made through the application of some of the theoretical frameworks previously discussed within this thesis.

5.1.1 Research Questions

This research aimed to address a number of key questions that emerged over the course of my own training experiences as both a participant and facilitator, along with questions that have arisen from the study of other practitioners discussed within this thesis. Clearly this research does not and cannot address all the issues raised by this thesis, rather its interests lie with a number of specific areas of investigation:

- Are the principles of rhythm and polyrhythm encountered in my own training as a musician and as experienced within the practices of TaKeTiNa, transferable to the training of actors?

- In what ways can simultaneity be approached and cultivated through the use of polyrhythm in actor training?
- Through what means do actors negotiate their journey between the structured and the dynamic aspects of rhythm: between the predictability of a score and the spontaneity of the moment?
- How can such forms of training be scored/notated for research, dissemination and documentation purposes?

5.1.2 Research Methodology and Development Process

Over the two years from November 2009 through to November 2011, I conducted practical research sessions with various groups of performers in a number of settings and locations. This research took place in the UK, France, Greece and Mexico, and involved participants from Duende, Obra Theatre Company, Artel Theatre, Taller de Investigación Teatral, Whitestone Arts, Wild Goose Theatre Laboratory and research students from the University of Huddersfield (for details see Appendix 7.3).

This work began from a foundation of existing exercises, training approaches, and principles drawn from existing practices such as Flatischler's TaKeTiNa rhythm practices, Núñez's Anthropocosmic Theatre *dynamics*, John Britton's ensemble actor training, Jaques-Dalcroze's *eurhythmics* exercises, and elements found in the work of Stanislavski, Meyerhold and Grotowski. In these initial research sessions, I also explored the practical applications of many of the rhythmic principles discussed throughout this thesis (i.e. pulsation, intervals, beat, offbeat, polyrhythm, inner/outer rhythms, opposition, simultaneity, chaos and order). Inspiration for this research also came out of my experiences of working with the Duende Ensemble, Obra Theatre Company and workshops undertaken with the Awake Ensemble during this period.¹

5.1.2.1 First Phase of Research

This initial phase of research aimed to test the efficacy of certain rhythmic principles within

¹ For more details regarding the work of Duende, Obra and the Awake Ensemble see: www.duende-ensemble.com, <http://www.aubrana.com/company> and <http://awakeproject.com>.

the context of actor training, and explore a number of pedagogical approaches to these principles. Starting in November 2009, I ran weekly training sessions with postgraduate research students at the University of Huddersfield. These sessions explored the use of improvisation exercises incorporating basic rhythmic elements. These initial practices were built largely on exercises from John Britton's work in ensemble improvisation (3.2.3.2). In these exercises participants worked with movement and vocal improvisation scores built around specific rhythmical relationships, such as: working in the same or contrasting tempos, alternating movement and stillness, and layering polyrhythmic patterns (i.e. cross rhythms) between pairs of individuals and groups.

These sessions led to a series of intensive workshops/research blocks in the first half of 2010, where these initial exercises were further developed and refined. This repertoire of exercises was later explored in more detail in collaboration with John Britton and the Duende Ensemble as part of a three-week training residency at Whitestone Arts in July and August 2010. Within these sessions, further exploration took place into the integration of rhythmic principles within the context of psychophysical actor training, which led to the application of elements of this work within the company's performance entitled *The Shattering Man*, in September 2010.²

What was striking in these blocks of research was the diversity of initial responses actors had to working with rhythm. I observed responses ranging from those who found rhythm to be extremely enlivening, offering them confidence and a sense of support, through to those for whom rhythm represented an area that was daunting, perplexing, and at times extremely frustrating. Interestingly, these initial responses did not always correspond to the level of ability or engagement of those participating. Rather, these seemed to be derived from previous experiences that had established in participants strong associations and opinions about their capacity to work with rhythm (this will be discussed in more detail in the analysis later in this chapter). Despite this wide range of initial responses and personal associations with rhythm, I observed that all participants were able to engage effectively with the principles of rhythm presented with these exercises.

² The *Shattering Man* was the first work developed by Duende. For more information about the development of this performance see: http://www.duende-ensemble.com/DUENDE/The_Shattering_Man.html .

Over the course of working through these simple exercises, participants developed an increasingly embodied relationship to rhythm and found ways of integrating these principles into other aspects of training and performance.

5.1.2.2 *Fieldwork in Mexico*

A significant turning point in my research took place in the following months (October and November 2010) while I was undertaking field research in Mexico City with Nicolás Núñez and TRW.³ Following a session in which we worked with the training dynamic *Huracán* (3.3.3), I had a discussion with Núñez about the possibility of exploring a training form made up of concentric circles, similar in form to *Huracán* but involving a more polyrhythmic relationship between the choreographies of each group. We discussed this as a series of “orbiting circles” evoking the motion of orbiting planets. We also talked about finding a system whereby participants could shift between these orbiting patterns, changing their rhythmic and spatial relationships at will, while staying connected to an underlying rhythmic pulsation. These ideas suggested a more formalised direction than my research had taken in previous explorations. While improvisation had dominated many of the initial research sessions, inspired by my work with Núñez I began to consider the possibility of developing a form-based approach to working with rhythm and simultaneity. This offered the possibility of refining these practices through repetition and the ability to work directly on the relationships between principles such as order/spontaneity and objective/subjective encounters with rhythm.

Once back in the UK I decided to run a series of research workshops with the intention of devising and working with these “orbital” training forms. I sent out a “call” for participants to form a group with which I could work on developing these forms and explore their potential applications (Appendix 7.5)

5.1.3 *Orbit Development Workshops*

From the beginning of January 2011, I worked with a group of twelve participants over a

³ This field research was funded by a Society for Latin American Studies (SLAS) Postgraduate Travel Grant.

period of eight weeks and spent a further period of three workshops with a smaller group to refine the forms we had created.

5.1.3.1 Participants

Those who participated in this development process came from a broad range of disciplines and backgrounds including actors, directors, writers and musicians, postgraduate as well as undergraduate students in the fields of drama and music. Many of these participants came to these sessions with an existing interest in rhythm as well as a range of previous experiences (both positive and negative) of working with rhythm. In the case of trained musicians, this often included a detailed understanding of the theoretical aspects of rhythm (i.e. note values, metre, and time signatures etc.) and a high degree of rhythmic “ability”. In contrast, some actors who participated in this work brought with them preconceptions that the rhythmic elements of their work were challenging and difficult.

Reflecting on the varied responses that I had encountered in my earlier research and due to the diverse backgrounds of those involved in these sessions, one of the main tasks in this initial phase of work was to establish a strong basis from which the group could work together in developing these forms. Drawing on the principles set out by Britton and Flatischler, I looked for ways of approaching rhythm that were not based on pre-existing skills or specific technical competences. Rather, my facilitation was focused on the cultivation of open and non-judgemental attitudes, the use of specific *modes of attention*, and the participant’s search for a personal engagement in the work. What was important here was that we moved away from the concept of rhythm as a specialist skill and through practice redefined it as an element of movement and perception, accessible and innate to each individual.

5.1.4 Principles

Through this initial work on core principles, we established a shared vocabulary and set of understandings with which to proceed in our investigation. These principles included:

- Pulsation

- Inner and Outer rhythm
- Listening and Speaking
- Archetypal Patterns
- Simultaneity

5.1.4.1 Pulsation

One of the first steps in establishing a common understanding of rhythm in the group was for participants to observe the experience of *pulsation* in their own bodies through a number of simple exercises (). In this series of exercises participants walked through the space observing the rhythms of their own movements, without intentionally “correcting” or altering these. Participants were then invited to direct their attention to specific moments in each step; firstly *the moments when their feet made contact with the floor*, and secondly *the temporal interval between each step*.⁴

The reasoning behind this work was that as participants experimented with *how*, *when* and *where* they located their attention in time and space, they would also gain a greater sensitivity to the nuances of their bodies’ own rhythms, in turn acquiring a physical basis through which to understand the principles of *pulsation*, *beat* and *offbeat*. This moved us beyond the common concepts of rhythm as being primarily an aural experience associated with counting or notation and served an important purpose in providing the group with an experiential understanding of rhythm as something dynamic and physical, originating in their own bodies. Pulsation also provided us with a valuable reference point for developing a sense of rhythmic unity within the group, which became increasingly important as more elements of polyrhythm were introduced.

5.1.4.2 Inner and Outer Rhythm

Another principle that we spent considerable time working with in this earlier phase of development was the distinction and relationship between “inner” and “outer” rhythm. This principle drew from Stanislavski’s concept of inner/outer *Tempo-rhythm* (2.2.3)

⁴ These exercises were based on similar exercises developed by Reinhard Flatischler. See Flatischler (1992) for details

along with Flatischler's work on the relationship between "body and mind rhythms" and "external musical rhythms" (3.4.5).

In these exercises the group explored shifting their awareness between the rhythms taking place in their own bodies (i.e. breath, heartbeat, inner voice) and the rhythms in their environment, as well as encountering the possibilities of experiencing both of these simultaneously (Clip 11). We also explored the process of transitioning between external rhythms, located in gestural movement, stepping or vocal patterns, and internal rhythms experienced as a sequence of syllables spoke by a silent "inner voice" or sensed as an internal physical motion, breath pattern or pulsation.

Work undertaken in these sessions demonstrated a clear need for a balanced approach to *inner* and *outer* awareness. For this reason, I generally worked with combining processes of introspection with the requirement that participants be open and responsive to what was happening around them, and work on external perception accompanied by the demand of continued inner listening.

5.1.4.3 *Listening and Speaking*

Once participants become familiar with the concepts of *inner* and *outer* rhythm, we began to explore the theme of *listening* and *speaking*. This principle is drawn from Flatischler's TaKeTiNa work and relates strongly to the principle of *inner/outer rhythm* discussed above and to the concepts of *active* and *passive* relationships as referred to previously (3.4.4.2). In this context the terms *listening* and *speaking* were not limited to their conventional meaning: i.e. "To give attention with the ear", and "To utter or pronounce words" (Oxford English Dictionary, 2012). Instead they were used to signify the fundamental processes of *perception* and *expression* across a range of modalities including touch, sight and proprioception. In working with this principle, participants were encouraged to reflect on their personal relationship to these two processes, asking themselves: "When am I speaking?", "When am I listening?", "When am I speaking and listening simultaneously?"

This work looked to cultivate a greater sensitivity to rhythm through various sensory modalities, while also exploring the effects that intentional expression through movement and the voice had on our perception of rhythm. In simple movement and voice exercises

participants were instructed to: “sense the rhythms of your own walk through the soles of your feet”; “observe the rhythms of making and breaking physical and visual contact”; “synchronise your movements or voice to those of another”; “observe the rhythms taking place inside your bodies through the movements of your muscles, lungs, heart and attention ,while also interacting with other participants”.

Here I also adopted a number of exercises developed by Jaques-Dalcroze involving participants doing one rhythm with their arms while observing another rhythm in their partner, as well as TaKeTiNa exercises developed by Flatischler (Clip 10 & 13).

5.1.4.4 *Archetypal Patterns*

Another aspect of this initial process was the establishment of a core rhythmic vocabulary. Here I was looking for patterns that had their origins and applications in the movements of the body and vocal expression. For this purpose, I drew extensively on Flatischler’s concept of “rhythmic archetypes” explored through patterns of rhythmic syllables (3.4.3). This work began with basic phrases built from grouping beats into twos, threes, and fours (Clip 14). Once participants were familiar with stepping, speaking, and dancing these basic patterns, we began to work with combinations of these, such as twos and threes (five beat cycles) and threes and fours (seven beat cycles).⁵

Building on this work, we were able to explore ways in which participants could layer simultaneous patterns both in their own bodies (i.e. arms and legs doing different patterns) and between partners (one participant moving in a three beat cycle while their partner moves in a pattern of five). In addition to the influence of Flatischler’s work on “rhythmic archetypes”, this work also drew on Jaques-Dalcroze’s work on the embodiment of multiple rhythms within a group or an individual (2.2.3.3). Here partners would work in relationship to one another while also embodying distinct rhythmic cycles, experiencing the moments where their rhythms came together and split apart. These processes also gave

⁵ While in the analysis of these practices I refer numerically to cycles of 3, 4, and 5 etc., in practice the use of numbers was generally avoided. Instead such patterns were approached through physical movements and spoken syllables. The intention here was to take an intuitive rather than cognitive approach to these forms. When working with numbers the tendency is to begin relating to time as primarily quantifiable whereas in this context the emphasis was on the quality of our experience. In line with this approach, participants were also discouraged from trying to memorise or practice these patterns outside of the sessions.

participants direct access to the principles of “temporal nesting” described in the previous chapters (4.1.2), with participants embodying rhythmic cycles which, when combined, generated frameworks of larger cyclic patterns. For example in bringing together a three beat pattern with a five beat pattern, a participant could encounter their own rhythm, while observing their partner’s pattern rhythm, and also experience themselves working within a larger cycle made from the relationship between these two patterns (Figure 23).

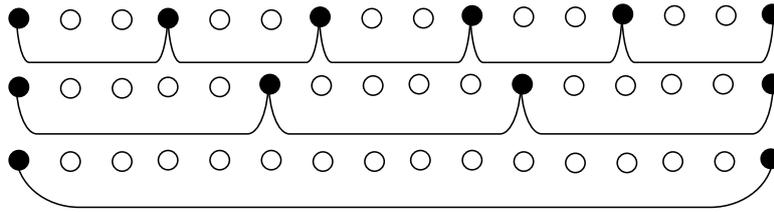


Figure 23: Nesting cascade made up of three and five beat cycles

5.1.4.5 Simultaneity

The overarching principle across all this work was that of simultaneity. These basic exercises regularly encouraged participants to engage with multiple aspects simultaneously: to observe rhythms both inside and outside of themselves, to pay attention to their own rhythms as well as those of other participants, to be aware of *listening* as well as *speaking*, and to embody and direct their attention across multiple rhythms and tasks simultaneously. The previous principles also provided a number of mechanisms for supporting these encounters with simultaneity.

For example, an awareness of a common *pulsation* helped participants form links between their own rhythms and those of others. The balancing of *inner* and *outer* awareness also helped strengthen such connections by facilitating an individual’s process of entraining their own rhythms with their environment, as well as offering them the possibility of choosing to separate from these rhythms. Awareness of the inter-relationship between *listening* and *speaking* offered a framework through which a participant could have the experience of simultaneously *speaking* one rhythm while *listening* to another. In addition, the understanding of *archetypal patterns* offered participants a common reference point from which they could extend their awareness as these patterns became increasingly

embodied. It was also observed that once the participants integrated these principles into their practices, they were increasingly able to work with multiple principles simultaneously, having moved beyond a rational comprehension into an embodied understanding.

A participant who was a musician commented on this initial work saying, “I felt very much as though I was approaching the rhythm work from the same ‘level’ as everyone else at the workshops” (Kyle, personal communication. 16th November 2011). While in another context we might consider this a negative result, here such attitudes provided an effective tool for learning, with participants able to approach rhythm from a new perspective with fewer preconceptions and judgments interfering with their engagement in the work. The results of this approach will be discussed in more detail in the analysis at the end of this chapter.

Having established a basic comprehension of these principles we were able to begin the development of the choreographic structures that would make up the *orbit forms*.

5.1.5 Orbits #1

Building on these initial exercises, we began exploring various rhythmic and choreographic configurations based on these *archetypal patterns*. Configurations included: two columns facing one another, groups of two and three concentric circles, participants facing inwards and facing outwards, locating fast rhythms on the inside and slow rhythms on the outside and vice versa. In all this work, we observed the ways that different configurations offered a variety of possible relationships and energetic dynamics. While the use of parallel columns was found to be effective in giving participants a clear experience of relationship between two distinct rhythmic phrases, it was found that the immersive experience of working within concentric circles allowed for a deeper engagement with simultaneity and offered the possibility for more complex relationships to emerge. While in some ways more disorientating, these concentric configurations were found to be more dynamic, capable of generating and sustaining the group’s energy more effectively than in exercises undertaken in straight parallel lines. Additionally we found it valuable to move between these concentric forms and times when the group moved freely through the space, these

two conditions effectively balancing each other out. We also found that the use of free motion through the space offered some relief from the highly repetitive nature of these exercises and conversely, the use of more formal structures provided a mechanism for focusing and unifying the group.

By the end of this eight-week research workshop we had devised a basic three-part polyrhythmic movement choreography and a process through which we could journey into and out of these forms (Clip 15). These “Orbits” consisted of rhythmic choreographies made up of simple stepping patterns involving participants moving through the space in three concentric circular formations, supported by syllables, both spoken and sung. While each group’s pattern was unique, they all fitted together to form one unified form (Figure 24).

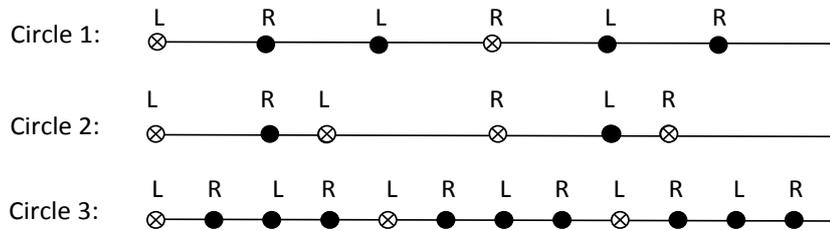


Figure 24: Orbit score based on structures devised in February 2011

The spatial configuration we used for this pattern consisted of: *circle 1* in the centre facing inwards, encompassed by *circle 2*, with each individual facing sideways towards their left so that their steps moved outwards and inwards, and *circle 3* surrounding both of these and facing inwards (Figure 25).

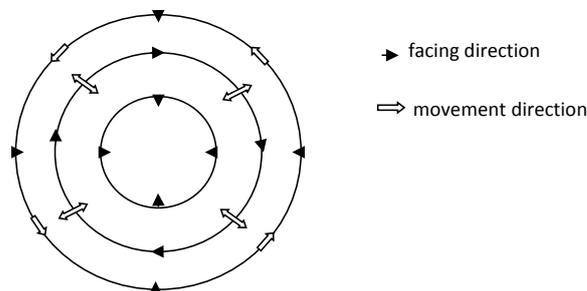


Figure 25: Spatial configuration of Orbit #1

This process of working within concentric circles gave participants an experience of realising one rhythm with their own body while being surrounded by other rhythms in their environment, and indicated the potentials within such forms for heightening

energetic as well as conscious states. Here participants from a range of backgrounds were able to shift effectively between a number of complex polyrhythmic spatial and temporal relationships, finding effective ways of connecting and separating themselves from the rhythms going on around them.

While these forms provided an effective means of encountering and working with simultaneity in actor training, their configuration was still not working as effectively as desired. The relationship between these parts at times felt laboured and lacked some of the dynamism that I had encountered in my work with TRW in Mexico. In looking to address these issues, I went on to experiment with and refine these forms with a smaller group of participants. Having established a clear set of principles and frameworks to build upon, these sessions looked specifically at the temporal and spatial relationships between these choreographies, exploring the arrangement of these forms and various ways of moving them through space. We also explored the use of instrumentation such as ankle bells and rattles, and the ways these could be used to support an engagement in these rhythms (clip 16 & 17). This process was followed by further periods of development at Au Brana Cultural Centre, Whitestone Arts, training postgraduate research students at the University of Huddersfield, and research with the Wild Goose Theatre Laboratory.

This later phase of research also took inspiration from Vrobel's (2004, 2011) theories of *fractal time* (3.4.5.1 & 4.2.3) and the "archetypal" geometric forms of *yantra* drawn from the Hindu tradition (2.4.2). In this work, I investigated the fractal nature of a number of *yantra* forms, and the realisation of these patterns in time and space.

Figure 26: Computer generated fractal (Haas, n.d.); Cactus (Anon, n.d.); Nitya Sakti Yantra (Khanna, 1981 p. 87)

The overall aim of this research was to explore the value of such forms as tools for shaping

and altering rhythmic perception/attention, and how these tools might support in/interdependence within an ensemble. Drawing on Núñez's concept of a "mandala in motion" (3.3.3.2), along with my initial experiments looking at the dynamic nature of various spatial configurations, I began to investigate the correlations and further potentials of the rhythming of these forms in space as well as time. This process of developing fixed spatial choreographies also looked to address the need for actors to be able to coordinate and synthesise their spatial and temporal rhythms into a single process on stage.

5.1.6 Orbit Sossos

The name *Sossos* comes from the Babylonian word for sixty⁶. This is a reflection of the number of beats before all the cycles within this form come together in space and time. This training form consists of three cyclic choreographies enacted simultaneously and scored in regard to their temporal patterns as well as spatial configurations. As such, each cycle constitutes both a physical movement through space and a durational experience in time. Rhythm, in this instance is realized through both the physical journey from one step to another, as well as the relationship between these steps as beats in time.

Figure 27: Twenty beat, fifteen beat & twelve beat 'Orbit' choreographies

6 Sixty formed the basis of Babylonian counting systems for space, time and weight. Here one and sixty are both symbolised by the same figure (𐎶). The use of sixty as the basis for a counting system was adopted from the Babylonians by Hipparchus and Ptolemy (150BC) as the basis for measuring the longitude and latitude of the cosmos. The most commonly accepted theory of why the number sixty was first adopted and gained currency, is its high capacity for subdivision by whole numbers: 1,2,3,4,5,6,10,12,15,20,30,60 (Linton, 2004, p.11). Other theories include the fact that a solar year is roughly 360 days, thus making 360 the basis for measuring the number of degrees that a circle can be divided into (Menninger, 1992, p.168). A further cosmological link is also suggested by the correlation between the orbits of Saturn (approximately 30 earth years) and Jupiter (approximately 12 earth years). A conjunction between these two planets takes place every 20 years each time in a different third of their orbit, forming a total cycle of 60 years before the Earth, Saturn and Jupiter arrive back to the same positions relative to the sun (Hinze, 2002, p.54).

Additionally the location of the beginning of each cycle and the journey away from and back to this point is given significance in the dimensions of time and space alike, with these two journeys correlating directly with one another (Figure 27 and animated score: Clip 21).

The three scores illustrated above represent the separate choreographies that make up the overall form of *Orbit Sossos*. The markings around each circle represent the underlying units of pulsation as well as locations in space, and the larger markings represent accented beats that subdivide each cycle specific patterns. These three cycles can be described as follows:

- A twenty beat cycle consisting of four, five beat patterns: repeated three times
- A fifteen beat cycle consisting of five, three beat patterns: repeated four times
- A twelve beat cycle consisting of three, four beat patterns: repeated five times

Or mathematically as:

- $60 = (4 \times 5) 3$
- $60 = (5 \times 3) 4$
- $60 = (3 \times 4) 5$

The logic behind these equations is that while each choreography is distinct in its make-up, they all remain united at two fundamental levels: the basic unit of pulsation (micro-structure) and the emergent cycle of sixty beats within which they operate (macro-structure) (Figure 28).

Figure 28: Composite of three, sixty beat 'Orbit' choreographies as a linear sequence

While supported by mathematical theories, in practice this work is approached primarily through an embodied understanding of core principles, and personal understandings formed by encountering rhythm in physical movements and the use of the voice. From this basis participants began training with these individual choreographies looking to acquaint themselves with the rhythmic and geometric qualities of each choreography. This process involved moving these rhythms throughout the body and the space in various ways, shifting between and combining: speaking, walking, dancing, gesturing, singing and imagining these patterns, in solo exercises and in groups.

Through these processes, participants gradually formed a relationship with each of these forms and were able to embody these rhythmic cycles. Through this choreographic work spatial and temporal awareness was also further cultivated, with participants developing the capacity to direct their actions towards a specific point in the room as well as locating their attention on precise moments within a framework of time (Clip 18).

Once participants were familiar with these patterns, we began to explore their relationships by running pairs of sequences simultaneously (Figure 29).

Figure 29: Three 'Orbit' combination (12:15, 15:20, 20:12)

Each combination of simultaneous rhythms brought about a unique experience. Like the relationship between musical notes that form distinct harmonies, these polyrhythms revealed distinct characteristics and associations. The relationships were explored in duets as well as through group exercises, moving the patterns through the space freely as well as in fixed choreographic formations (Clip 19).

Once all three of these relationships (12:15, 15:20, and 20:12) were explored separately, we began to work with the relationship between all three patterns simultaneously (Figure

30 & Clip 20). Again the choreographies were approached through a number of means: using the voice, clapping, physical actions and imaginative work. As these relationships became increasingly embodied by the participants, they became more confident in making clear choices about how they directed their attention within their own actions and those of the wider group, developing the capacity to shape their attention simultaneously in time and space. Participants were then able to explore ways of starting and stopping the cycles, changing direction, transitioning from one orbit to another, and varying their use of vocal, clapping and percussive rhythms and melodies.

Figure 30: Concentric twelve, fifteen and twenty beat 'Orbit' choreographies

5.1.7 Reflections and Analysis

The following analysis is based on my own observations within these practices in addition to discussions and reflections made by participants who took part in this process (Appendix 7.7). A common theme encountered throughout much of this practical research was the way in which participants felt they were able to approach rhythm from a new perspective within these practices. Participants, who had previously found working with rhythm stressful or personally challenging, often commented that they had encountered a new relationship to rhythm in the “Orbit work”. This relationship was described as being more “easeful” and “supportive” as well as being accompanied by less negative “personal judgments” than previously experienced. These reflections also extended to other aspects of the work including the use of voice and movement, which were often referred to as being more “easeful” and “engaging” than participants had previously encountered in other processes.

I also observed that there was a clear shift within many participants, going from an understanding of rhythm as a skill to be attained, to engaging with rhythm as an experience in which they could participate. From my observations, the latter approach was one that often led to a deeper engagement with, and personal pleasure in, rhythm, while the former often led to frustration and forms of self-deprecation. While precision and detail are important elements of rhythmic training, I have observed in this research that often the stressful effort that was used to bring about the “result” a participant “thought” was correct, led to a psychophysical state that in effect made it more difficult for the participant to engage in the process in a responsive and effective manner; the result being that the quality of rhythm was in no way improved by the increase of effort.

At first many participants struggled with a desire to control these rhythms and found it difficult to “let go”, to stop “chasing after”, or trying to understand these rhythms on a rational level. This desire to control and make rational sense of a complex rhythmic process was often observed in this work, manifesting in muscular tensions and mental stress. Participants reported, that while at first, the moments in which control was relinquished were “unsettling”, in time these became “increasingly enjoyable” as the experience shifted from an intellectual process to one of embodied experience. One student commented at the end of a session: “I felt like I was the rhythm [...] not that it was something outside me, but that it was me” (Morris, 2011).

We return here to a principle discussed throughout this thesis; the understanding that such rhythms already exist within our bodies, and rather than *learning* them, the participant in this work is capable of rediscovering (or in Eliade’s terms “reactualizing”) these patterns through their own embodied actions. We can also observe here the aspects of self-agency and passive/active relationships discussed previously in regard to Flatischler’s work on the theme of *the I and the It* (3.4.4). In my work with the various Orbit forms, I looked to explore these dynamics in more detail by intentionally creating states of simultaneous conflict and unity between rhythmic patterns embodied by different individuals and groups within this work. The oppositional use of these two conditions, while at times “unsettling” also often led to a deeper sense of integration, through which

participants were able to experience a heightened relationship to the present moment, as well as a sense of themselves being part of a bigger process (both temporally and spatially).

Reflecting the principles found in the practices of Britton, Flatischler and Núñez, I have looked to create a form that allows for both the integration of the individual into the “flow” of the group, while simultaneously establishing a unique and personal rhythmic journey within these patterns. As with these other practices, the realisation and “reactualization” of *Orbit Sossos* required a sustained engagement in both aspects. From my own experience, without either aspect (sense of connection with other and sense of self) these forms cannot be fully realised. Instead, the participant encounters a seemingly random set of relationships with no or little sense of connectivity between the individual parts.

In this way, such work acts as a mirror, reflecting instantaneously the nature of the relationship between the individual and the ensemble. At times this experience is deeply immersive, approaching what Vrobel (2011) refers to as a “boundary loss” (3.4.5.1). While at other times, one is acutely aware of being disconnected from the “core rhythm” of the group. There is a sense in such moments of being “fractured” or “disjointed” in some way, of an emerging sense of chaos, or personal confusion. Through these varying encounters, the participants inside this work had the experience of shifting between moments of perceived chaos and other moments of order, and developed a capacity to move between these states with ease and confidence.

Observing the development of individual participants over the course of their engagement with this work (in some cases over two years), I was able to notice the growing quality of ease with which they approached their encounter with simultaneity. What at first provoked high degrees of anxiety and clear manifestations of physical stress in some participants, over time was met with a greater quality of presence and adaptable responsiveness. This does not mean that participants stopped “falling out” of rhythm, or ceased experiencing moments of confusion/disorientation, but rather that their relationships to these encounters were able to evolve on an attitudinal level. The

application of such changes in attitude and qualities of perception to a performance or rehearsal context is another question, and one that merits further investigation.

5.1.8 Areas of Further Research

Over the course of this research, a number of areas of future investigation and possible applications of *Orbits* have emerged. One such area is the further study of the fractal nature of the *Orbits* scores. “Fractality” was discussed earlier as a mechanism involved in experiences such as “temporal distortion” (i.e. slowing down/speeding up of time), “temporal condensation” (sudden reduction in complexity), “insight”, “unity”, and greater capacities for adaptability within complex systems (3.4.5.1 and 4.2.3). Another area of further exploration is the use of these forms as means of developing greater spatial awareness in actors as well as devising, scoring, and documenting performance practices. These areas will now be discussed briefly as a way of indicating some of the potentials for future research.

5.1.8.1 *Orbits and Fractal Time*

Drawing Vrobel’s (2011) theories, we can speculate that a participant’s encounter with *Orbits* is affected by the fractal aspects found within them, shaping the use of attention and in effect shaping the participant’s perception of time. Actors working in these forms are given the opportunity to explore the potentials of working as “observer-participants” in time, encountering the ways in which temporality is shaped by their own use of attention and action. Stripped down to these basic rhythmic elements (pulsation, cycle, polyrhythm etc.) participants have the opportunity to encounter and engage in a range of temporal experiences/processes as their attentions/actions shift and spread through the various temporal and spatial relationships present within these forms. Here, I propose that participants’ use of attention is highly influenced by the degree of “fractality” they encounter while training in *Orbits*.

Vrobel proposes that a structure is fractal if:

1. ...it “exhibits detail on various levels of description”(Vrobel, 2004, p.16)

2. ...it displays aspects of “self-similarity”, whereby “...the structure of the whole is found again in its parts” (Vrobel, 2011, p.18)
3. ...these smaller structures operate as parts that *make up* the whole, with the whole unable to exist independently of these (Vrobel, 2011, p.19)

This third principle distinguishes between forms that contain smaller independent forms within them (i.e. a Babushka Doll), and forms that are constituted by a collection of smaller parts (a leaf, a cloud, an ensemble).

Figure 31: Example of self-similarity at three scales of duration

These three principles can be observed clearly within the rhythmic score of *Orbit Sossos* as demonstrated in Figure 30. In this illustration, increasing amounts of detail can be seen across four levels of description with high degrees of self-similarity. Additionally we can observe that the largest structure (i.e. the sixty beat cycles) is formed as a direct result of these smaller patterns.

As indicated in previous sections, temporal forms such as these, demonstrating high degrees of “nesting” and “self-similarity”, allow for greater adaptability, being capable of responding simultaneously across multiple levels of description (3.4.5). Further, such forms are seen as facilitating the effective use of attention across a range of phenomena,

as indicated by Jones'(1986) theory of “attentional rhythmicity”, and demonstrated in the use of attention within music ensembles by Keller (2001) (3.2.2). It is also worth noting here that the “nesting cascades” within such forms are also seen as effective tools in facilitating the experience of “temporal condensation”, whereby a complex process is instantaneously transformed into the simplicity of a single unified experience. Vrobel refers to this phenomenon as a form of “insight”, defining it as “...the instantaneous realization of a complex issue by means of complexity reduction [...], an immediate and embodied understanding” (Vrobel, 2011, p.211). The experience of “an immediate and embodied understanding” could also be related to the sudden experience of “falling” into rhythm experienced by participants within the *Orbits* and *TaKeTiNa* practices. Within these practices, we can also observe that such forms of “insight” are often described as being preceded directly by a state of instability or chaos, suggesting that these periods of disruption may also be related to the process of “temporal condensation” described by Vrobel. The correlations between these experiences of “embodied understanding” and the fractal nature of the forms that accompany them is an area that requires further practical research to ascertain its implications within rhythmic training forms.

5.1.8.2 *Encountering Time and Space*

Another area where these forms offer further research potential is in exploring the relationship between temporal and spatial rhythms. These choreographic forms offer a valuable model for examining how the two aspects interact. As has been observed here, the analogous relationship between time and space is made concrete within these forms, with rhythm experienced spatially as a cyclic journey along a floor pattern, as a coming together and separation of bodies, and as the movement from one step to another. The physical relationships that make up this form can be observed in Figure 32 and in more detail in Appendix 7.6: Figure 50 & Figure 52 (see also: Clip 20 & 21).

From these scores we can see the ways in which temporal and spatial relationships between participants evolve over the course of each cycle, this relationship evolving without repetition over the course of sixty beats.⁷

⁷ In these scores the relative position of each participant is indicated with a circle.

Figure 32: Evolving relationship in space: four moments over the course of twenty beats

Systems of notation developed through this research also offer a valuable framework for scoring both of these aspects (space and time) simultaneously. These structures allow for the documentation of multiple choreographies and/or vocal scores within the same temporal frame, opening up possibilities for observing and altering the relationship between multiple aspects within training and performance forms and laying out complex and nonlinear dramaturgical structures. With simultaneity existing as a core aspect of contemporary performance practices (4.1 & 4.2), the scoring tools presented here open up a number of new possibilities in considering and working with these temporal aspects as means of documenting and devising performance works (see Appendix 7.4 & 7.6).

5.1.9 Summary

In the development and realisation of *Orbits* as a collection of training forms, I have looked to apply many of the rhythmic principles described throughout this thesis and investigate ways of cultivating simultaneity in the actor through the use of polyrhythmic choreographies. This work has led to the development of a collection of form-based training processes that have been seen to offer participants a means of encountering simultaneity through the structures of polyrhythm. This has offered individuals an

experiential basis for understanding and approaching work with complex performance scores, and the development of new forms of rhythmic relationship in the context of ensemble work. Within *Orbits* participants are given the chance to rehearse complex rhythmic relationships that contain high degrees of simultaneity and fractality.

In returning to my initial question regarding the application of common rhythmic principles in the fields of music and acting, a number of principles have been identified here. These include pulsation, inner and outer rhythm, listening and speaking, archetypal patterns, and simultaneity. These principles were approached through experiential processes primarily involving the use of physical movements and voice. By focusing on the physical/spatial aspects of these principles in conjunction with the temporal dimensions of rhythm, participants from a range of backgrounds found that they were able to encounter and apply these rhythmic principles effectively within the context of actor training, without the need for previous musical training or theoretical understandings. Operating at what has been referred to as a “proto-musical” level, these principles have enabled participants to engage with rhythm as a tool for developing new *modes of attention*, ensemble connectivity, accessing energetic states and developing greater physical, spatial and temporal coordination.

Within my work on *Orbits* I encountered once again the theme of structure and spontaneity. This dynamic relationship is pertinent to the actualisation of *Orbits* as a training form. Here, the realisation of a balanced co-relationship, or an imbalance in these aspects of rhythm, gives rise to a noticeable qualitative shift that is immediately observable from within the work. In this way, most participants are able to recognise when a condition of balance has been realised. In these instances, we encounter a quality of flow, and vitality in the rhythm, a sense that the rhythm is breathing and alive, something akin to riding a wave, or being suspended in flight.

As I continue to apply these principles within a wide range of training contexts their efficacy in engaging performers in their use of attention, along with their potency as tools for creative development have become increasingly apparent. What is most striking in this regard is the clarity of feedback offered by working through these rhythmic structures.

Stripped back to these basic elements, participants are capable of recognising deviations in their own attention or changes in the quality of ensemble engagement taking place at any given moment. When participating in these processes, for the most part they are able to recognise for themselves if they are “in” or “out” of rhythm. In familiarising themselves with the experience of moving between these states, an actor/participant gains a means of monitoring and managing their own presence. Rhythm here, offers a feedback device, alerting a participant to their own distractions, and a mechanism for engaging (or re-engaging) with the flow of their actions and of the ensemble in the present moment.

CONCLUSION

6.1

After all these steps are taken, the actor must concentrate on how to bring his performance to flower. At every stage, the emphasis must be placed on the rhythm (Zeami, [1424] 1984, p.103).

A diverse range of applications and interpretations of rhythm and its roles in actor training have been identified and investigated as part of this thesis. Through this, we have observed large degrees of variation as well as some contradiction between practitioners as to what rhythm *is*, and *how* it is approached within the training practices of the actor. Yet despite the vast complexity of this theme, there appears to be some agreement regarding qualities of rhythmic presence observed within these practices. We can note that for the most part practitioners are able to recognise and give value to a certain quality of rhythmic understanding and sensibility in the work of actors and ensembles within a wide range of performance styles and contexts. The sense of being “in-rhythm”, of both directing and being supported by the “temporal narrative” of an action or a scene, is recognised as a palpable quality of presence and immediacy by actors/participants and those who observe them. We can talk about this as a way of being in “the flow” or the “here and now”, as a state of consciousness or mode of attention, as a form of coordination, dexterity, precision or grace.

We touch here on what Brook referred to in the introduction when he said, “In our work, if the execution of something is not good [...], it produces a substantial and perceptible loss on the level of rhythm: (Brook cited in Williams, 1991, p.79). In such instances, getting the rhythm “right” is not simply a case of technical mastery, nor is it something purely spontaneous, rather such qualities emerge in the meeting of these

aspects, in the spaces between, in the tensions formed by opposites, in the dynamic relationships between fluidity and form.

Regardless of how we term or define this phenomenon, its basis can be observed in the basic rhythmic relationships between an actor's attention, actions, ensemble or performance environment, whereby elements come into dynamic relationship with each other, unified by a *common rhythmic field*, a pulse, or tempo. From here, other aspects such as physical coordination, emotional expression, and the creation and communication of meaning can be seen to derive; yet at their core, these are all based on a common connection to rhythm.

At this "proto-musical" level, the principles of rhythm can be seen as common to a diverse range of fields and cultural understandings. As has been identified, such transferability of principles is an aspect that many trainers have drawn on in their practices, with Stanislavski, Meyerhold and Grotowski all looking to rhythmic paradigms and forms from other cultures and disciplines for inspiration. Further, many of these approaches have been informed by established musical traditions and terminologies that have provided a point of entry by which actors encounter and work with rhythm.

While many practitioners have applied musical conventions such as tempo and metre directly in their training, in the end we can note that the primacy of the body and imagination has been maintained as a basis for understanding and realising rhythm across this field. Rhythm as such is often seen more as a sensibility, or quality that emerges from and informs an action, than as a codified system in its own right. Where the sounds of music can in effect be divorced from the bodies of their players, the rhythms of the actor remain tied to the corporality from which they emerge. Here, as with the early Greek and Ionian meanings of *rhythmós* (1.2), rhythm deals as much with space and motion, as it does with time and sound. Embodied by the actor, rhythm comes to be recognised as a quality of flow, organicity and vitality. Yet as we have seen throughout this thesis, the pursuit of such dynamic qualities takes place not in the abandoning of structure and form, but rather through the actor encountering, grappling with, embracing, and at times transcending these more objective aspects of rhythm. The use of pulsation, repetition and alternation,

along with the nested interrelationships of polyrhythms, are not so much an *end* for the actor, as they are a *means*. It is from and through these that the actor is capable of finding true dynamism, spontaneity and immediacy. Here, in the interfaces and dynamic spaces between opposites (silence and sound, stillness and movement, structure and spontaneity, active and passive, subjective and objective) the actor encounters and works through rhythm as a training tool.

Based on this broad understanding this study has identified a number of ways in which different practitioners have approached working with forms of rhythmic engagement through a range of means, and in order to achieve a number of different ends. These include: the interaction of internal energetic and emotional states with externalised rhythmic actions, as observed in the work of Stanislavski in regard to *Tempo-rhythm* and emotion (2.2); the coordination and composition of movement through the use of musical paradigms and accompaniment in Meyerhold's training practices (2.3); and rhythm as tool for connecting an individual to archaic and animal aspects and the possibilities of energetic transformation, as encountered within the practices of Grotowski (2.4). Through practical encounters with rhythm in the work of contemporary practitioners, a number of other psychophysical tools and developments have also been identified. Here rhythm has been observed as a mechanism for cultivating specific modes of attention and qualities of connectivity (Britton, 3.2), as playing a key role in stimulating and supporting states of ecstasy and the "re-actualization" of an "anthropocosmic" "ecology" (Núñez, 3.3), and the application of polyrhythm as a catalyst for engaging with interpersonal dynamics and personal agency (Flatischler, 3.4).

Drawing from this collection of applications of rhythm in actor training, in addition to scientific research into temporal perception and entrainment, the author's own practical research has also indicated a number of further applications of rhythm within this field. Here, the ways in which rhythm acts as a tool for shaping temporal perception and supports the cultivation of simultaneity have been outlined in the development of *Orbits* as a training form for actors. This research has prepared the ground for future investigations into the use of fractals, and polyrhythmic scoring techniques, as well as the further

potentials of working with simultaneity as a means of cultivating a performer's sense of presence and connectivity within ensemble practices. While simultaneity has clearly featured in the work of all the key practitioners discussed within this thesis, my research into developing Orbits has focused specifically on how these capacities are developed in actors, an area that has previously received little attention. In this research I have not directly examined questions regarding the creative application of these principles, or their emotional or associative potentials. Rather, Orbit has focused on ways of engaging actors with a number of basic principles of rhythmic perception and coordination, seeing these as a foundation for more performative, or emotive training practices. The capacities developed through this research have also been demonstrated to be highly adaptive and of value to a range of performers from diverse backgrounds and disciplines.

6.1.1 Mechanisms, principles, and understandings

Rhythm at this “proto-musical” and “pre-expressive” level has been discussed throughout this thesis in terms of mechanisms, principles, tools, instruments and understandings. While there is clearly a diverse range of terminologies and metaphors being applied within this field, a high degree of consistency can also be observed.

Tracing the use of rhythm back to the practices of the early twentieth century actor trainers, the follow principles were identified as representing a common set of understandings that underpinned rhythm's application within the acting field:

- An understanding of rhythm as emerging from, and tied to, bodily rhythmic patterns and motions, including pulsation, cycles and alternating motion
- Identification of transcultural/universal principles of rhythm that operate consistently across cultures as well as at micro and macro scales
- Claims that rhythm affects perception, attention, and emotion as well as altering states of consciousness
- The use of rhythm as a means of regulating movements, making them more efficient and productive, requiring the use of less physical and mental effort

- Rhythmic patterns, groupings and tempos are seen as corresponding to qualities of character and energy, with these patterns recognised as operating as a “key”, “trigger”, “lure” and “instrument” for accessing and stimulating these states

We have reflected on the ways in which many of these principles and their metaphorical frameworks of the “organic” and the “mechanical” have fed through to current practices and acting discourses in the twenty-first century. While some of the terminologies and ethical considerations surrounding these principles may have evolved, we have observed that the basis of these understandings continues to find resonance within many contemporary practices. Even with the paradigm shift indicated by quantum theory and the significant developments that have taken place in neurological research, these notions of rhythm as a fundamental aspect of existence continue to find application and growing support within the arts and sciences today.

Yet what we have seen questioned over the course of the twentieth century are the causal relationships between these elements. We can note the way that correlations between rhythmic patterns and specific psychophysical states have proved more complex than previously considered. As has the nature of temporal experience, which has gone from being considered “absolute” and “objective”, to being highly subjective and open to distortion. Further developments in science such as the introduction of “chaos theory”, “wave-particle duality”, “fractal mathematics” and other nonlinear models and paradigms have also led to new conceptualisations of rhythm and its role in shaping human experience, forming and supporting interpersonal relationships between individuals and groups, and the synchronisation and structuring of a wide range of biological and non-biological phenomena.

The fields of sociology, anthropology and ethnomusicology have also raised a number of important questions regarding the ethics of applying a single set of rhythmic concepts universally. We are asked to reconsider if rhythmic forms and elements can be studied independently of their contexts or environments, or if account must be taken of the complex relationships through which such aspects emerge and interact with each other. This thesis has attempted to take a balanced approach to these understandings of

rhythm, by considering both the aspects that are common and those that are distinct across a range of cultural historical contexts.

In examining the common uses of rhythm within these practices, one of the key mechanisms identified here has been *entrainment*. While this is not a principle that is overtly discussed within acting practices, its presence is undeniable. Relating this principle to the context of actor training this thesis has examined a number of processes in which actors can be seen to entrain to rhythmic patterns inside and outside their bodies. These include: the ways in which external rhythms stimulate internal (e)motions, the ways that rhythmic sounds found in music assist actors in coordinating and driving their movements, the sense of togetherness achieved within an ensemble who share a common rhythm, and the ways that attention and states of consciousness are affected and ordered by external rhythmic sources. We can also note the important role played within these processes by the phenomenon of pulsation, seen here as operating as the most fundamental of “technologies”. Through the simplest means (an alternating accent and interval), pulsation establishes a common reference points amongst diverse elements, creating a framework through which individual process, events and individuals connect. Working in dynamic relationship to a pulse, actors/participants are able to entrain (i.e. share a common pulse) and remain independent (i.e. pursuing their own rhythmic line in relationship to the pulse), these two conditions being mutually inclusive, not exclusive.

The immediacy of a rhythmic pulse and its innate relationship with attention and movement also means that by working through rhythm actors/participants are able to effectively organise and coordinate their attention and physical actions. In this way rhythm has been observed as a powerful tool for cultivating the capacity to be present and responsive in the “here and now” of an actor’s training or performance practice. Heightened qualities of listening, and an increased versatility in expressive range have also been identified in actors working within rhythmic training contexts. Here, a sensitivity to a shared pulsation or *rhythmic field*, can be seen to provide actors with both a reference point for connecting to the ensemble and a means of shaping their energetic trajectory within a given moment. In these cases the actor/participant also has a choice of either

working with the flow of rhythm or in opposition to it. While the questions of how such forms of engagement are read by an audience is beyond the scope of this study, such principles present clear opportunities for further investigation and development.

Another assertion made within this thesis is that a significant characteristic of rhythm within this field is the sense that in general, rhythm is something that the participant works *with* or *via*, rather than *on*. This simple distinction lies between rhythm as a training “tool”, and rhythm as the “object” of training. In the sense of the former, participants train through rhythm as a means, instrument, tool, technology, or vehicle, used for approaching a range of intentions and objectives, while in the latter the focus is placed on *learning* specific rhythms, becoming *more* rhythmic or *better* at rhythm. While this thesis has identified some exercises in which participants are seen to be working *on* rhythm, I would suggest, that for the most part such practices play the role of preparation, establishing a basis for later work on other psychophysical attributes, such as the training of attention, accessing and disciplining of emotions, coordination of movement, and group connectivity and awareness.

The nature of such processes can be seen clearly in Grotowski’s work with Haitian song and dance forms. As noted, participants were first instructed to work on the technical aspects of these forms, but once these aspects were “resolved”, the work shifted into another mode whereby the song or dance steps were used as a means of accessing specific states of consciousness, or energetic qualities. Similarly, at various stages in working on *Orbits* it was necessary to refine a technical element of the work, or establish the rhythmic pattern in the group. However, such work always acted as a bridge or platform from which to engage with other aspects such as developing new *modes of attention*, or qualities of connectivity.

Many of these principles and mechanisms have also been observed in the practices and writings of Britton, Núñez, and Flatischler. While not always stated overtly, the presence of rhythmic principles play an important role in the efficacy of these practices. These training approaches take place alongside a larger body of other contemporary practices that are informed and supported by a use of rhythmic technologies. While a

number of common principles can be identified across this body of practices, it is also clear that within each of these contexts, a distinct set of understandings and sensibilities to the use of rhythm have formed, shaped by the specific interests and understandings of the individuals involved. This paradox runs through all aspects of rhythm training; while rhythm offers a sense of unity, objectivity and commonality between diverse individuals and practices, its interpretation and understandings always remains highly personal and subjective.

6.1.2 Contributions to knowledge

Through the interaction and interrogation of a range of methodologies, disciplines, and practices this thesis has attempted to elucidate what can be one of the most elusive aspects of an actor's work. As indicated in the introduction to this thesis, there are currently no comprehensive studies available on the theme of rhythm in actor training, let alone rhythm in acting practices in general. The research presented here has gone some way towards addressing this neglect. Firstly, this thesis has offered a clear analysis of the ways in which rhythm has been approached within the practices of a number of key figures in twentieth century actor training. In doing so, this thesis has identified a collection of themes, principles, and pedagogical devices that operate across this field and established links between these and the cultural and scientific contexts in which these practices have taken place. Although many of these practices have been discussed in the past, by viewing these works through the lens of rhythm several distinct aspects have been identified and addressed. These relate to the mechanics, terminologies, and underlying themes that inform and support these practices. Secondly, in bringing together this collection of practices and analysing the through-lines as well as the deviations that have emerged over the course of history, a number of rhythmic aspects that have previously been given no, or very little attention within this field of academic research, have also been identified and observed. These include themes of entrainment, simultaneity, opposition, the emergence of ensemble, *modes of attention*, and altered states of consciousness in relationship to rhythmic actor training. Thirdly, this research has revealed new perspectives on a number

of important principles and terms within this field. The specific uses of terms such as *Tempo-rhythm*, metre, musicality, *yantra*, “organic” and “mechanical rhythm” have been given further attention. A number of practices that have received little or no academic attention in the past, including those of Britton, Núñez and Flatischler, have been highlighted here, opening the way for further research and dialogue.

In doing so, this study offers significant new insight into the workings of historical and contemporary training practices. Looking beyond the boundaries of actor training to processes such as Flatischler’s TaKeTiNa, and Vrobel’s theories of “fractal time”, this thesis has also indicated a number of significant correlations with fundamental principles. These principles raise further questions regarding the use of rhythm within pedagogical and performance practices, asking its use in shaping temporal and spatial boundaries.

As has been noted, studies concerning rhythm in acting have tended to focus on the ways in which rhythm and tempo are used to communicate meaning to an audience, describing the ways that these affect an audience through the building and releasing of tensions, and the organising of time by grouping events into metric structures. While these rhythmic aesthetics are clearly of significance to the work of actors, directors, writers and choreographers, what this thesis has proposed is that such aspects of rhythm are only one aspect of a much wider field of activity.

By questioning the ways rhythm is used by actor/participants and facilitators it has shifted our perspective on the role of rhythm. I have viewed it not simply as an expressive tool, but rather as a more fundamental means of cultivation and conjunction. This field of research encompasses a range of “proto-musical” and “pre-expressive” principles and aspects that have been observed across a range of practices and contexts, both historical and contemporary. It is the primacy of rhythm that affords it the capacity to work at the core of an actor’s engagement with his or her training practice. Further, rhythm has been shown capable of circumventing many pedagogical and performative issues such as: the psychology of character development, the semiotics of performance text, and the stylistic considerations of specific performance aesthetics. By stripping the actor’s work down to the fundamental principles of temporal flow and organisation, we have

observed that the participant working with rhythm is given a direct and practical means of engaging with what can otherwise be highly abstract and obscure concepts such as emotion, energy, temporality, temperament, meaning and character. This thesis has argued for a reconsideration of rhythm as a primary aspect and fundamental mechanism through which actors train.

From my own perspective, the most significant contribution to knowledge emerging from this research has been the practical development of new approaches to working with rhythm in actor training. Through practice-based research this study has generated a collection of training forms and methods of transcription and scoring, whose effective application and dissemination have already been realised through a range of practical outcomes. These include ensemble training at postgraduate levels at a number of academic institutions including Central School of Speech and Drama, presentations at international symposiums, and training of performance ensembles in the UK and overseas (Appendix 7.3). In the development of *Orbits* this study has found new approaches to effectively integrating principles such as simultaneity, polyrhythm, pulsation, entrainment and “fractal time” into actor training, offering actors access to new and “up-to-date” means of directing and shaping attention, connecting within an ensemble, addressing complex compositional issues and questions relating to temporal perception in training and performance.

6.1.3 Research Limitations

It is important to acknowledge that despite the valuable outcomes delivered by this research it is not without limitations. The topic of rhythm in acting practices is one that is immense and potentially limitless in scale. While this research has covered a wide selection of practices and theories, there remains a large number of historical and contemporary practices that have not been addressed here. Due to the restricted framework of this thesis, notable figures in this field such as François Delsarte, Rudolf Laban, Jacques Copeau, Eugene Vakhtangov, Michael Chekhov, Jacques Lecoq, Tadashi Suzuki, Anne Bogart and Eugenio Barba, have only been given marginal attention. There has also been a limited amount of

attention given here to the use of rhythm in relationship to spoken text and dance based training forms. In choosing to focus on “proto-musical” and “pre-expressive” aspects of actor training, this thesis has intentionally avoided detailed discussions of rhythmic practices involving strong use of “expressive” and “linguistic” elements. This choice has been partly due to the restricted size of this thesis and to the fact that these areas have been given attention elsewhere (George, 1980; Goodridge, 1999; Kaplan, 2002). These limits also reflect choices made by the author in attempting to find a balance between working from a narrow selection of practices in which I could draw on a depth of personal knowledge, and engaging with the potentially endless diversity of applications of rhythm found across this field. While in the end only a small selection of training methodologies have been examined here, these practices have been carefully selected and considered in relationship to the wider field of practice in which these themes and mechanisms operate. In this way, this thesis has also looked to present and examine a number of approaches and practitioners that have not been given previous attention elsewhere.

Analysing the practical aspects of this research, a number of alternative approaches to this work can also be identified. One area that has been noted is the process of developing and working with Orbits. On reflection, these forms might have benefited from a more consistent process based around a single group of participants over the two-year period, rather than working with a number of distinct groups in various locations. The decision to work with different groups of participants was partially influenced by the pragmatic difficulties of sustaining a consistent body of practitioners over such a long period. The diverse nature of this research, while leading to a more adaptable approach, has at times meant that the subtler aspects of this work have not received as much attention.

Another area in which this study could have been further developed is in accessing a wider range of research materials concerning the work of Stanislavski, Meyerhold and Grotowski. While a considerable amount of research was dedicated to looking into the use of rhythm within these practices, further research could be undertaken into archival materials and works not published in English, as well as conducting interviews with practitioners with direct knowledge of these practices. Yet given the range of practices and

aspects of rhythm covered by this thesis, such levels of research were beyond the scope of this study. With this in mind, a further study into these practices and the experiences of actors within them is a potential area for future research, as is a more comprehensive survey of contemporary practices.

6.1.4 Possibilities for Further Research

In addition to pursuing the further avenues of research described above, a number of other possibilities exist for future research into this field. A large body of historical and current practices remain to be explored, with the possibility of introducing additional areas of rhythmic application to those covered by this study. A wider study would also offer a way of assessing the consistency of these principles across this field as well as the ways these principles have evolved independently within individual practices and cultural contexts. Another area of potential research lies in the further explorations of Orbits as a collection of training forms. As these forms become increasingly established and stable, a more extended series of explorations into their impact on qualities of presence in individual participants and qualities of connectivity within an ensemble is of great interest. To achieve this I am currently looking to establish a more consistent group of participants with which to undertake these practices, allowing for observation of the long-term impact this work can have on an ensemble and the further integration of these principles within the praxes of individual performers. Also of interest, is the application of these principles within performance. Having intentionally consigned this study to the realms of actor training, a further examination of performance applications would open up a range of new research questions and potential insights into the further benefits and limitations of these processes and principles within current practices.

From a personal perspective, one of the most esteemed prospects of this research is the synthesis and integration a large body of understandings into my own practice. Having dedicated the last four years to an in-depth study of rhythm through both practical and theoretical research, I now look forward to the further realisation of these principles

in my own training and creative endeavours and the dissemination of these principles amongst other artists. In looking back over this body of work, what strikes me is that while there is much to be realised through the research and analysis of rhythm, in the end rhythm's "true meaning" (if such a thing exists) can only be approached in the immediacy of a practical encounter in the moment. We must contend with the fact that on the page and in words, rhythm and its principles can only ever be alluded to, like a dream almost forgotten, or an elusive "ghost" who disappears when mentioned. In sifting through these documents, scores, memories and imaginings, we glimpse a world whose principles and paradoxes yearn for participation, collaboration, resistance and resolution in the bodies of performers moving, listening and speaking with each other and their audiences.

Appendices

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7.1 Glossary of Rhythm Terms and Symbols

The following technical terms are referred to throughout this thesis. The definitions that follow are intended as a point of reference for readers less familiar with such terms.

Accent (*Alt. Stress*) can be understood as an event that stands out from its context. As such, *accents* are commonly described as having more “weight” or “body” and often act as effective anchor points for attention. While the most common understanding of *accent* is of one event being louder than others (i.e. *dynamic accent*, indicated as > in musical notation), it could be argued that a sudden drop in volume, a silence, or a stillness could be just as effective in attracting attention. We also find the term *accent* used to describe events that stand out due to their duration or displacement in time (*agogic accent*).

These two forms of *accents* are based on a change in the quality of a sound or action and are referred to by Lerdahl and Jackendoff (1983) as *phenomenal accents*. Other forms of accents can occur due to the structural location of an event within a phrase (*structural accents*), with events at the beginning or end of a phrase or sequence (arrival or departure points) often standing out regardless of their individual characteristics.

Other forms of accent take place due to the location of an event within a perceived metric scheme (*metric accent*). *Metric accents* form due to the formation of a repeated pattern of accented and unaccented events. A simple example of this is an alternating sequence of *accent-unaccented-accented-unaccented* etc. referred to as a “*trochee*” (See *Metre/Measure*). Once established a pattern such as this will often continue to be experienced by an observer/participant, with certain parts of a phrase perceived as accents whether these events are *phenomenal* or *structural* accents themselves or not (Lerdahl and Jackendoff, 1983). In this way, all accents can be considered as being relative to their context, with each event taking on different degrees of significance depending on: its own characteristics in contrast to its environment (*phenomenal*), when it takes place within a sequence or phrase (*structural*), or when it takes place within an established metric framework (*metric*).

Pulse and Beat are fundamental elements of rhythm, seen as the basis from which more complex structures such as phrases, *metres*, cycles, and patterns can be formed and developed. They are defined by Flatischler as “...similar events at similar intervals” (Flatischler, 1992, p.31). This is not a question of exactitude but rather of a living pulsation with qualities of fluctuating-regularity.

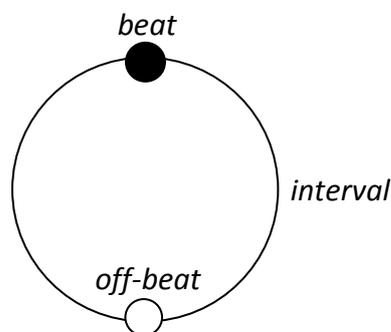


Figure 33: Beat, off-beat, and interval (Flatischler, 1992, p.33)

There are two elements involved in pulsation, the *pulse* (event) and the *interval* (space between events). It is in the cyclic/alternating relationship between these two elements that *pulsation* and *beat* emerge. Within this interval, we can encounter a related phenomenon known as *off-beat*, often experienced most strongly in the mid-point of an interval between one beat and another. As with *accents*, all of these elements can be realised through sound and silence as well as movement and stillness.

The term *beat* has also been reinterpreted by some theatre practitioners to refer to an “analytical segment”, a unit, a phrase, or development in a scene. These elements are identified by actors and directors in the process of analysing a script where scenes are broken down into their individual “*beats*”. The term *beat* is also adopted in dramatic texts and dramaturgy as a means of marking a temporal gap in the text or flow of actions (i.e. walk on stage (beat) turn to face audience).

Entrainment is a principle of physics whereby two or more objects moving at similar frequencies synchronise with each other forming a unified (coupled) pattern of movement. The mathematician and physicist Steven Strogatz claims that this “... tendency to synchronize is one of the most pervasive drives in the universe, extending from atoms to animals, from people to planets” (Strogatz, 2004, p. 14). Examples of *entrainment* within the human body include the coupled firing of neurons in the brain, the unified pulsation of pacemaker cells in the heart, the interactions of attention oscillators with the rhythms of the environment, the alignment of hormonal cycles to the phases of day and night (circadian rhythms), the synchronised interactions of a parent and child, and the collective movements of a group of people within a crowd or social situation (Jones, 1986; Strogatz, 2004; Feldman, 2007; Sethares, 2007, pp. 148–9). In this thesis, *entrainment* will be discussed in regard to its role in the processes of evoking emotions, coordinating movement, organising attention, and connecting ensembles through the use of rhythm.

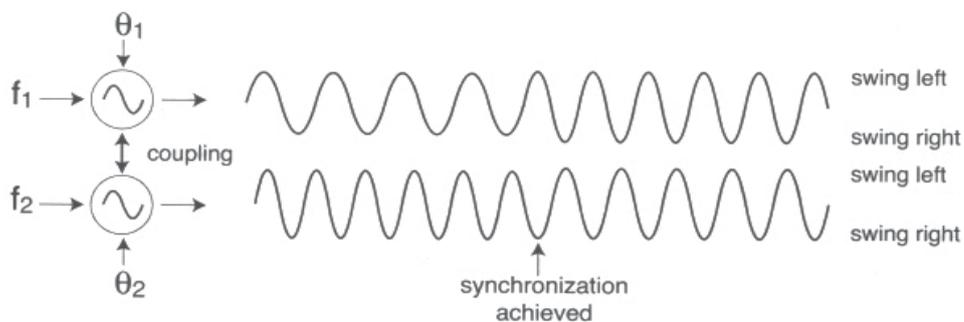


Figure 34: Entrainment of two pendulums (Sethares, 2007, p.149)

Metre: The metre of a poem or piece of music is a repeated rhythmic unit, pattern, cycle, or grouping of accented and non-accented beats. In Western musical notation, metre is conventionally described through a time signature, such as $\frac{2}{4}$, $\frac{3}{4}$, $\frac{4}{4}$, $\frac{5}{4}$, $\frac{6}{8}$ etc. These numbers relate to the quantity of beats in each measure and the relative temporal value assigned to each beat. For example the 3 in $\frac{3}{4}$ indicates that there are three beats in the measure of each bar, while the 4 describes the duration of these beats (a quarter note or crochet) (see Table 7 on page 261 and Figure 35).

Figure 35: Examples of rhythmic phrases within a metre

In poetry, metre is used to describe a grouping of accented and non-accented syllables (Table 6) referred to through Greek terms such as iambus (unaccented, accented) and trochee (accented, unaccented). In Greek and Indian poetry these accents are often *agogic* whereas in English they are predominantly dynamic (see accents). These patterns of accented and unaccented syllables (referred to as feet) can be further grouped into repeated sequences with the first accent of each metric cycle often experienced as having more weight to it than the others (see structural accents). For example, a grouping of five iambus accents forms an iambic pentameter, a metre commonly used by Shakespeare (i.e. “To be or not to be that is the question”).

<u>Greek</u>		<u>Indian Sanskrit</u>
iambus	— ———	laga
trochee	——— —	gala
dactyl	——— — —	bhanasa
anapaest	— — ———	salagam
spondee	——— ——	gaga
molossus	——— —— ———	matara
amphibrach	— ——— —	jbhana
antibacchic	——— —— —	taraja
cretic	——— — ——	rajabha

Table 6: Greek and Sanskrit metres consisting of combinations of long (—) and short (–) syllable durations (Strangways 1914 cited in Goodridge 1999, p 153)

It is suggested that metre unlike the concepts of pulse, beat, and accent, has a limited application outside of specific forms of music, poetry, and dance, with many styles operating without recourse to a metric structure and some contemporary music and dance practices working clearly from a non-metric basis (Goodridge, 1999, p.42). While all the other elements listed so far can be realised without metre, the same cannot be said of the reverse.

Polyrhythm and Cross-rhythm both refer to the simultaneous use of multiple rhythmic patterns or metres. In the case of cross-rhythms this takes the form of a rhythmic phrase that when repeated “crosses” over the bar-line of a given metre, displacing or challenging the underlying metric structure. An example of this can be experienced in a metre of 4 in which a three beat phrase is repeated a number of times creating a contrasting rhythm to the underlying four beat metre. This is referred to as a form of additive polyrhythm.

Figure 36: Additive polyrhythm in the form of a three beat phrase played over a four beat pulse

Another form of polyrhythm involves the division of a given metre into multiple subdivisions. For example over the course of the same duration, one phrase may take the form of three (isochronous) beats while another is made of two. This form of relationship is referred to as divisive polyrhythm.

Figure 37: Divisive polyrhythm in the form of a two isochronous notes played over the same duration as three.

Simultaneity (as musical term) commonly refers to “[a] group of notes played at the same time” (Latham, 2012), though a more general use of this term will be applied within this thesis. Here simultaneity will be defined as the perceived relationship of events that can be said to happen together in time, during the same timeframe, or share a temporal axis (4.1). This includes events that are fully synchronised (i.e. they clapped their hands together), as well as those that are not fully synchronised but still share the same timeframe, or temporal axis (he danced during her monologue) (Schmiedtová, 2004; Jammer, 2006; Vrobel et al., 2008). This term also relates directly to the forms of polyrhythm described previously.

Figure 38: Representations of polyrhythm and simultaneity in cyclic forms (bracelet notation, and rhythmic mandala)

Tempo relates to the speed or pace of a rhythmic phrase used in relationship to musical sound, spoken language, an action, a scene, an act or an entire play/composition. In music tempo is understood as regulating “...the absolute duration of notes, hence a succession of notes, and thus the relative pace latent in, or characteristic of, any piece of given rhythmic structure” (Grove and Sadie, 1980, p.806).

In musical notation tempo is often indicated as “beats per minute” (i.e.120 bpm) or alternatively it is represented through Italian, or French terms that describe not only the pace of a rhythm but also its “feel” or energetic quality (i.e. Grave = slow and solemn, Adagio = slow and stately, Andante = a walking pace, Allegro = quickly and bright) (see Appendix 7.2.1 and further discussion in section 2.2.1.1).

Table 7: Rhythmic note values and their European and American names

7.2 Selected Definitions of Tempo and Rhythm

The following is a collection of definitions and descriptions of rhythm and tempo. These have been sourced through my review of a wide range of literature on the theme of rhythm within the field of acting as well as that of music, dance, poetry, philosophy, and anthropology. While this list contains the views of a wide selection of practitioners and academics, it is by no means exhaustive, neither covering every field of rhythm study, nor represent every viewpoint within the fields covered. The intention here is to highlight some of the commonalities and variations in the usage of these terms.

Table 8: Selected definitions of tempo and rhythm

<u>ACTING/DRAMA</u>		
Author	Tempo	Rhythm
<i>Barba</i>		“Rhythm materialises the duration of an action by means of a line of homogeneous or varied tensions. It creates a waiting, an expectation. The spectators sensorially experience a kind of pulsation, a projection towards something which they are often unaware of, a breath which is repeatedly varied, a continuity which denies itself. Carving time, rhythm renders it time-in-life” (Barba and Savarese, 1991, p.211)
<i>Benedetti</i>	“...he basic pace of a scene”(Benedetti, 1998, p.153) “...the speed of the basic pulse”(Benedetti, 1998, p.81)	“...individual actions within the pulse” (Benedetti, 1998, p.153) “...the relationship of movement and stillness in time and space” (Benedetti, 1998, p.81)
<i>Boleslavsky</i>	“Speed”(Boleslavsky, 1987)	“How”(Boleslavsky, 1987) “...the orderly, measurable changes of all the different elements comprised in a work of art— provided that all those changes progressively stimulate the attention of the spectator and lead invariably to the final aim of the artist”(Boleslavsky, 1987, p.112)
<i>Carnicke</i>	“...the internal rhythmic speed of an action”(Carnicke, 2008, p.226)	“...the external rhythmic speed at which the entire production unfolds” (Carnicke, 2008, p.226)
<i>Delsarte</i>		“Rhythm is that which asserts, it is the form of movement, it is vital” (Shawn, 1954, p.55)
<i>Gillett</i>	“...speed of our movements, speech and music” (Gillett, 2007, p.239)	“...the pattern of our length and stress of beats of movement, sound and stillness in particular measure or bar” (Gillett, 2007, p.239)

<i>Gordon</i>	“...general pace of life that is found in a shared physical or cultural environment” (Gordon, 1988, p.196)	“...springs from a specific individual activity and varies from person to person” (Gordon, 1988, p.196)
<i>Kuritz</i>	“...the speed of those accented units” (Kuritz, 1982, p.68)	“...the recurrence of a unit of time distinguished by a pattern of accent or stress” (Kuritz, 1982, p.68)
<i>Lecoq</i>		“We can unpack a rhythm, reduce it into beats and give it a faster and slower tempo. We know that rhythm is organic in essence. That it is made up of rise and fall, of strong and weak beats, but its essence eludes us when we try to penetrate it, just as the mystery of life does. It is life” (Lecoq, 2006)
<i>Martin</i>		“Rhythm is the division of silence and stillness into organized and repeatable units”(Martin, 2004, p.82)
<i>McGaw et al.</i>	“the speed or pace of its environment” (McGaw et al., 2011, p.59)	“...internal performance pattern of the character” (McGaw et al., 2011, p.59)
	<i>Tempo-rhythm</i> : “the combined rhythmic flow and speed of execution of the physical action (including speech) in a given scene” (McGaw et al., 2011, p.59)	
<i>Merlin</i>	“the speed at which you execute an action” (Merlin, 2007, p.142)	“...the intensity with which you execute [an action]”(Merlin, 2007, p.139)
<i>Mnouchkine</i>		“Without stops, there can be no rhythm, form creates rhythm. As in musical notation, there have to be rests and stops, in order to feel the rhythm” (Mnouchkine cited in Hodge, 2010, p.264)
<i>Moore</i>	“speed”(Moore, 1984, p.40)	“...(varying intensity of experience) within us as well as outside of us” (Moore, 1984, p.40)
<i>O’Brien</i>	<i>Tempo-rhythm</i> : “ Our pace, both mental and physical, the pace of everything around us and everything we do” (O’Brien, 2010, p.122)	
<i>Pavis</i>	“...invisible and internal; it determines the speed of mise-en-scene (quick or slow); it shortens or prolongs actions, accelerates or decelerates diction. (Pavis, 2003, p.145–6)	“...changes in accentuation, in perception of stressed or nonstressed moments. It refers to a rhythming of time within a defined duration, the linking of physical actions according to a precise schema... [T]he sense and direction of time” (Pavis, 2003, p.146)
<i>Pannikar</i>		“Energy placed in time and space in units which make us come alive” (Martin, 2004, p.82)

Stanislavski	<p>“...the rate at which equal, agreed, single length-values follow each other in any given time” signature”(Stanislavski, 2008, p.463)</p> <p>“...entirely mechanical and pedantically regular” relates to the “quickness or slowness” of an action.(Stanislavski, 2008, p.465)</p>	<p>“...the quantitative relationship of active, agreed length-values in any given tempo or time signature” (Stanislavski, 2008, p.463)</p> <p>“...a combination of moments of every possible duration which divide the time we call a bar into a variety of parts” (Stanislavski, 2008, p.466)</p>
Thomas	<p>“...how often information about plot, character, and idea occurs in the dialogue, the frequency of information” When information is ‘dense’, there is a ‘slow inner tempo’, when “sparse’ then a ‘fast inner tempo’”(Thomas, 1999, p.147)</p>	<p>“...the pattern of changing tensions in the beats, units, scenes, and acts, a pulsing feeling that is experienced when dramatic impressions build up and are released in each dramatic progression” (Thomas, 1999, p.156)</p>
Vakhtangov	<p>“...derives from the outside environment” (Vakhtangov, 1919, cited in Gordon, 1988, p.243)</p>	<p>“...must be perceived from within” (Vakhtangov, 1947, p.121)</p>
Wolliaston		<p>“...silence divided by patterns of our expression” (Martin, 2004, p.82)</p>
Woodbury	<p>“‘...time’, pace, or rate of movement” (Woodbury, 1962, p.23)</p>	<p>“... a pattern imposed on stimuli, a recurrent alternation of thesis and arsis, or, in art, a regular recurrence of like features in a composition” (Woodbury, 1962, p.23)</p>
Zeami		<p>“...the life of musical expression” (Zeami, 2008, p.441)</p>
<u>DANCE</u>		
Cunningham		<p>“Rhythm is what anybody does in terms of physical action, it’s what anybody does in time” (Cunningham, 1980, p.10, cited in Goodridge, 1999, p. 41)</p>
Duncan		<p>“All movement on earth is governed by the law of gravitation, by attraction and repulsion, resistance and yielding; it is that which makes up the rhythm of dance” (Duncan, 1967 [1928], p.90).</p>
Goodridge		<p>“...a patterned energy-flow of action, marked in the body by varied stress and directional change; also marked by changes in level of intensity, speed and duration (including duration of both action and stillness” (Goodridge, 1999, p.43)</p>

Kaplan	“The speed of music. The rate of speed at which the underlying beat moves” (Kaplan, 2002, p.5)	“The animating element of all music. The element of music that deals with the duration of notes in time. The feeling of movement in music comes from the rhythm” (Kaplan, 2002, p.5)
Laban		“...rhythm is the lawless law which governs us all without exception. But only a few are familiar with it, although it is always around us and within us and reveals itself everywhere” (Laban cited in Newlove and Dalby, 2004, p.117)
<u>MUSIC</u>		
Agawu		“...a temporally constrained process in which there is implicit or explicit differentiation of accentual weight among its units. Each rhythmic structure can be analyzed either “two-dimensionally” as a succession of beats or of groups of beats, or “three-dimensionally” as the projection of a two-dimensional process into gestural space” (Agawu, 1995, p.27)
Bengtsson		“Rhythm is considered as a subset or aspect of motion, motoric as well as virtual” (Bengtsson, 1987, p.69)
Clarke		“...small to medium scale temporal phenomenon [...] extending to no more than about 5 sec or so” (Clarke, 1999, p.473–4)
Copper & Meyer:	“Tempo is not a relationship. It is not an organizing force.”(Cooper and Meyer, 1960, p.3)	“...the way in which one or more unaccented beats are grouped in relation to an accented one” (Cooper and Meyer, 1960, p.6)
Grove Music Online	“Literally, the ‘time’ of a musical composition, but more commonly used to describe musical speed or pacing” (London, n.d.)	“Generically, a ‘movement marked by the regulated succession of strong or weak elements”” (<i>Oxford English Dictionary</i> cited (London, n.d.)
New Grove Dictionary of Music & Musicians	“Tempo regulates the absolute duration of notes, hence a succession of notes, and thus the relative pace latent in, or characteristic of, any piece of given rhythmic structure” (Grove and Sadie, 1980, p.806)	“The subdivision of a span of time into sections perceivable by the senses; the grouping of musical sounds, principally by means of duration and stress” (Grove and Sadie, 1980, p.804)
Hendrix, J.		“Life is rhythm” (Hendrix, Jimi [1969] cited in Chaplin, 2008, p.4)

<i>Jones</i>		“Rhythm refers to the actual pattern of durations and silences associated with melodic notes” (Jones, 1987)
<i>Steglich</i>		“...meaningfully formed musical line of force” (Steglich cited in Grove and Sadie, 1980, p.806)
<i>Sachs</i>	“... the word “tempo” covers two very different concepts. One, the real, physiological tempo, varies within the rather limited range of feasible steps and beats. The other one is psychological. It is less a tempo proper than a mood” (Sachs 1952, p.397)	“...to be kinetic, intermittent, and perceived through one of the senses” (Sachs 1952, p.388)
<u>POETRY & LINGUISTICS</u>		
<i>Benveniste</i>		“...form in the instant that it is assumed by what is moving, mobile and fluid, the form of that which does not have organic consistency” (Benveniste, 1971, p.285–6)
<i>Charisius</i>		“‘ <i>Rhythmus est metrum fluens, metrum rhythmus clauses</i> ’ (Rhythm is flowing meter, and meter is bonded rhythm)” (Charisius c. 400AD cited in Sachs, 1952, p.385)
<i>Meschonnic</i>		“...that which ‘governs meaning’ as ‘the continuous movement of <i>significance</i> constructed by the historical activity of a subject” (Meschonnic cited in Hasty, 1997, p.216)
<u>ANTHROPOLOGY & SOCIOLOGY</u>		
<i>Engel-Frisch</i>	“...the number of events occurring per unit of time” (Engel-Frisch, 1943, p.44)	“...a recurrent, cultural fluctuation or movement in accommodation to the physical, physiological, and cultural environment” (Engel-Frisch, 1943, p.44)
<i>Jousse</i>		“ <i>je rythme, donc je suis</i> ” (I rhythmize, therefore I am) (Jousse, 1974, p.145)
<i>You</i>		“Rhythm is a category of human experience – a category in the Aristotelian sense of an ultimate mode of being, such as a substance, quantity, quality, relation, time and position; or category in the Kantian sense of an <i>a priori</i> form of understanding, such as quantity, quality, relation and modality. Rhythm is not a concept in the sense of an abstraction of generic or generalized things and instances” (You, 1994, p.373–4)

<u>PSYCHOLOGY</u>		
<i>Chaplin</i>		“... a repeating pattern of energy flow between opposites over time. [...] an ever moving structure underlying apparent structurelessness or chaos” (Chaplin, 2008, p.7)
<i>Gaston</i>		“Rhythm is the organizer and the energizer” (Gaston, 1968, p.17)
<i>Fraisse</i>		“The word rhythm is a concept that applies to all the regular sequences of events” (Fraisse, 1987, p.8) “...the ordered characteristics of succession” “when we can anticipate what will follow” (Fraisse, 1984, p.150)
<i>Gabrielsson</i>	“...perceived rate of the beat or pulse” (Gabrielsson, 1986, p.148)	
<i>Hegel</i>	“Regarding the purely temporal aspect of musical sound, we must agree that time reigns supreme in music, that the beat is simply intelligently regulated tempo, and that rhythm is that which begins to give spirit to these abstract rules in that it renders certain parts of the beat more prominent and causes others, by contrast, to recede” (Hegel 1818 cited in Grove and Sadie, 1980, p.806)	
<i>Langer</i>		“The most characteristic of vital activity is rhythm. All life is rhythmic” (Langer, 1953, p.126) “The essence of rhythm is the perception of a new event by the ending of a previous one” (Langer, 1953, pp.116–117)
<i>Parncutt</i>		“A sequence of perceived <i>events</i> , each of which is specified by its position in time relative to other events and by its salience” (Parncutt, 1987, p.127)
<i>Schwanda</i>		“A periodic succession of events” (Schwanda, 1969, p.568) “The tendency to group stimuli by time or intensity, or both into pleasurable wholes” (Schwanda, 1969, p.568)
<u>PHILOSOPHY</u>		
<i>Aristoxenus</i>		“ <i>taxis chronon</i> ” (order of time) (Aristoxenus cited in Sachs 1952, p.387) “Rhythm is supplied by a succession of durations, they themselves derive from poems which were sung or danced” (Aristoxenus [370BC] cited in Fraisse, 1987, p.8)

<i>Baker</i>		“Rhythm is a combination of tempos and tensions which come from physical, emotional and philosophical tracings, from attitudes towards life” (Baker, 1972, p.102)
<i>Dewey</i>		“Rhythm is a universal scheme of existence” (Dewey, [1934] 1989, p.154)
<i>Hagen</i>		“...dynamic structural relations between being and becoming” (Hagen 1923 cited in Toepfer, 1997, p.127)
<i>Heusler</i>		“... <i>Gliederung der Zeit in sinnlich fassbare Teile</i> ” (“organization of time in parts accessible to the senses”) (Heusler 1925 cited in Sachs 1952, p. 387)
<i>Plato</i>		“ <i>kineseos taxis</i> ” “Ordering of Movement” (Plato, [360BC] 1934, sec.665A)

7.3 Practical Research Timetable

Table 9: Timetable of practical research

7.4 Rhythmic Cycles in Citlalmina

The following images were created by the author as a representation of the rhythmic forms and cycles that make up “Citlalmina”, a training dynamic developed and used by the Theatre Research Workshop in their weekly training in Mexico City (3.3) *Citlalmina* brings together two sacred dances: the “Tibetan Black Hat Dance” and the “Mexican Conchero Dance”. Within “Citlalmina”, these two dances have not been mixed together but rather they are placed side by side, retaining their essential forms ([Clip 9](#)). “Pre-cultural frameworks” and “psychophysical technologies” such as “body alphabets” and “rhythmic structures” have been respected and preserved within the form, but costumes and other artefacts that were found not to be essential to the psychophysical experience have been removed (Núñez, 1996a, p.103–5; Middleton, 2008, p.43–4). These images were first presented as part of a research paper titled “*Sources of Rhythm: An Anthropocosmic Enquiry*” at the symposium *Grotowski: After - Alongside - Around - Ahead*, held at the University of Kent in June, 2009.

Figure 39: Complete form of Citlalmina: three cycles

Figure 40: Mexican Conchero Dance followed by Tibetan Black Hat Dance followed by another cycle of Conchero Dance

Figure 41: Cycle of Conchero Dance made up of an alternation between “bridge steps” and “elemental steps”

Figure 42: "Elemental step": four repetitions of an eight beat phrase, featuring a common rhythmic motif of long _ long _ short, short, long _

Figure 43: Basic pulsation; often marked by a rattle or drum

7.5 Call for Orbit Research Participants

Subject: Rhythm Research Workshop: Orbit

Date: Mon, 20 Dec 2010 20:24:34

RHYTHM RESEARCH WORKSHOP

Orbit

A call for participants to take part in an eight week research workshop with the aim of developing a new rhythm based actor training dynamic. This dynamic will be built around the theme of simultaneous rhythms in orbit. Participants will help to develop a polyrhythmic training form which allows them to experience (through voice and movement) being in one rhythm while surrounded by and/or surrounding other rhythmic patterns. The intention behind this dynamic will be to cultivate flexible and dynamic forms of attention through which performers can perceive and engage with multiple performance elements simultaneously, and to promote deeper connectivity between performers through a shared engagement with underlying rhythmic structures.

This project may be of interest to actors, dancers, physical performers, musicians, improvisers and other researchers. The sessions will involve the use of the voice and movement, though no specialist skills will be required.

This research workshop will take place at the Lawrence Batley Theatre in Huddersfield on Fridays 2-4pm from the 7th of January through to the 25th of February, led by PhD researcher Eilon Morris. All workshops will be free of charge and the first session will be available as a taster session open to participants who would like to experience the work before making a commitment to the entire project.

7.6 Orbit Scores

Figure 44: Simultaneous two and three beat cycles

Figure 45: Twenty-four beat Orbit Score (May 2011)

Figure 46: Twenty-four beat Orbits based on “centripetal” and “centrifugal” structures (May 2011)

Figure 47: One hundred and five beat Orbit cycle made up of 3, 5 and 7 beat patterns (June 2011)

Figure 48: Sixty beat Orbit cycles made up of 3, 4 and 5 beat patterns (June 2011)

Figure 49: Sixty and eighty-four beat Orbit scores (July 2011)

Figure 50: Evolving relationship in space: twelve moments over the course of a sixty beat cycle

Figure 51: Two hundred and fifty-two beat Orbit cycle made up of 4, 7 and 9 beat patterns (July 2011)

Figure 52: Evolving relationship in space: sixty moments

7.7 Correspondence from Orbit Participants

The following is a collection of emails sent from participants who have been involved in the Orbits research projects. The comments contained within these are a personal reflection on their experiences within this work. For reasons of privacy, I have removed individual names from all these notes and correspondences.

*From: Participant A
Sent: 16/11/2011
To: Eilon Morris*

At Orbits I felt very much as though I was approaching the rhythm work from the same 'level' as everyone else at the workshops. My musical experience and learning seemed to be something quite separate from the Ta-ke-ti-na and polyrhythmical work, because this work required a lack of conscious thought. Polyrhythms which would have appeared terrifying written in score form were eased out of us as simple things. Or even unconscious things.

*From: Participant B
Sent: 21/01/2012
To: Eilon Morris*

ORBIT NOTES 21/01/2012

From a hammered dulcimer player most frequently playing for social, highly-structured dances or in 'traditional' tune sessions

Functions

i) Give clear rhythmic and melodic changes which signal for the changes within the dance structure...the figures of the dance as directed by the dance caller

ii) 2) Maintain the speed, pulse and surging quality of both tune and rhythm. These give characteristics of both. Maintain delivery of tune emphasis.....on beat, but more commonly (and often usefully) the backbeat (offbeat)

'Sticking' patterns = style precision of WHEN you hit it, and HOW rhythm is held - inherent within the trad melodies. They invariably tell you what they need!

Most common Traditional British tune types -

Tunes selected to service the dance

Structures of tune and dance structure

Reels, Hornpipes, Polkas, Schottisches 4/4 and 3/2 (H/Pipes)

Jigs (single and double) 6/8 Slip jigs 9/8

Waltzes - Mazurkas 3/4

'Slow' Airs not dance tunes

Tune lengths:

16 32 48 64 bars..... and others.

*So.....Orbit and Addressing Poly-rhythms
Strategies for coping with the poly-rhythms*

MOST ILLUMINATING POINT OF THE WORK for me (I didn't manage all sessions)

= the fine, very specific THRESHOLD at which intellectual learning

(especially counting, watching others) moved to -

'LETTING GO' Hugely enjoyable and unsettling at first

Acceptance of rhythm pattern within the body and sinking into the whole over-arching sound with all its interlocking (not precise enough word)

parts. Playing from my centre...from the FEEL of it. ie Feel it, not Think it

Control and precision of setting a sound within TIME within this
Feeling of RELEASE

..... not RELAX! Heightening of awareness of space (size, shape, placements etc), acoustic and other people - sonic response from the working space. NOT lost or drifting. True vocally/ feet/percussion. Aware, active listening, noticing

Increase in TRUST of myself and fellow dancers

If I lost the rhythm pattern, I allowed myself to 'chime in' on someone else and if necessary to borrow their pattern >>>find my old place...or maybe find a new place within the exercise

Odds and Ends of Notes

We never count beats to the audience/dancers, or let them count a structure...We let the music direct after the caller has stopped calling figures

From: Participant C

Sent: 29/01/2012

To: Eilon Morris

Notes from Eilon's work

These reflections come from a person (me) highly insecure about working with specifically rhythms. I work with rhythm all the time but whenever the emphasis or focus is straight on rhythm, my body shakes and my mind gets so busy that I rarely enjoy the experience. The work with Eilon was however a different story. The following notes are personal and based on the Eilon's work June 2011. Italics mean that I am paraphrasing his words.

Feel the pulse. There is no rhythm to fall out of, so if something happens that make you feel out of rhythm, just let it happen and carry on.

My initial tendency to panic, every time I felt 'out of rhythm', gave space to a less judgmental view of my rhythm work after acknowledging the above words. I started to actually enjoy putting myself under the task of repeating a certain pattern. I said 'task' because for me it was a task. Slowly became a great opportunity to develop coordination, listening and understanding of composition.

It's about observing what happens to us when those things occur (feel 'out of rhythm') and see how we deal with them.

I went through a few different phases:

- being worry about slowing the group's work. (self-esteem),
- being worry about not doing it right. (self-esteem!)
- being worry about not being capable. (self-esteem!!)

So far mostly wasting my energy on being worry. Then:

- stop listening with my head but allow my body to be part.
- allow myself to stop and start again.
- let the work breath and breath with it.
- enjoy the ride.

Sometimes you catch a ride with it, sometimes you don't.

It was very enjoyable to be guided by focusing your attention one thing at the time. Awareness of the space, the others, oneself, all of that together, then add a pattern with the feet. Doing this exercise my mind rested; there was no trick, no trying to understand. It was clear and simple, so all there was to do was: TO DO.

Further along, when we had to experience our own pattern in relation with the other people's pattern, I felt somehow integrated. I was part of a bigger thing. Pretty much the same as being alive in relation to all organisms in/at/around the world. You exist, but it doesn't matter whether you do or not, it matters that: if you are, you are part of what is going on. No idea if this makes sense but it did/does to me.

There is a big difference between what I understood about rhythm and composition before working with Eilon and after. I always saw it as something probably fascinating but that I could never be able to understand or enjoy due to its complexity and rigidity. Yes, I thought rhythm was something based on strict codes only understood by a higher knowledge. I thought you have to reach those standards to be part of its magic/secret. The way Eilon presented rhythm however, it wasn't just as something creative, but as something that you experience, something that is ever changing and that transforms the space of the moment.

The work with the different patterns in circles. We are working not to achieve rhythm but we are working with rhythm, because it is a way of encountering yourself.

Visualising, drawing and then executing the different patterns in circles ignite my imagination. It provided me with enough information to feel safe doing and the understanding of it was very clearly explained by the action itself. The performance of the pattern didn't only rely on listening, but you could see what was happening and how to make it happen. While working on a proposed pattern, you could see and imagine how other patterns might work and that was very exciting.

Learning to count differently was also a great awakening taken from Eilon's practice. His visual helps together with the physical ways of counting (touching different parts of your hand/fingers to symbolise the passing of time) was very helpful to achieve a less cerebral more intuitive, trusting self-action.

From: Participant D
Sent: 6/03/2012
To: Eilon Morris

Here are some thoughts...

Orbit serves as an actor training tool to draw the participants' attention to the multiple tasks at play during the physical and rhythmical scores. Through this repetitive process, over time, the participant begins to engage with their tasks - physically marking the rhythm within a specific cyclical space, vocalising the rhythmical pattern being explored, marking moments within that rhythm through the use of a clap -simultaneously, with the possibility of remaining actively aware of each task in the moment. At first this occurs alongside the work of other participants but as the work progresses, it is possible to integrate into one's awareness of the rhythms and actions of others and again be aware of them alongside one's own tasks. What is achieved is an opening up of one's awareness to the collective rhythms of the group and the relationships between the individual contributions. Personally, this has enabled me to listen to more complex musical scores with a more open awareness of the simultaneous rhythms embedded within the score. I am more able to identify the layers and to draw my attention to specific aspects of the score rather than just hearing it as a whole. As an actor, I am more conscious of the rhythmical qualities present in my own and others' physical actions which provides me with more options and choices about how to create, react or respond.

Bibliography

- Abraham, N. (1995) *Rhythms: on the work, translation and psychoanalysis*. First English language edition. M. Torok, ed. Stanford, Calif: Stanford University Press.
- Adams, J. (2007) *Judith Adams: playwright & dramatist: Sweet Fanny Adams in hyperspace eden* [online]. Available from: <http://judithadams.co.uk/project?p=8> (Accessed 28 March 2012).
- Agawu, K. (2003) *Representing african music: postcolonial notes, queries, positions*. London: Routledge.
- Agawu, V. K. (1987) 'The rhythmic structure of West African music'. *The journal of musicology*, 5, (3), pp.400–418
- Agawu, V. K. (1995) *African rhythm: a Northern Ewe perspective, volume 1*. Melbourne, Australia: CUP Archive.
- Aldridge, D. & Fachner, J. (eds.) (2006) *Music and Altered states: consciousness, transcendence, therapy and addictions*. London: Jessica Kingsley Publishers.
- Alexander, F. (2001) *The use of the self: its conscious direction in relation to diagnosis, functioning and the control of reaction*. London: Orion.
- Allain, P. (1997) *Gardzienice: Polish theatre in transition*. Amsterdam: Harwood Academic.
- Allain, P. (2002) Gardzienice Theatre Association of Poland: in Zarrilli, P. (ed.) *Acting (re) considered*. Second Edition, Oxon: Routledge.
- Allain, P. (2002) *The art of stillness: the theatre practice of Tadashi Suzuki*. London: Methuen Drama.
- Allain, P. (ed.) (2009) *Grotowski's empty room*. London: Seagull Books.
- Allen, D. (1999) *Performing Chekhov*. London: Routledge.
- Anders, G. (1965) Being without time: on Beckett's play *Waiting for Godot*, In: Esslin, M. (ed.) *Samuel Beckett*. Englewood Cliffs: Prentice-Hall.
- Anon (n.d.) *Cactus Images | Images of Everything* [online]. Available from: <http://image-base.blogspot.co.uk/2011/11/cactus-images.html> (Accessed 11 June 2012).
- Appia, A. (1993) *Texts on theatre*. R. C. Beacham, ed. London: Routledge.
- Aristides Quintilianus (1983) *On music, in three books*. Yale University Press.
- Aristotle (2004) *The poetics*. Kessinger Publishing.
- Aristoxenus (1990) *Aristoxenus elementa rhythmica: the fragment of book ii and the additional evidence for aristoxenean rhythmic theory*. Clarendon Press.
- Attridge, D. (1995) *Poetic rhythm: an introduction*. Cambridge: Cambridge University Press.
- Aubert, L. & Ribeiro, C. (2007) *The music of the other: new challenges for ethnomusicology in a global age*. New edition. Ashgate.
- Augustine, S. (2011) *Confessions*. Peabody: Hendrickson Publishers
- Aviram, A. (2002) The meaning of rhythm, In: Verdicchio M. & Burch, R. (eds.) *Between philosophy and poetry: writing, rhythm, history*. London: Continuum International Publishing Group. pp. 161–170.
- Aviram, A. F. (1994) *Telling rhythm: body and meaning in poetry*. Michigan: University of Michigan Press.

- Baker, P. (1972) *Integration of abilities: exercises for creative growth*. San Antonio, Texas: Trinity University Press.
- Balkwill, L.L. & Thompson, W. F. (1999) 'A cross-cultural investigation of the perception of emotion in music: psychophysical and cultural Cues'. *Music perception: an interdisciplinary journal*, 17, (1), pp.43–64. [online]. Available from: <http://www.jstor.org/stable/40285811> (Accessed 8 January 2012).
- Balz, A. (1914) 'Music and emotion'. *The journal of philosophy, psychology and scientific methods*, 11, (9), pp.236–244. [online]. Available from: <http://www.jstor.org/stable/2013114> (Accessed 17 September 2009).
- Barba, E. (1965) *Alla Ricerca del teatro perduto [In search of a lost theatre]*. Padova: Marsilio.
- Barba, E. (1994) *The paper canoe: guide to theatre anthropology*. London: Routledge.
- Barba, E. (1997) 'An amulet made of memory: the significance of exercises in the actor's dramaturgy'. *The Drama Review*, 41, (4), p.127.
- Barba, E. (2004) *ISTA Sevilla 2004 - presentation* [online]. Available from: http://ista.odinteatret.dk/ista/sessions/SPAIN/ista_sevilla_2004_presentation.htm (Accessed 6 February 2012).
- Barba, E. (2010) *On directing and dramaturgy: burning the House*. London: Routledge.
- Barba, E. & Savarese, N. (1991) *A dictionary of theatre anthropology*. London: Routledge.
- Barker, C. (1977) *Theatre games: a new approach to drama training*. London : Eyre Methuen
- Baruch, C., Drake, C. & Jones, M. R. (2000) 'The development of rhythmic attending in auditory sequences: attunement, referent period, focal attending'. *Cognition*, 77, (3), pp.251.
- Bates, M. & Schmidt, P. (1998) 'Acting music, scoring Text: Paul Schmidt, Interviewed by Mark Bates'. *Theater*, 28, (2), pp.81 –86. [online]. Available from: <http://theater.dukejournals.org/content/28/2/81.short> (Accessed 24 January 2012).
- Beacham, R. C. (1985) 'Appia, jaques-dalcroze, and hellerau, part one: music made visible'. *New Theatre Quarterly*, 1, (02), pp.154–164.
- Benedetti, J. (1982) *Stanislavski: an introduction*. London: Methuen Drama.
- Benedetti, J. (1998) *Stanislavski and the actor: the final acting lessons, 1935-38*. Re-issue. London: Methuen Drama.
- Benedetti, J. (2004) *Stanislavski: an introduction*. Revised and updated, 2nd Ed. New York: Routledge.
- Bengtsson, I. (1987) Notation, Motion and Perception: Some aspects of Musical Rhythm, In: Gabrielsson, A. (ed.) *Action and perception in rhythm and music*. Stockholm: Royal Swedish Academy of Music. pp. 69–80.
- Benveniste, É. (1971) *Problems in general linguistics*. Coral Gables, Florida: University of Miami Press.
- Ben-Yishay, Y., Piassetky, E. B. & Rattok, J. (1987) A systematic method for ameliorating disorders in basic attention, In: Meier, M., Benton, A. & Diller, L. (eds.) *Neuropsychological Rehabilitation*. New York: Guilford Press.
- Bergson, H. (1963) *Oeuvres*. 2nd ed. Paris: Presses Universitaires de France.
- Berry, C. (1992) *The Actor and the text*. New and revised edition. New York: Applause Books
- Blacking, J. (1976) *How musical is man?* London: Faber and Faber.
- Blacking, J. (1989) 'A commonsense view of all music': *reflections on Percy Grainger's contribution to ethnomusicology and music education*. CUP Archive.

- Blacking, J. (1995) *Music, Culture, & experience: selected papers of John Blacking*. Byron, R. & Nettl, B. (eds.). London: University of Chicago Press.
- Blair, R. (2008) *The actor, image, and action: acting and cognitive neuroscience*. Oxon: Routledge.
- Boleslavsky, R. (1987) *Acting the first six lessons*. New York: Routledge.
- Bogart, A. & Landau, T. (2005) *The viewpoints book : a practical guide to viewpoints and composition*. New York: Theatre Communications Group.
- Bolton, T. (1894) 'Rhythm'. *The American journal of psychology*, 6, (2), pp.145–238. [online]. Available from: <http://www.jstor.org/stable/1410948?origin=crossref>.
- Bonnel, A. M., Faita, F., Peretz, I. & Besson, M. (2001) 'Divided attention between lyrics and tunes of operatic songs: evidence for independent processing'. *Perception & psychophysics*, 63, (7), pp.1201–1213.
- Bradley, K. K. (2009) *Rudolf Laban*. London: Taylor & Francis.
- Britton, J. (2007) *Movement improvisation in psychophysical training*, In: Impro continuums 2007, Royal Welsh School of Music and Drama. (Unpublished)
- Britton, J. (2010a) 'The pursuit of pleasure'. *Theatre, dance and performance training*, 1, (1), pp.36–54. [online]. Available from: <http://www.tandfonline.com/librouter.hud.ac.uk/doi/abs/10.1080/19443920903432486> (Accessed 5 August 2011).
- Britton, J. (2010b) *What is it?: The 'it'-ness of ensemble*, Research Paper given on the 16th of September 2010 at the Encounter Ensemble Symposium, at the University of Huddersfield.
- Britton, J. (2011a) *The bag game (2)* [online]. Available from: [http://www.ensemblephysicaltheatre.com/John_Britton/Blog/Entries/2011/2/9_The_Bag_Exercise_\(2\).html](http://www.ensemblephysicaltheatre.com/John_Britton/Blog/Entries/2011/2/9_The_Bag_Exercise_(2).html) (Accessed 10 January 2012).
- Britton, J. (2011b) *Postgraduate training sessions* run in July 2011 at the University of Huddersfield
- Britton, J. (ed.) (Forthcoming) *Encountering ensemble*. London: Methuen Drama.
- Brook, P. (1972) *The empty space*. Middlesex: Penguin Books.
- Brook, P. (1993) *There are no secrets: thoughts on acting and theatre*. London: Methuen.
- Brook, P. (2001) Grotowski: art as a vehicle, In: Schechner, R. & Wolford, L. (eds.) *The Grotowski sourcebook*. Oxon: Routledge. pp. 381–403.
- Brook, P. (2009) *With Grotowski: theatre is just a form*. Wrocław: The Grotowski Institute.
- Buber, M. (1996) *Ecstatic confessions: the heart of mysticism*. Mendes-Flohr, P. (ed.) Syracuse University Press.
- Buber, M. (2004) *I and thou*. New Edition. London: Continuum.
- Bücher, K. (1897) *Arbeit und rhythmus*. Leipzig: S. Hirzel.
- Buzsaki, G. (2006) *Rhythms of the brain*. New York: Oxford University Press.
- Callery, D. (2001) *Through the body: a practical guide to physical theatre*. London: Nick Hern Books.
- Cardeña, E. (1996) Truthful trickery: shamanism, acting and reality, In: Gough, R. ed. *Performance Research 1:3: On Illusion*. Glasgow: Routledge. pp. 31–39.
- Carnicke, S. M. (2008) *Stanislavsky in focus*. 2nd Edition. Oxon: Routledge.
- Carper, T. & Attridge, D. (2003) *Meter and meaning: an introduction to rhythm in poetry*. London: Routledge.
- Chaplin, J. (2008) *Deep equality: living in the flow of natural rhythms*. Illustrated edition.

- Winchester, UK: O Books.
- Chapple, F., Kattenbelt, C. & Group, I. F. for T. R. T. and I. W. (2006) *Intermediality in theatre and performance*. Amsterdam: Rodopi.
- Chekhov, M. (2002) *To the actor: on the technique of acting*. London: Routledge.
- Chen, J. L., Penhune, V. B. & Zatorre, R. J. (2008) 'Listening to musical rhythms recruits motor regions of the brain'. *Cerebral cortex*, 18, (12), pp.2844–2854. [online]. Available from: <http://cercor.oxfordjournals.org.librouter.hud.ac.uk/content/18/12/2844.abstract> (Accessed 24 January 2011).
- Chipp, H. B. (1992) *Theories of modern art: a source book by artists and critics*. Reprint. University of California Press.
- Christoffersen, E. E. (1993) *The actor's way*. Trans. by Fowler, R. London: Routledge.
- Clark, K. (1998) *Petersburg: crucible of cultural revolution*. New edition. Harvard University Press.
- Clarke, E. F. (1999) Rhythm and timing in music, In: D. Deutsch, ed. *The psychology of music*. Second Edition. San Diego: Academic Press. pp. 473–500.
- Clynes, M. (1973) 'Sentography: dynamic forms of communication of emotion and qualities'. *Computers in biology and medicine*, 3, (2), pp.119–130.
- Clynes, M. (1984) 'Music, mind, and brain: the neuropsychology of music'. *The Journal of the Acoustical Society of America*, 75, (4), pp.1308.
- Clynes, M. (1994) Entities and brain organization: logogenesis of meaningful time-forms, In: Pribram, K. (ed.) *Origins: brain and self organization*. Routledge. pp. 604–632.
- Condon, W. S. (1986) Communication: rhythm and structure, In: Evans, J. & Clynes, M (eds.) *Rhythm in psychological linguistic & musical processes*. Springfield: Charles C. Thomas Publisher Ltd. pp. 55–77.
- Condon, W. S. & Sander, L. W. (1974) 'Neonate movement is synchronized with adult speech: interactional participation and language acquisition'. *Science*, 183, (4120), pp.99–101.
- Cooper, G. & Meyer, L. B. (1960) *The rhythmic structure of music*. Chicago: Cambridge University Press.
- Copeau, J. (1990) *Copeau on the theatre*. Rudlin, J. (ed.) Routledge.
- Copeau, J. (2000) *Registres vi: l'école du Vieux-Colombier*. Paris: Gallimard.
- Courlander, H. (1944) Dance and dance drama in haiti, In: Boas, F. (ed.) *The function of dance in human society*. New York: The Boas School.
- Cowan, M. (2007) 'The heart machine: 'rhythm' and body in Weimar film and Fritz Lang's Metropolis'. *Modernism/modernity*, 14, (2), pp.225–248.
- Crimp, M. (1997) *Attempts on her life*. London: Faber.
- Crowe, B. J. (2004) *Music and soulmaking: toward a new theory of music therapy*. Scarecrow Press.
- Csikszentmihalyi, M. (2002) *Flow: The psychology of happiness: The classic work on how to achieve happiness*. New edition. London: Rider.
- D'Aquili, E. G., Laughlin, C. D. & McManus, J. (eds.) (1979) *The spectrum of ritual*. New York: Columbia University Press.
- Damasio, A. R. (2000) *The feeling of what happens: body, emotion and the making of consciousness*. London: Random House.
- Damasio, A. R. (2004) *Looking for Spinoza: joy, sorrow, and the feeling brain*. New edition. London: Vintage.

- Deák, F. (1977) 'Antonin Artaud and Charles Dullin: Artaud's Apprenticeship in theatre'. *Educational theatre journal*, 29, (3), pp.345–353. [online]. Available from: <http://www.jstor.org/stable/3206180> (Accessed 15 February 2011).
- Deleuze, G. & Guattari, F. (1988) *A thousand plateaus: capitalism and schizophrenia*. Illustrated edition. London: The Athlone Press.
- Delsarte, F. (1892) *Delsarte's own words, being his posthumous writings*. New York: E.S. Werner.
- Desain, P. & Honing, H. (1999) 'Computational models of beat induction: the rule-based approach'. *Journal of new music research*, 28, (1), pp.29. [online]. Available from: <http://www.informaworld.com.librouter.hud.ac.uk/10.1076/jnmr.28.1.29.3123> (Accessed 24 January 2011).
- Deutsch, D. (1983) 'The generation of two isochronous sequences in parallel'. *Perception & psychophysics*, 34, (4), pp.331–337.
- Dewey, J. (1989) *The later works, 1925-1953*. Boydston, J. (ed.) Illinois: Southern Illinois University Press.
- Diserens, C. (1926) *The influence of music on behaviour*. Princeton: Princeton University Press.
- Dissanayake, E. (2008) Root, leaf, blossom, or bole: concerning the origins and adaptive function of music, In: Malloch, S. & Trevarthen, C. (eds.). *Communicative musicality: exploring the basis of human companionship*. Oxford: Oxford University Press.
- Doğantan-Dack, M. (2006) 'The body behind music: precedents and prospects'. *Psychology of music*, 34, (4), pp.449–464. [online]. Available from: <http://pom.sagepub.com/content/34/4/449.abstract> (Accessed 7 January 2012).
- Drake, C. & Bertrand, D. (2001) 'The Quest for universals in temporal processing in music'. *Annals of the new york academy of sciences*, 930 pp.17–27. [online]. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/11458828> (Accessed 17 January 2012).
- Duncan, I. (1967) *The art of the dance*. New York: Theatre Arts Books.
- Einstein, A. (1989) *The collected papers of Albert Einstein: the swiss years, writings, 1900-1909*. West Sussex: Princeton University Press.
- Eliade, M. (1958) *Rites and symbols of initiation: the mysteries of birth and rebirth*. New York: Continuum International Publishing Group.
- Eliade, M. (1964) *Shamanism: archaic techniques of ecstasy*. Revised English edition. Princeton: Princeton University Press.
- Eliade, M. (1996) *Patterns in comparative religion*. Lincoln: University of Nebraska Press.
- Eliot, T. S. (1975) *Selected Prose of T. S. Eliot*. Kermode, F. (ed.). London: Faber and Faber.
- Ellingson-Waugh, T. (1974) 'Musical flight in tibet'. *Asian Music*, 5, (2), pp.3–44. [online]. Available from: <http://www.jstor.org/stable/833886> (Accessed 16 January 2012).
- Engel-Frisch, G. (1943) 'Some neglected temporal aspects of human ecology'. *Social forces*, 22, (1), pp.43–47. [online]. Available from: <http://www.jstor.org/stable/2571450> (Accessed 19 September 2009).
- Epstein, D. (1995) *Shaping time: music, the brain, and performance*. New York: Schirmer Books.
- Evans, J. R. & Clynes, M. (eds.) (1986) *Rhythm in psychological linguistic and musical Processes*. Springfield: Charles C. Thomas Publisher Ltd.
- Evans, M. (2009) *Movement training for the modern actor*. Oxon: Taylor & Francis.
- Fachner, J. (2011) Time is the key, In: Cardeña, E. & Winkelman, M. (eds.) *Altering consciousness: multidisciplinary perspectives*. California: ABC-CLIO. pp. 355–376.

- Falmagne, J.C. (2002) *Elements of psychophysical theory*. Cary, NC, USA: Oxford University Press.
- Farber, V. (2008) *Stanislavsky in practice: actor training in post-soviet Russia*. Peter Lang.
- Fechner, G. T. (1860). *Elemente der psychophysik*. Leipzig, Breitkopf und Härtel.
- Feldman, R. (2006) 'From biological rhythms to social rhythms: physiological precursors of mother-infant synchrony'. *Developmental psychology*, 42, (1), pp.175–188.
- Feldman, R. (2007) 'Parent–infant synchrony: biological foundations and developmental outcomes'. *Current directions in psychological science*, 16, (6), pp.340–345.
- Ferdinandov, B. (1922) 'Teatr segodnya'. *O teatre*: Tver
- Fischer, R. (1973) 'A cartography of the ecstatic and meditative states'. *Leonardo*, 6, (1), pp.59–66. [online]. Available from: <http://www.jstor.org/stable/1572429> (Accessed 22 January 2012).
- Fischer-Lichte, E. & Riley, J. (1997) *The show and the gaze of theatre: a European perspective*. Iowa City: University of Iowa Press.
- Flatischler, R. (1992) *The forgotten power of rhythm: TaKeTiNa*. USA: LifeRhythm.
- Flatischler, R. (1996) 'The effects of musical rhythm on body and mind: the interaction field of the Ta Ke Ti Na rhythm process' Ralph Spintge & Rosalie Rebollo Pratt, eds. *MusicMedicine: journal for the international society for music in medicine*, 2.
- Flatischler, R. & Flatischler, C. (2008) *TaKeTiNa - rhythm as a path: the 'I' and the It"*, in *TaKeTiNa newsletter 2008* [online]. Available from: <http://test.taketina.com/downloads/TaKeTiNa-Newsletter-2008.pdf> (Accessed 14 December 2008).
- Flatischler, R. & Flatischler, C. (2010) *40 years of music, education, therapy and research* (TaKeTiNa Pamphlet).
- Flatischler, R. & Flatischler, C. (2012) *TaKeTiNa research* [online]. Available from: <http://www.taketina.com/research-rhythm-science/> (Accessed 21 April 2012).
- Fleischer, M. (2007) *Embodied texts: symbolist playwright-dancer collaborations*. New York: Rodopi.
- Foley, K. (2002) My Bodies, In: Zarrilli, P. (ed.) *Acting (re)considered: a theoretical and practical guide*. 2nd edition, Oxon: Routledge.
- Fox, R. (2006) *Time and eternity in mid-thirteenth-century thought*. Oxford: Oxford University Press. [online]. Available from: <http://site.ebrary.com/lib/uoh/docDetail.action?docID=10283798> (Accessed 8 December 2011).
- Fraisse, P. (1984) Rhythm and tempo, In: Deutsch, D. (ed.) *The psychology of music*. Academic Press Inc. pp. 149–180.
- Fraisse, P. (1987) A historical approach to rhythm as perception, In: Gabrielsson, A (ed.) *Action and perception in rhythm and music: papers given at a symposium in the Third International conference on event perception and action*. Stockholm: Royal Swedish Academy of Music. pp. 7–18.
- Friederici, A. D., Schubotz, R. I. & von Cramon, D. Y. (2000) 'Time perception and motor timing: a common cortical and subcortical basis revealed by fMRI'. *NeuroImage*, 11, (1), pp.1–12.
- Gabrielsson, A. (1986) Rhythm in music, In: Evans, J. & Clynes, M. (eds.) *Rhythm in psychological linguistic & musical processes*. Springfield: Charles C. Thomas Publisher Ltd.
- Gaston, E. T. (1968) *Music in therapy*. New York: Macmillan.
- George, K. (1980) *Rhythm in drama*. Pittsburgh: University of Pittsburgh Press.

- Gillett, J. (2007) *Acting on impulse: reclaiming the Stanislavski approach: a practical workbook for actors*. London: Methuen Drama.
- Gladkov, A. & Meyerhold, V. È. (1998) *Meyerhold speaks, Meyerhold rehearses*. Translated by Law, A. Amsterdam: Harwood Academic.
- Goethe, J. W. (1840) *Goethe's theory of colours*. London: J. Murray.
- Golston, M. (2008) *Rhythm and race in modernist poetry and science*. New York: Columbia University Press.
- Gomez, P. & Danuser, B. (2007) 'Relationships between musical structure and psychophysiological measures of emotion'. *Emotion*, 7, (2), pp.377–387. [online]. Available from: <http://www.sciencedirect.com/science/article/B6WYF-4P1J8RP-F/2/67d5efdf5f3ab74bab180be5c7660c1b> (Accessed 16 September 2009).
- Goodridge, J. (1989) *Rhythm and timing in human movement with reference to performance events: drama, dance and ceremony*. PhD Thesis. University of London.
- Goodridge, J. (1999) *Rhythm and timing of movement in performance: dance drama and ceremony*. London: Jessica Kingsley Publishers.
- Gordon Hughes (2007) 'Envisioning abstraction: the simultaneity of Robert Delaunay's 'first disk''. *The Art Bulletin*, 89, (2), pp.306–332.
- Gordon, M. (1988) *The Stanislavsky technique*. Applause theatre book publishers.
- Gordon, m. (2002) Meyerhold's biomechanics, In: Zarrilli, P. (ed.) *Acting (re)considered: a theoretical and practical guide*. 2nd edition Routledge. pp. 106–128.
- Gordon, R. (2006) *The purpose of playing*. Michigan: University of Michigan Press.
- Gordon, R. L., Schön, D., Magne, C., Astésano, C. & Besson, M. (2010) 'Words and melody are intertwined in perception of sung words: EEG and behavioural evidence'. *PLoS one*, 5, (3), pp.e9889. [online]. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/20360991> (Accessed 11 April 2012).
- Grotowski, J. (1969) *Towards a poor theatre*. Barba, E. (ed.) London: Methuen.
- Grotowski, J. (1987) 'Tu es le fils de quelqu'un' [You are someone's son]'. *The Drama Review: The theatre review*, 31, (3), pp.30–41.
- Grotowski, J. (1988) Performer, In: *Workcenter of Jerzy Grotowski*. Pontedera, Italy: Centro per la Sperimentazione e la Ricerca Teatrale. Privately distributed pamphlet. pp. 36–41.
- Grotowski, J. (1995) 'From the theatre company to art as vehicle' In: Richards, T. *At work with Grotowski on physical actions*. London: Routledge. p. 115–135.
- Grotowski, J. (1997) 'A Kind of Volcano', In: Panafieu, B., Needleman, J. & Baker, G. (eds.). *Gurdjieff*. New York: Continuum International Publishing Group. pp. 87–106.
- Grotowski, J. (2001) 'Tu es le fils de quelqu'un', In: Schechner R. & Wolford, L. (eds.). *The Grotowski sourcebook*. London: Routledge. pp. 294–305.
- Grotowski, J. & Taborski, B. (1973) 'Holiday'. *The drama review: TDR*, 17, (2), pp.113–135.
- Grove, S. G. & Sadie, S. (1980) *The new grove dictionary of music and musicians*. Macmillan.
- Hart, M., Stevens, J. & Lieberman, F. (1998) *Drumming at the edge of magic: a journey into the spirit of percussion*. New York: HarperCollins.
- Haas, J. (n.d.) *Digital art: fractal art: jeweled web of indra* [online]. Available from: http://www.jackhaas.net/art_Digital_Fractal_art_mandala_Jeweled_Web_of_Indra_Hindu_art.htm (Accessed 11 June 2012).
- Hasty, C. F. (1997) *Meter as rhythm*. Oxford: Oxford University Press.
- Head, C. & Gavin, M. (1927) The unity of production, In: Isaacs, E. (ed.) *Theatre: essays on the*

- arts of the theatre*. USA: Ayer Publishing. pp. 129–140.
- Hegel, G. W. F. (1969) *Science of logic*. London: Routledge.
- Hegel, G. W. F. (2005) *The phenomenology of mind*. New York: Cosimo, Inc.
- Hejinian, L. (1999) *The cell*. Los Angeles: Sun & Moon Books.
- Herskovits, M. J. (1943) *Pesquisas etnológicas na Bahia*. Bahia: Secretaria de Educação e Saúde.
- Hess, W. (1933) ‘Der schlaf’. *Journal of molecular medicine*, 12, (4), pp.129–134.
- Hetzler, E. T. (2007a) *The actor’s experience: a survey and interview of actors examining the experience of performing*. Unpublished PhD Thesis. University of Exeter.
- Hetzler, E. T. (2007b) *The actor’s experience: DVD accompanying PhD thesis*. University of Exeter. [DVD]
- Hinze, O. M. (2002) *Tantra vidya: based on “archaic astronomy and tantric yoga*. Delhi: Motilal Banarsidass Publishers.
- Hodge, A. (2010) *Actor training*. Oxon: Taylor & Francis.
- Hodge, A. & Hulton, P. (2007) *The Quick and the dead*. (Video Recording). Exeter: Arts Archives
- Homma, I. & Masaoka, Y. (2008) ‘Breathing rhythms and emotions’. *Experimental physiology*, 93, (9), pp.1011–1021.
- Hui, A. E. (2008). *Hearing sound as music: psychophysical studies of sound sensation and the music culture of Germany, 1860-1910*. Ph. D Thesis, UCLA, 2008.
- Huston, H. (1993) *The Actor’s instrument: body, theory, stage*. Michigan: The University of Michigan Press.
- Ingham, P. B. (1912) ‘The method: growth and practice’, In: Jaques-Dalcroze, E. *The eurhythmics of Jaques-Dalcroze*. Second edition. London: Constable & Company Ltd. pp. 35–53.
- Jackendoff, R. & Lerdahl, F. (2006) ‘The capacity for music: what is it, and what’s special about it?’ *Cognition*, 100, (1), pp.33–72. [online]. Available from: <http://www.sciencedirect.com/science/article/B6T24-4HWXP3C-1/2/4c66c001a23866ef8d568bfc07b28b80> (Accessed 16 September 2009).
- James, J. (1995) *The music of the spheres: music, science, and the natural order of the universe*. New York: Springer.
- James, W. (2007) *The principles of psychology Volume 1*. New York: Cosimo, Inc.
- Jammer, M. (2006) *Concepts of simultaneity from antiquity to Einstein and beyond*. Baltimore, Md.: Johns Hopkins University Press.
- Jaques-Dalcroze, E. (1912) *The eurhythmics of jaques-dalcroze*. Second edition. London: Constable & Company Ltd.
- Jaques-Dalcroze, E. (1967) *Rhythm, music and education*. Revised edition. London: The Dalcroze Society Inc.
- Jilek, W. G. (1982) ‘Altered states of consciousness in North American Indian ceremonials’. *Ethos*, 10, (4), pp.326–343. [online]. Available from: <http://www.jstor.org.librouter.hud.ac.uk/stable/3696945> (Accessed 27 June 2009).
- Jones, M. R. (1976) ‘Time, our lost dimension: Toward a new theory of perception, attention, and memory’. *Psychological review*, 83, (5), pp.323–355.
- Jones, M. R. (1986) Attentional rhythmicity in human perception., In: Evans, J. & Clynes, M. (eds.), *Rhythm in Psychological, linguistic and Musical Processes*. Springfield: Charles C.

- Thomas Publisher Ltd. pp. 13–40.
- Jones, M. R. (1987) Perspectives on musical time, In: Gabrielsson, A. (ed.), *Action and perception in rhythm and music*. Stockholm: Royal Swedish Academy of Music. pp. 153–175.
- Jones, M. R., Kidd, G. & Wetzel, R. (1981) ‘Evidence for rhythmic attention’. *Journal of experimental psychology: human perception and performance*, 7, (5), pp.1059–1073.
- Jones, M. R., Martin, Z. E., Hill, M. D., Klapp, S. T., Jagacinski, R. J. & Tyler, J. G. (1985) ‘On marching to two different drummers’. *Journal of experimental psychology: human perception and performance*, 11, (6), pp.814–827.
- Jordan, S. (1996) Musical/choreographic discourse: method, music theory, and meaning, In: Morris, G. (ed.), *Moving words: re-writing dance*. London: Routledge. pp. 15–28.
- Jousse, M. (1974) *L’anthropologie du geste*. Paris: Gallimard.
- Jung, C. G. (1964) *Civilization in transition*. London: Routledge.
- Kahneman, D. (1973) *Attention and effort*. Englewood Cliffs: Prentice-Hall.
- Kaplan, R. (2002) *Rhythmic training for dancers*. Champaign: Human Kinetics.
- Keller, P. E. (2001) ‘Attentional resource allocation in musical ensemble performance’. *Psychology of music*, 29, (1), pp.20–38.
- Keller, P. E. & Burnham, D. K. (2005) ‘Musical meter in attention to multipart rhythm’. *Music perception: an interdisciplinary journal*, 22, (4), pp.629–661. [online]. Available from: <http://www.jstor.org/stable/10.1525/mp.2005.22.4.629> (Accessed 29 August 2011).
- Keller, P. E. & Repp, B. H. (2008) ‘Multilevel coordination stability: integrated goal representations in simultaneous intra-personal and inter-agent coordination’. *Acta psychologica*, 128, (2), pp.378–386. [online]. Available from: <http://www.sciencedirect.com/librouter.hud.ac.uk/science/article/B6V5T-4SJ954F-2/2/d43458af5852e12b0aa9983b74b63071> (Accessed 1 February 2011).
- Khanna, M. (1981) *Yantra: The tantric symbol of cosmic unity*. New edition. Rochester: Thames & Hudson.
- Klages, L. (1934) *Vom wesen des rhythmus*. Leipzig: Kampmann.
- Klapp, S. T. (1979) ‘Doing two things at once: the role of temporal compatibility’. *Memory & cognition*, 7, (5), pp.375–381.
- Klapp, S. T. (1981) ‘Temporal compatibility in dual motor tasks ii: simultaneous articulation and hand movements’. *Memory & cognition*, 9, (4), pp.398–401.
- Kodály, Z. (1974) *The Selected writings of zoltán kodály*. London: Boosey and Hawkes.
- Koen, B. D. (2008) *The oxford handbook of medical ethnomusicology*. Oxford University Press.
- Koritz, A. (2001) ‘Drama and the rhythm of work in the 1920s’. *Theatre journal*, 53, (4), pp.551–567. [online]. Available from: <http://www.jstor.org/stable/25068986> (Accessed 4 January 2012).
- Kuhns, D. F. (1997) *German expressionist theatre: the actor and the stage*. Cambridge: Cambridge University Press.
- Kumiega, J. (1985) *The theatre of grotowski*. London: Methuen.
- Kuritz, P. (1982) *Playing: an introduction to acting*. Englewood Cliffs: Prentice-Hall.
- Laban, R. (1948) *Modern educational Dance*. London: Macdonald & Evans.
- Laban, R. & Lawrence, F. C. (1942) *Laban Lawrence industrial rhythm - lilt in labour*. [Pamphlet] Manchester.
- Lakany, H. (2008) ‘Extracting a diagnostic gait signature’. *Pattern recognition*, 41, (5),

pp.1627–1637.

- Lakoff, G. & Johnson, M. (1999) *Philosophy in the flesh: the embodied mind and its challenge to western thought*. New edition. New York: Basic Books.
- Langer, S. K. K. (1953) *Feeling and form*. London: Routledge.
- Langer, S. K. K. (1968) 'The expression of feeling in dance' Tuyl, M. (ed.) *Impulse 1968 - The annual of contemporary dance*, [online]. Available from: <http://www.eric.ed.gov/ERICWebPortal/contentdelivery/servlet/ERICServlet?accno=ED026024> (Accessed 15 March 2011).
- Large, E. W. & Palmer, C. (2002) 'Perceiving temporal regularity in music'. *Cognitive science*, 26, (1), pp.1–37.
- Latham, A. (2012) 'Simultaneity' In, *The Oxford Companion to Music. Oxford Music Online* [online]. Available from: <<http://www.oxfordmusiconline.com/subscriber/article/opr/t114/e6203>>. (Accessed 13 March 2012).
- Latham, A. (n.d.) 'Luftpause' In, *The Oxford Companion to Music, Oxford Music Online* [online]. Available from: <<http://www.oxfordmusiconline.com/subscriber/article/opr/t114/e4086>>. (Accessed 19 December 2011).
- Lavy, J. (2005) 'Theoretical foundations of Grotowski's total act, via negativa, and conjunctio oppositorum'. *The journal of religion and theatre*, 4, (2), pp.175–188. [online]. Available from: http://www.rjournal.org/vol_4/no_2/lavy.html.
- Law, A. & Gordon, M. (1996) *Meyerhold, Eisenstein and biomechanics: actor training in revolutionary Russia*. illustrated edition. London: McFarland & Co Inc.
- Leach, R. (1993) *Vsevolod Meyerhold*. Cambridge: Cambridge University Press.
- Leach, R. (1994) *Revolutionary theatre*. London: Routledge.
- Lecoq, J. (2006) *Theatre of movement and gesture*.Bradby, D. (ed.) Oxon: Taylor & Francis.
- Leder, D. (1990) *The absent body*. Chicago: University of Chicago Press.
- Lee, J. W. (2003) *Dalcroze by any other name: eurhythmics in early modern theatre and dance*. Texas: Texas Tech University.
- Lerdahl, F. & Jackendoff, R. (1983) *Generative theory of tonal music*. London: MIT Press.
- Levitin, D. J. (2009) 'The neural correlates of temporal structure in music'. *Music and medicine*, 1, (1), pp.9–13. [online]. Available from: <http://mmd.sagepub.com.librouter.hud.ac.uk/content/1/1/9.abstract> (Accessed 24 January 2011).
- Lex, B. (1979) The neurobiology of ritual trance, In: D'aquili, E.G., Laughlin, C.D., & Mcmanus, J. (ed.) *The spectrum of ritual: a biogenetic structural analysis*. New York: Columbia University Press. pp. 117–151.
- Linton, C. M. (2004) *From eudoxus to Einstein: a history of mathematical astronomy*. Cambridge: Cambridge University Press.
- LISPA (2012) *London international school of performing arts: prospectus 2013*, PDF brochure, LISPA: London.
- Logie, L. (1995) 'Developing a physical vocabulary for the contemporary actor'. *New theatre quarterly*, 11, (43), pp.230–240.
- Lomax, A. (1974) *Dance and human history*. (Video Recording). Watertown: Ethnomusical Collections.
- London, J. (n.d.) 'Tempo (i)' In, *Grove music online. Oxford music online* [online]. Available from: <http://www.oxfordmusiconline.com/subscriber/article/grove/music/27649> (Accessed 11 January 2010a).
- London, J. (n.d.) 'Rhythm' In, *Grove music online. Oxford music online* [online]. Available

- from: <http://www.oxfordmusiconline.com/subscriber/article/grove/music/45963>
(Accessed 12 January 2010b).
- Luetchford, M. E. (2008) The concept of now in dogen's philosophy, In: Vrobel, S. (ed.) *Simultaneity: temporal structures and observer perspectives*. Hackensack: World Scientific. pp. 29–46.
- Maas, U. & Strubelt, S. (2006) Polyrythms supporting a pharmacotherapy: Music in the Iboga Initiation Ceremony in Gabon, In: Aldridge, D. & Fachner, J. (eds.) *Music and Altered States: Consciousness, Transcendence, Therapy and Addictions*. London: Jessica Kingsley Publishers. pp. 101–124.
- MacDougall, R. (1903) 'The structure of simple rhythm forms'. *Psychological review*, 4 pp.309–411.
- Magarshack, D. (1976) *Stanislavsky: a life*. West Port: Greenwood Press.
- Malaev-Babel, A. (ed.) (2011) *The Vakhtangov sourcebook*. Abingdon, Oxfordshire: Taylor & Francis.
- Malloch, S. & Trevarthen, C. (eds.) (2008) *Communicative musicality: exploring the basis of human companionship*. Oxford: Oxford University Press.
- Martin, J. (2004) *The intercultural performance handbook*. London: Routledge.
- Maslow, A. H. (1968) *Toward a psychology of being*. 3rd edition. New York: John Wiley & Sons.
- Materic, M. & Hulton, P (1997) *Organic sequences in the theatre*. Exeter : Arts Archives [DVD]
- Mauss, M. (1936) 'Les Techniques du Corps'. *Journal de psychologie*, 32, (3-4), pp.365–386.
- Mauss, M. (1973) 'Techniques of the body'. *Economy and society*, 2, (1), pp.70–88. [online]. Available from: <http://www.tandfonline.com/doi/abs/10.1080/03085147300000003> (Accessed 11 October 2011).
- Maxfield, M. C. (1990) *Effects of rhythmic drumming on EEG and subjective experience*. Institute of Transpersonal Psychology.
- Maynard, S. K. (2002) *Linguistic emotivity: centrality of place, the topic-comment dynamic, and an ideology of pathos in Japanese discourse*. Amsterdam: John Benjamins Publishing Company.
- McGaw, C., Stilson, K. L. & Clark, L. D. (2011) *Acting is believing*. Boston: Cengage Learning.
- McCaw, D. (2012) *Bodies of knowledge: About Us* [online]. Available from: http://www.bodiesofknowledge.org/About_us/#history_body (Accessed 26 July 2012).
- McMullen, T. (2006) 'Corpo-realities: keepin' it real in 'music and embodiment' scholarship'. *Current musicology*, (82), pp.61–80.
- McNeill, W. H. (1995) *Keeping together in time: dance and drill in human history*. illustrated edition. Harvard: Harvard University Press.
- McConachie, B. A. (2010) Psychological and sociological training for the actor, In: Zarrilli, P. (ed.) *Theatre histories: an introduction*. Oxon: Routledge. pp. 373–381.
- Menninger, K. (1992) *Number words and number symbols: a cultural history of numbers*. Courier Dover Publications.
- Merlin, B. (2003) *Konstantin Stanislavsky*. First edition. London: Routledge.
- Merlin, B. (2007) *The complete stanislavsky toolkit*. London: Nick Hern.
- Meschonnic, H. (1982) *Critique du rythme: anthropologie historique du langage*. Lagrasse: Verdier.
- Meumann, E. (1894) Untersuchung zur Psychologie und Aesthetik des Rhythmus, In: Wundt,

- W. (ed.) *Philosophische Studien*. Wilhelm Engelmann. pp. 249–322.
- Meyer, L. B. (1960) 'Universalism and relativism in the study of ethnic music'. *Ethnomusicology*, 4, (2), pp.49–54. [online]. Available from: <http://www.jstor.org/stable/924262> (Accessed 8 January 2012).
- Meyer, L. B. (1961) *Emotion and meaning in music*. Chicago: University of Chicago Press.
- Meyer-Dinkgräfe, D. (2006) Simultaneity, theatre and consciousness, In: Ascott, R. (ed.) *Engineering nature: art and consciousness in the post-biological era*. Bristol: Intellect. pp. 247–251.
- Meyerhold, V. Ė (1969) *Meyerhold on theatre*. E. Braun, ed. and translation. London: Methuen.
- Meyerhold, V. Ė. (1981) *Meyerhold at work*. P. Schmidt, ed. Manchester: Carcanet New Press.
- Middleton, D. (2001) 'At play in the cosmos: the theatre and ritual of Nicolás Núñez'. *The drama review (1988)*, 45, (4), pp.42–63. [online]. Available from: <http://www.jstor.org/stable/1146928> (Accessed 9 August 2009).
- Middleton, D. (2008) 'Secular sacredness' in the ritual theatre of Nicolás Núñez'. *Performance research: a journal of the performing arts*, 13, (3), pp.41. [online]. Available from: <http://www.informaworld.com/10.1080/13528160902819315> (Accessed 5 June 2009).
- Miell, D., MacDonald, R. A. R. & Hargreaves, D. J. (2005) *Musical communication*. Oxford: Oxford University Press.
- Miner, J. B. (1903) 'Motor, visual and applied rhythms. An experimental study and a revised explanation'. *The psychological review: Monograph Supplements*, 5, (4), pp.i–106. [online]. Available from: <http://www.psycontent.com/content/p7748j6092013950/> (Accessed 4 January 2012).
- Miranda, M. B. (2003) *Playful training: towards capoeira in the physical training of actors*. Melbourne, Australia: La Trobe University.
- Molik, Z. & Campo, G. (2010) *Zygmunt Molik's voice and body work: the Legacy of Jerzy Grotowski*. Oxon: Routledge.
- Moore, G. E. (2005) *Principia ethica*. Barnes & Noble Publishing.
- Moore, S. (1984) *The Stanislavski system: the professional training of an actor: digested from the teachings of Konstantin S. Stanislavski*. 2nd Revised edition. Penguin Books Ltd.
- Móricz, K. (2008) *Jewish identities: nationalism, racism, and utopianism in twentieth-century music*. Berkeley: University of California Press.
- Morris, E. (2009a) 'Looking for the empty spaces'. *Total theatre magazine*, 21, (1), pp.24.
- Morris, E. (2009b) 'Sources of rhythm: an anthropocosmic enquiry', Research paper given at the Symposium: *Grotowski: after – alongside – around – ahead*, in the *British Grotowski conference*, 15 June 2009, University of Kent.
- Morris, E. (2011) *Research footage of Orbit training sessions with MA students at the University of Huddersfield*. [DVD]
- Morton, L. L., Kershner, J. R. & Siegel, L. S. (1990) 'The potential for therapeutic applications of music on problems related to memory and attention'. *Journal of Music Therapy*, 27, (4), pp.195–208.
- Moss, T. (2011) *Crossing continents to generate the 'Electric Field' of intermediality*, Research Paper given in at The University of Huddersfield
- Murray, S. & Keefe, J. (2007) *Physical theatres: a critical introduction*. Oxon: Routledge.
- Nascimento, C. T. (2009) *Crossing cultural borders through the actor's work: foreign bodies of knowledge*. London: Routledge.
- Neulieb, C. M. (2009) *The mimetic soul: philosophical anthropology in plato's writings on*

- theatre, performance, and representation*. Ann Arbor: ProQuest.
- Needham, R. (1967) 'Percussion and transition'. *Man*, 2, (4), pp.606–614.
- Nelson, R. (2006) 'Practice-as-research and the problem of knowledge'. *Performance Research*, 11, (4), pp.105.
- Neher, A. (1961) 'Auditory driving observed with scalp electrodes in normal subjects'. *Electroencephalography and clinical neurophysiology*, 13, (3), pp.449–451.
- Neher, A. (1962) 'A physiological explanation of unusual behaviour in ceremonies involving drums.'. *Human biology*, 34(2), 1962, pp. 151-160
- Newlove, J. & Dalby, J. (2004) *Laban for all*. Nick Hern Books.
- Nicolescu, B. (2002) *Manifesto of transdisciplinarity*. Albany: State University of New York Press.
- Nietzsche, F. (2001) *Nietzsche: beyond good and evil*. Rolf-Peter Horstmann & Judith Norman, eds. Cambridge University Press.
- Núñez, N. (1996a) *Anthropocosmic theatre: rite in the dynamics of theatre*. D. Middleton, ed. Amsterdam: Routledge.
- Núñez, N. (1996b) *Lecture by Nicolás Núñez at the University of Huddersfield*.
- Núñez, N. (1999) *Theatre and transformation*. Workshop at The University of Huddersfield, England, 6 - 10 April 1999
- Núñez, N. (2004) *Ritual and gesture*. Workshop at The Penquoit Centre, Pembrokeshire, Wales, 22-28 August 2004.
- Núñez, N. (2010a) *Conversations on tloque nahuaque and nictémero*. Interviewed by Morris, E. [in person/video recording] Mexico City, 11th November 2010.
- Núñez, N. (2010b) Huracán dynamic, in: *open training session with theatre research workshop*. 22 November 2010. Casa de Lago, Chapultepec: Mexico City.
- O'Brien, N. (2010) *Stanislavski in practice: exercises for students*. Oxon: Routledge.
- Oida, Y. & Marshall, L. (1997) *The invisible actor*. New York: Routledge.
- Osiński, Z. (1986) *Grotowski and his laboratory*. New York: PAJ Publications.
- Osiński, Z. (2009) Grotowski and the Reduta tradition, In: Allain, P. (ed.) *Grotowski's empty room*. London: Seagull Books. pp. 19–54.
- Parncutt, R. (1987) The perception of pulse in musical rhythm, In: Gabrielsson, A. (ed.) *Action and perception in rhythm and music: papers given at a symposium in the third international conference on event perception and action*. Stockholm: Royal Swedish Academy of Music. pp. 127–138.
- Parsons, L. & Thaut, M. (2001) 'Functional neuroanatomy of the perception of musical rhythm in musicians and non-musicians'. *Neuroimage*, 13, (6), pp.925.
- Pater, W. (2010) *Studies in the history of the renaissance*. Beaumont, M. (ed.) Oxford: Oxford University Press.
- Pavis, P. (1996) *The Intercultural Performance Reader*. First edition. London: Routledge.
- Pavis, P. (1999) *Dictionary of the Theatre: Terms, Concepts and Analysis*. London: University of Toronto Press.
- Pavis, P. (2003) *Analyzing performance: theater, dance and film*. The University of Michigan Press.
- Pavlov, I. P. (2003) *Conditioned reflexes*. Courier Dover Publications.
- Penman, J. & Becker, J. (2009) *Religious ecstasies, 'deep listeners,' and musical emotion* [online]. Available from: <https://kb.osu.edu/dspace/handle/1811/37474> (Accessed 30

January 2012).

- Petit, L. (2009) *The Michael chekhov handbook: for the actor*. Oxon: Routledge.
- Pitches, J. (2003) *Vsevolod Meyerhold*. London: Routledge.
- Pitches, J. (2005) *Science and the Stanislavsky tradition of acting*. Oxon: Routledge.
- Plato (1871) *The dialogues of Plato*. New York: Charles Scribner and Company. [online]. Available from: <http://hdl.handle.net/2027/mdp.39015010454232>.
- Plato (1934) *The laws*. London: Dent & Sons.
- Posner, M. I. (1980) 'Orienting of attention'. *The quarterly journal of experimental psychology*, 32, (1), pp.3.
- Postlewait, T (1988) 'Simultaneity in modern stage design and drama'. *Journal of dramatic theory and criticism*, 3, (1), pp.5–28. [online]. Available from: <https://journals.ku.edu/index.php/jdte/article/viewArticle/1692> (Accessed 4 March 2011).
- Potter, N. (2002) *Movement for actors*. New York: Skyhorse Publishing Inc.
- Pound, E. (1977) *Ezra Pound and music*. M. Schaffer, ed. New Directions Publishing.
- Pradier, J.-M. (1990) 'Towards a biological theory of the body in performance'. *New theatre quarterly*, 6, (21), pp.86–98.
- Prince, R. (1982a) 'Shamans and endorphins: hypotheses for a synthesis'. *Ethos*, 10, (4), pp.409–423. [online]. Available from: <http://www.jstor.org.librouter.hud.ac.uk/stable/3696950> (Accessed 27 June 2009).
- Prince, R. (1982b) 'The endorphins: a review for psychological anthropologists'. *Ethos*, 10, (4), pp.303–316. [online]. Available from: <http://www.jstor.org.librouter.hud.ac.uk/stable/3696943> (Accessed 27 June 2009).
- Quinn, S. F. (1993) 'How to write a noh play: Zeami's Sando'. *Monumenta Nipponica*, 48, (1), pp.53–88.
- Quinn, S. F. (2005) *Developing Zeami: The noh actor's attunement in practice*. Illustrated edition. University of Hawaii Press.
- Reynolds, D. (2006) *Rhythmic subjects: use of energy in the dances of Mary Wigman, Martha Graham and Merce Cunningham*. Illustrated edition. Alton: Dance Books.
- Ribot, T. A. (1897) *The psychology of the emotions*. Kessinger Publishing Co.
- Richards, T. (1995) *At work with Grotowski on physical actions*. Routledge.
- Richards, T. (2008) *Heart of practice: within the workcenter of Jerzy Grotowski and Thomas Richards*. London: Routledge.
- Rilke, M. R. (1995) *The selected poetry and prose of Rainer Maria Rilke*. Translation by Michell, S. New York: Modern Library.
- Roach, J. (1993) *The player's passion: studies in the science of acting*. New edition. The University of Michigan Press.
- Robinson, H. (1986) 'Love for three operas: the collaboration of Vsevolod Meyerhold and Sergei Prokofiev'. *Russian review*, 45, (3), pp.287–304. [online]. Available from: <http://www.jstor.org/stable/130112> (Accessed 16 December 2011).
- Roesner, D. (2010) 'Musicality as a paradigm for the theatre: a kind of manifesto'. *Studies in musical theatre*, 4, (3), pp.293–306.
- Rogers, C. M. (1966) *The influence of Dalcroze Eurhythmics in the contemporary theatre*. Louisiana State University.
- Rössler (1995) Intra-Observer Chaos: Hidden Root of Quantum Mechanics?, In: M. El Naschie, O.E. Rössler, & I. Prigogine, eds. *Quantum mechanics, diffusion and chaotic fractals*.

- First edition. Oxford: Pergamon.
- Rostas, S. (1991) 'The concheros of Mexico: a search for ethnic identity'. *Dance research: the journal of the society for dance research*. Vol. 9 (No. 2) p.3–17.
- Rostas, S. (2009) *Carrying the word: the concheros dance in Mexico City*. Boulder, Colorado: University Press of Colorado.
- Rouget (1985) *Music and trance: a theory of the relations between music and possession*. Chicago: Chicago University Press.
- Roy, M., Mailhot, J.-P., Gosselin, N., Paquette, S. & Peretz, I. (2009) 'Modulation of the startle reflex by pleasant and unpleasant music'. *International journal of psychophysiology*, 71, (1), pp.37–42.
- Ruckmich, C. A. (1913) 'The rôle of kinaesthesia in the perception of rhythm'. *The American journal of psychology*, 24, (3), pp.305–359. [online]. Available from: <http://www.jstor.org/stable/1413038> (Accessed 4 January 2012).
- Rudlin, J. (1986) *Jacques Copeau*. Cambridge: CUP Archive.
- Ruffini, F. (2009) The empty room: studying Grotowski's towards a poor theatre, In: Allain, P. (ed.) *Grotowski's empty room*. London: Seagull Books. pp. 93–115.
- Sachs, C. (1952) 'Rhythm and tempo: an introduction'. *The musical quarterly*, xxxviii, (3), pp.384–398.
- Sacks, O. (2007) *Musicophilia: tales of music and the brain*. London: Picador.
- Sauvanet, P. (2000) *Le rythme et la raison: rythmologiques*. Paris: Kimé.
- Saygin, A. P. (2006) *Embodied perception: neuropsychological and neuroimaging studies of language, vision, and attention*. University of California, San Diego.
- Schechner, R. (1988) *Performance theory*. Routledge.
- Schechner, R. (2001) 'Exoduction', In: Schechner, R. & Wolford, L. (eds.) *The Grotowski sourcebook*. Oxon: Routledge. pp. 460–494.
- Schechner, R. & Hoffman, T. (2001) Interview with Grotowski, In: Schechner, R. & Wolford, L. (eds.) *The Grotowski sourcebook*. Oxon: Routledge. pp. 385–403.
- Schechner, R. & Wolford, L. (eds.) (2001) *The Grotowski sourcebook*. Oxon: Routledge.
- Schmiedtová, B. (2004) *At the same time-: the expression of simultaneity in learner varieties*. Walter de Gruyter.
- Schultz, D. P. & Schultz, S. E. (2011) *A History of modern psychology*. Cengage Learning.
- Schwanda, N. A. (1969) 'A study of rhythmic ability and movement performance'. *Research quarterly*, 40, (3), pp.567–574. [online]. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/5260686> (Accessed 25 August 2011).
- Scollon, R. (1982) The rhythmic integration of ordinary talk, In: Tannen, D. (ed.) *Analyzing discourse: text and talk*. Washington: Georgetown University Press. pp. 335–349.
- Seashore, C. E. (1938) *Psychology of music*. New York: McGraw-Hill.
- Sethares, W. A. (2007) *Rhythm and transforms*. Madison: Springer.
- Shawn, T. (1954) *Every little movement*. Pittsfield: Mass.
- Shepherd, S. (2006) *Theatre, body and pleasure*. Oxon: Taylor & Francis.
- Shirkogoroff, S. (2004) The shaman, In: Znamenski, A (ed.) *Shamanism: critical concepts in sociology*. Routledge. pp. 83–119.
- Slowiak, J. & Cuesta, J. (2007) *Jerzy Grotowski*. Oxon: Taylor & Francis.
- Soto-Morettini, D. (2010) *The philosophical actor: a practical meditation for practicing theatre artists*. Bristol: Intellect Books.

- Spencer, P. (n.d.) 'tests' In, *The oxford companion to music, oxford music online* [online]. Available from: <<http://www.oxfordmusiconline.com/subscriber/article/opr/t114/e6738>>. (Accessed 19 December 2011).
- Spengler, O. (1932) *The decline of the west*. London: Allen & Unwin.
- Staniewski, W. (1993) *Gardzienice, Poland*, Włodzimierz Staniewski in conversation with Hulton, D. & Hulton, P. (eds.) Exeter : Arts Documentation Unit.
- Staniewski, W. & Hodge, A. (2004) *Hidden Territories: the Theatre of Gardzienice*. London: Routledge.
- Stanislavski, K. (1967) *On the art of the stage*. New impression. London: Faber and Faber.
- Stanislavski, K. (1979) *Building a character*. E. Hapgood, ed. New edition. Methuen Drama.
- Stanislavski, K. (1980). *An actor prepares*. E. Hapgood, ed. London, Eyre Methuen Drama.
- Stanislavski, K. (2008) *An actor's work: a student's diary*. J. Benedetti, ed. First edition. Oxon: Routledge.
- Stanislavski, K. (2010) *An actor's work on a role*. J. Benedetti, ed. Oxon: Routledge.
- Stanislavski, K. & Romyantsev, P. (1998) *Stanislavski on opera*. London: Routledge.
- Stern, D. N. (1985) *The interpersonal world of the infant: a view from psychoanalysis and developmental psychology*. Karnac Books.
- Stetson, R. H. (1905) 'A motor theory of rhythm and discrete succession: I'. *Psychological review*, 12, (4), pp.250–270.
- Stravinsky, I. (1936) *Chronicle of my Life*. London: Gollancz.
- Strogatz, S. H. (2004) *Sync: the emerging science of spontaneous order*. London: Penguin Books.
- Suzuki, T. (1986) *The way of acting: the theatre writings of Tadashi Suzuki*. New York: Theatre Communications Group.
- Tang, Y. Y. & Posner, M. I. (2009) 'Attention training and attention state training'. *Trends in cognitive sciences*, 13, (5), pp.222–227.
- Taylor, G. (1999) 'François Delsarte: a codification of nineteenth century acting'. *Theatre research international*, 24 (1), pp 7182
- Tedlock, B. (2005) *The woman in the shaman's body: reclaiming the feminine in religion and medicine*. Bantam Books.
- Teger, A. I. (2007) 'The rhythms of interaction'. *Social psychology quarterly*, 70, (3), pp.219–220.
- Thaut, M. (2007) *Rhythm, music, and the brain: scientific foundations and clinical applications*. Oxon: Routledge.
- Thomas, J. M. (1999) *Script analysis for actors, directors, and designers*. Focal Press.
- Tian, M. (1999) 'Meyerhold meets Mei Lanfang: staging the grotesque and the beautiful'. *Comparative drama*, 33, (2), pp.234.
- Tian, M. (2007) 'Gordon Craig, Mei Lanfang and the Chinese theatre'. *Theatre research international*, 32, (02), pp.161–177.
- Tian, M. (2008) *The poetics of difference and displacement*. Hong Kong: Hong Kong University Press.
- Todd, N. P. M. (1999) 'Motion in music: a neurobiological perspective'. *Music perception: an interdisciplinary journal*, 17, (1), pp.115–126. [online]. Available from: <http://www.jstor.org/stable/40285814> (Accessed 17 January 2012).
- Todd, N. P. M., O'Boyle, D. J. & Lee, C. S. (1999) 'A sensory-motor theory of rhythm, time

- perception and beat induction'. *Journal of new music research*, 28, (1), pp.5.
- Toepfer, K. (1997) *Empire of ecstasy: nudity and movement in german body culture, 1910-1935*. Berkeley: University of California Press.
- Toporkov, V. O. (1998) *Stanislavski in rehearsal*. London: Routledge.
- Toporkov, V. O. (2001) *Stanislavski in rehearsal: the final years*. New edition. London: Methuen Drama.
- Turner, J. (2004) *Eugenio Barba*. Oxon: Routledge.
- Turner, V. (1969) *The ritual process: structure and anti-structure*. London: Routledge
- Turner, V. (1986) 'Body, brain and culture'. *Performing arts journal*, 10, (2), pp.26–34.
- Überall, M. A. (2012) *TaKeTiNa | EEG Research Results* [online]. Available from: http://www.taketina.com/research/eeg/eeg_detail/ (Accessed 27 March 2012).
- Vakhtangov, E. (1947) Preparing for the role, In: Cole, T. (ed.) *Acting; a handbook of the stanislavski method*. New York: Crown.
- Verdicchio, M. & Burch, R. (eds.) (2002) *Between philosophy and poetry: writing, rhythm, history*. London: Continuum International Publishing Group.
- Verger, P. (1969) Trance and convention in Nago-Yoruba Spirit mediumship, In: Beattie, J. & Middleton, J. (eds.) *Spirit mediumship and society in Africa*. London: Routledge. pp. 50–68.
- Volbach, W. R. (1967) 'Time and space on the stage'. *Educational theatre journal*, 19, (2), pp.134–141. [online]. Available from: <http://www.jstor.org/stable/3205137> (Accessed 4 January 2012).
- Volkonski, S. (1912) *Vyrazitel'nyj celovek: sceniceskoe vospitanie žesta (po Del'sartu) (Expressive man: shaping stage gesture (following del'sarte))*, St.Peterburg: Apollon.
- Volkonskii, S. (1920) *Człowiek wyrazisty: sceniczne wychowanie gestu: (według Delsarte'a)*. Warszawa: Nakład Księgarni I. Rzepeckiego.
- Vrobel, S. (2004) *Fractal time*. PDF edition. Kassel: The Institute for Fractal Research.
- Vrobel, S. (2007) *The kairos syndrome*. (draft paper). CASYS '07: International Conference on Computing Anticipatory Systems. 6-11 August 2007, Liège, Belgium.
- Vrobel, S. (2011) *Fractal time: why a watched kettle never boils*. London: World Scientific Pub Co Inc.
- Vrobel, S., Rössler, O. E. & Marks-Tarlow, T. (eds.) (2008) *Simultaneity: temporal structures and observer perspectives*. Hackensack NJ: World Scientific.
- Wagner, R. (1964) *Wagner on music and drama: a compendium of Richard Wagner's prose works*. New York: Dutton.
- Wang, X.-J. (2010) 'Neurophysiological and computational principles of cortical rhythms in cognition'. *Physiological reviews*, 90, (3), pp.1195–1268. [online]. Available from: <http://physrev.physiology.org/content/90/3/1195.abstract> (Accessed 28 December 2011).
- Watson, I. (2002) *Negotiating cultures: Eugenio Barba and the intercultural debate*. Manchester: Manchester University Press.
- Weiss, T. et al. (2005) 'Psychobiology of altered states of consciousness'. *Psychological bulletin*, 131, (1), pp.98–127.
- White, R. A. (2006) 'Stanislavsky and Ramacharaka: the influence of yoga and turn-of-the-century occultism on the system'. *Theatre Survey*, 47, (01), pp.73–92. [online]. Available from: <http://journals.cambridge.org/action/quickSearch> (Accessed 18 September 2009).
- Whitrow, G. J. (1961) *The natural philosophy of time*. London: Thomas Nelson.

- Whyman, R. (2008) *The Stanislavsky system of acting: legacy and influence in modern performance*. Illustrated edition. Cambridge: Cambridge University Press.
- Wierzbicka, A. (1986) 'Human emotions: universal or culture specific?' *American Anthropologist*, 88, (3), pp.584–594.
- Williams, D. (1991) *Peter Brook and the 'Mahabharata': critical perspectives*. London: Routledge.
- Wilson, K. M. (1927) 'What is rhythm?' *Music & letters*, 8, (1), pp.2–12. [online]. Available from: <http://www.jstor.org/stable/726186> (Accessed 4 January 2012).
- Windsor, L. & Desain, P. (eds.) (2000) *Rhythm perception and production*. Studies on New Music research. Vol. 3. Swets & Zeitlinger Publishers.
- Winick, S. (1974) *Rhythm, an annotated bibliography*. Metuchen: Scarecrow Press.
- Winkelman, M. (2002) 'Shamanism and cognitive evolution (with comments)'. *Cambridge Archaeological Journal*, 12, (1), pp.71–101.
- Wolford, L. (1996) *Grotowski's objective drama research*. Jackson, Mississippi: University Press of Mississippi.
- Woodbury, L. J. (1962) 'The director's use of rhythm'. *Educational Theatre Journal*, 14, (1), pp.23–28. [online]. Available from: <http://www.jstor.org/stable/3204711> (Accessed 19 September 2009).
- Wunder, A. (2006) *The wonder of improvisation: a showing of ... Not showing off*. Ascot, Victoria, Australia: Wunder.
- Wundt, W. M. (1897) *Outlines of psychology*. London: Williams & Norgate.
- Wundt, W. M. (1904) *Principles of physiological psychology*. London: Sonnenschein.
- You, H. (1994) 'Defining rhythm: aspects of an anthropology of rhythm'. *Culture, medicine and psychiatry*, 18, (3), pp.361–384. [online]. Available from: <http://dx.doi.org/10.1007/BF01379231> (Accessed 3 September 2009).
- Zarrilli, P. B. (2002) On the edge of breath, looking: cultivating the actor's bodymind through Asian martial/meditation arts, In: Zarrilli, P. (ed.) *Acting (re)considered: a theoretical and practical guide*. 2nd edition Routledge.
- Zarrilli, P. B. (2004) 'Toward a phenomenological model of the actor's embodied modes of experience'. *Theatre journal*, 56, (4), pp.653–666.
- Zarrilli, P. B. (2009) *The psychophysical actor at work*. London: Routledge.
- Zarrilli, P. B. (2011) Altered consciousness in performance: west and east, In: Cardeña, E. & Winkelman, M. (eds.) *Altering consciousness: multidisciplinary perspectives*. California: ABC-CLIO. pp. 301–326.
- Zeami, M. (1984) *On the art of the nō drama: the major treatises of Zeami*. Translated by Rimer, J. & Masakazu, Y. Chichester: Princeton University Press.
- Zeami, M. (2008) *Zeami: performance notes*. Translated by Tom Hare. New York: Columbia University Press.
- Zinder, D. (2002) *Body voice imagination: a training for the actor*. London: Routledge.
- Zubrzycki, A., Bral, G. & Shevtsova, M. (2010) 'Song of the goat theatre: finding flow and connection'. *New theatre quarterly*, 26, (3), pp.248–260.