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Extended flute techniques in three culturally different solo flute pieces

by

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Abstract

Extended playing techniques on the flute have long since captured the interest of flute players and composers alike. Whilst the physical development of instruments from different cultures took place independently of each other, it has been found that to some extent there have been lasting and mutual influences between different flute playing cultures, specifically (for the purposes of this dissertation) with regard to Western, African and Asian flutes and flute playing.

Extended techniques on the flute may have appeared to be a Western phenomenon, but existence of similar techniques has been found in the flute-playing tradition of the African *nyamulera* and Japanese *shakuhachi* and *noh-kan*. This study sought to ascertain the significance of the use of extended playing techniques in selected pieces for solo flute from South Africa, Congo and Japan: *Incantesimo* by Hendrik Hofmeyr (South Africa), *Four Flute Poems* by Katsuba Mwangolo (Congo) and *Mei* by Kazuo Fukushima (Japan).

Apart from aural and score-based analysis, information was also sought through interviews with flute players, composers and musicologists. The literature survey indicates that there is room for more intensive research on the use of extended flute-playing techniques. It was found that each of the compositions has employed extended techniques in such a way that they contribute to the composition in terms of affecting the mood and timbre and, in the case of the Japanese composition, they reflect the nuances of the Japanese *shakuhachi* and *noh-kan*. Extended flute techniques formed an integral part of these compositions and were not incorporated merely for the sake of decoration. Each composition reflected the socio-cultural environment in which it was composed.

The views and opinions of persons interviewed have contributed towards creating a better understanding of the individual instruments and playing traditions. Different views have emerged regarding extended flute techniques, and in South Africa in particular, it has been found that there is still a certain degree of resistance to these techniques, but they have not been dismissed completely by flute players and composers.

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Chapter One

Purpose, literature review and research methodology

1.1 Introduction

As a flute player¹ one is always fascinated by the possibilities and limitations of the sound world of all flutes in general. Jacques Hotteterre, French Baroque flute maker, is quoted as having said that 'the flute is one of the most pleasant and one of the most fashionable instruments'.² According to Charles Culver, the flute makes for an interesting study because of its age, combined with its tender tone quality and the simplicity of its mechanical structure.³

¹ A terminological issue that needs to be considered is whether to use 'flautist', 'flutist' or 'flute player'. David Lasocki uses the term 'flautists' in his introduction to Hotteterre's *Principles of the flute, recorder and oboe* (Jacques Hotteterre, *Principles of the flute, recorder and oboe*, translated and edited by David Lasocki. London: Barrie and Rockliff, [1707], 1968, p. 8). Samuel Baron (1964) refers to 'flutist' in the introduction to Boehm's book *The flute and flute playing* (Theobald Boehm, *The flute and flute playing in acoustical, technical, and artistic aspect*, translated by Dayton C. Miller and introduction by Samuel Baron. New York: Dover Publications, [1871], 1964, p. v). In the translation of Mozart's letters, Robert Spaethling (2000) also uses the word 'flutist' (Robert Spaethling, *Mozart's letters, Mozart's life – selected letters*. London: Faber and Faber, 2000 p. 96). In his translation of Boehm's writing, Dayton C. Miller refers to Boehm as a 'flutist' who was already a prolific player by 1812 (Boehm, p. 6). 'Players of the flute' are described by Japanese author Shigeo Kishibe (Shigeo Kishibe, *The traditional music of Japan*. Tokyo: Ongaku No tomo Sha, 1984, p. 41). Nancy Toff claims the word 'flautist' has negative connotations, in her book *The flute book*. She describes it to be a derivative of the Latin verb *flaut*, which means to jeer or mock, which 'apparently derives its meaning from the practice of playing a flute to ridicule' (Nancy Toff, *The flute book - a complete guide for students and performers*. New York: Oxford University Press, 1996, p. XIV). In a segment for the BBC (British Broadcasting Corporation), James Galway is referred to as a 'flautist', (BBC News: *Galway: Man with the golden flute*. <<http://news.bbc.co.uk/2/hi/entertainment/1390422.stm>> Retrieved 3 February 2010), even though he insists upon being called a 'flute player'. ('I am a flute player, not a flutist. I don't have a flaut, and I've never flauted. <<http://www.statemaster.com/encyclopedia/James-Galway>> and <<http://www.squidoo.com/james-galway>> Retrieved 3 February 2010). Many international flute players, such as James Galway, Nancy Toff, Robert Dick, Peter-Lukas Graf and South African flute player Liesl Stoltz, refer to themselves and other flute players as 'flutists' or 'flute players'. Eida Tate prefers flutist as well: 'I'm not Italian and it is less affected' [Eida Tate (etate@nmu.edu), Private e-mail correspondence, received on 30 October 2007]. Marietjie Pauw also prefers flutist as she says she plays the flute and not the flauto [Marietjie Pauw (emcemp@iafrica.com), Private e-mail correspondence, received on 16 November 2007]. For uniformity and etymological purposes, the phrase 'flute player' will be used throughout this study when referring to a player of the flute, unless a different term is used in a direct quotation.

² Hotteterre, p. 31.

³ Charles A. Culver, *Musical acoustics*. New York: McGraw-Hill Book, 1956, p. 198.

The Western transverse flute⁴ has undergone significant changes from the time when Hotteterre added the first key to the Baroque flute during the early part of the 1700s. The transformed Western transverse flute of the 20th and 21st centuries is capable of producing an array of interesting sounds. New playing techniques were emerging in the 20th century and made their appearance in compositions such as *Density 21.5* (1936) by Varèse, amongst others.

From a non-Western perspective the flute⁵ has an interesting history and also underwent significant changes through the decades. It would appear that the years between the two world wars, and after, reflect a significant transformation in music, instrumental modification and traditional cultures around the globe. After the First World War, experimental versions of, for example, the Japanese *shakuhachi*⁶ appeared with seven or nine finger holes (usually it has five finger holes; four on the front and one at the back), with key mechanisms based on the Western model flute of Theobald Boehm.⁷ In 1923 Okura Kishichiro introduced a metal *shakuhachi* with the Boehm key mechanism instead of the usual open holes. This instrument had the '*shakuhachi* timbre, a wide compass, chromatic scale and dynamic freedom'.⁸ However, the launch of this instrument was overshadowed by a devastating earthquake and even later attempts at reviving the new flute were unsuccessful.⁹ Shigeo mentions that prior to the Second World War, Japan had been quite strict in its acceptance of new styles of art. After the Second World War social and cultural customs became more flexible and Japan more democratic, which in turn allowed for more exploration and the development of new musical styles.¹⁰

⁴ 'Side-blown fl., distinguished from recorder, which is end-blown and therefore held pointing downwards'. Michael Kennedy (editor), 'Transverse flute'. *The Oxford dictionary of music* (second edition, revised). *Oxford music online*. <<http://www.oxfordmusiconline.com/subscriber/article/opr/t237/e10392>> Retrieved 27 March 2010.

⁵ Because the study deals with three culturally and structurally different flutes, the term 'flute' is used to describe flutes of all kinds and is not restricted to describing only the Western transverse flute. When the term 'flute' is used in a discussion under a particular heading, it will refer to that particular flute. When special reference is made to a particular flute, this will be stipulated so as to avoid confusion. At all times a clear distinction will be made between references to flutes in general and to specific flute types.

⁶ End-blown notched flute made from bamboo.

⁷ Simura Satoshi, 'Chamber music for *syakuhati*'. *The Garland encyclopaedia of world music: East Asia-China, Japan and Korea*. Vol. 7, 2002. New York: Routledge, p. 702.

⁸ Alison Tokita and David W. Hughes (editors), *The Ashgate research companion to Japanese music*. Bodmin: Ashgate Publishing, 2008, p. 154.

⁹ Tokita *et al.*, p. 154.

¹⁰ Kishibe, p. 11.

Since 1945 Japanese composers have wanted to keep abreast of musical developments in the West. Composers such as Toru Takemitsu and Kazuo Fukushima joined many leading music groups that were established to support the activities of the members of such groups.¹¹ They experimented with crossovers between the two cultures, West and East, and introduced to the West many of its indigenous instruments, amongst them the *shakuhachi*.

The haunting yet, to Western ears, 'exotic' sounds of the *shakuhachi* awed many Westerners who were exposed to it for the first time. Mihoko Watanabe indicates that since Takemitsu's premiere performance of *November steps* for *shakuhachi*, *biwa* and orchestra (1967), the *shakuhachi*'s popularity spread swiftly throughout the Western music world. The *shakuhachi* sound has an ethereal quality and has succeeded in drawing people to it. Western performer and composer Anne Norman transferred her flute playing skills from the Western flute to the *shakuhachi*, when she started taking lessons on the *shakuhachi* in 1986.¹² Other Western musicians such as Christopher Yohmei Blasdel, Lee Riley and Leo Hansen, to name but a few, have also mastered *shakuhachi* playing.

Colonial influences on African music and its instruments have been evident for decades. The 20th century has also seen the emergence of a new kind of African musical tradition, which can be linked to the urbanisation of African society.¹³ In African music traditions communities have for long produced their own instruments, amongst them flutes of various kinds. Percival Kirby¹⁴ illustrates the historical journey of transformation of certain reed flute ensembles in South Africa during a period dating from 1497 to 1932. Two separate indigenous groups, namely the Hottentots and Bechuana, continued to use the reeds they used in the past to make their flutes, but as metal became more readily available during the 20th century, they preferred to

¹¹ Mihoko Watanabe, 'The essence of Mei'. *The flutist quarterly*. Vol. 33, No. 3, 2008, p. 17.

¹² Anne Norman, *Shakuhachi musician*. <<http://annenorman.com/>> Retrieved 27 March 2010.

¹³ Fred Warren and Lee Warren, *The music of Africa - an introduction*. London: Prentice-Hall, 1970, p. 67.

¹⁴ Percival Kirby (1887-1970) arrived in South Africa from Scotland as a musicologist and was instrumental in pioneering South African musicology. He was also a composer, conductor and broadcaster. Christine Lucia (editor), *The world of South African music: a reader*. Newcastle-upon-Tyne: Cambridge Scholars Press, 2005, p. 32. The Kirby collection housed in the South African College of music, University of Cape Town, contains more than 600 instruments used in Southern Africa. No author, *The Kirby Collection. South African College of Music*. <<http://web.uct.ac.za/depts/sacm/kirby.html>> Retrieved 18 March 2010.

use metal tubes of suitable bore rather than the reed bore of the previous decades and centuries.¹⁵

Changes in musical traditions have also brought about more awareness and exposure to trends in music cultures across the globe. Gerhard Kubik¹⁶ supports the view that musical traditions in Africa underwent extreme changes in the 20th century, especially during the second half of the century. He contends that this was the result of technological expansion, especially the technology of the mass media. He mentions the hand-cranked gramophones of the 1920s to 1960s, transistor radios, cassette tapes and television. Through such means the music from the rest of the world reached Africa and vice versa.¹⁷

From the 20th century onwards African-born composers such as Bongani Ndodana-Breen¹⁸ (South African), J. H. Kwabena Nketia (Ghanaian), Akin Euba (Nigerian) and Joshua Uzoigwe (Nigerian), to mention a few, have shown an increased interest in writing 'art music',¹⁹ emulating the natural sounds of indigenous African flutes and the techniques characteristic of the African music tradition. The work of Akin Euba is especially significant, because he introduced the concept of African pianism, which is an exploration and incorporation of African percussive and rhythmic elements, such as the playing techniques used on 'xylophones, thumb pianos, plucked lutes, drum chimes and polyrhythmic patterns',²⁰ into Western art music for piano.

South African art music composers have for a long time been experimenting with the inclusion of African elements in their compositions. The earliest of such composers

¹⁵ Percival R. Kirby, 'The reed flute ensembles of South Africa'. *The journal of the anthropological institute of Great Britain and Ireland*. Vol. 63, 1933, p. 381.

¹⁶ Gerhard Kubik (1934-) is a professor of cultural anthropology at the University of Vienna. Eyre Banning. <<http://www.afropop.org/multi/interview/ID/112/Gerhard+Kubik-2007>> Retrieved 18 March 2010.

¹⁷ Gerhard Kubik, *Theory of African music*. Wilhelmshaven: F. Noetzel, 1994, pp. 30-31.

¹⁸ Phathu Ratshilumela describes Ndodana's musical style 'as influenced by the lyricism and rhythms of Africa, blended with an eclectic post-modern approach to contemporary music'. Phathu Ratshilumela, *Gifted Bongani Ndodana*. <<http://www.mio.co.za/article/gifted-bongani-ndodana-2009-08-19>> Retrieved 18 March 2010.

¹⁹ The term 'art music' as used here refers to 'classical music', also known as serious music; when Hendrik Hofmeyr was asked how he would define art music, he said: 'classical music. It's a problematic term. It is used as a general term referring to 'serious music'. I call it 'art music'. But 'art music' is not necessarily serious'. Hendrik Hofmeyr, Personal interview. South African College of Music, Cape Town, 21 November 2003.

²⁰ Bode Omojola, 'African pianism as an intercultural compositional framework: a study of the piano works of Akin Euba'. *Research in African literatures*. Vol. 32, No. 2, 2001, p. 157.

may be considered to be Percival Kirby, who also initiated and developed the study of ethnomusicology in South Africa. It is interesting to note that the flute was Kirby's principal instrument of study.²¹ Because of external Western influences, the question of whether South African composers would ever be open to genuine African influences was raised. Michael Levy's article entitled 'African and Western music: Shall the twain ever meet?'²² explored this notion. South African compositions employing original African elements such as Hans Roosenschoon's *Timbila*, Roelof Temmingh's *Drie Sonnette*, Jeanne Zaidel-Rudolph's *Tempus Fugit*, Stefans Grove's *Dansrapsodie* and Johan Cloete's *Celebration* may be presented as evidence in part support of a response to Levy's investigation into the fusion of Western and African musical elements.

Deepak Ram, South African-born Indian *bansuri* flute player, has effectively fused the sounds of the West with those of North Indian classical music. He has collaborated with musicians from different music genres and has displayed his genius on one of many of his CDs, namely, *Steps*.²³

Musical traditions form an integral part of any society, urban or rural, and are constantly changing and evolving. The fusion of styles, techniques and elements characteristic of different cultures creates interesting sound effects and at the same time introduces music concepts and styles of cultures that may have been unfamiliar and untapped before. Western, African and Japanese musical properties are often intertwined. In terms of cultural ceremonies there appear to be a few similarities between Japanese and many African indigenous ceremonies. In many African initiation ceremonies face and body painting, masks and costumes are used to indicate rites of passage. Face painting and elaborate costumes are especially popular in Japanese *Noh* theatre. African masks may represent ancestral members

²¹ Heinrich Van der Mescht. 'Annotating Percival Kirby's autobiography concerning his studies at the Royal College of Music in London, 1910-1913'. *South African journal of cultural history*. Vol. 21, No. 2, 2007, p. 164.

²² Michael S. Levy, 'African and Western music: shall the twain ever meet?' *South African journal of musicology*. Vol. 6, No. 1, 1986, p. 111.

²³ Richard Marcus, *Music review: Deepak Ram, Vic Juris, Tony Marino, & Jamey Haddad – Steps*. <<http://blogcritics.org/music/article/music-review-deepak-ram-vic-juris/>> Retrieved 20 March 2010.

of ancient court hierarchies, amongst other things, but music always forms an integral part of such ceremonies.²⁴

Shigeo mentions the abundance of Western influences on Japanese culture and everyday life in Japan. For many years Japan and its music have not only developed in their own terms, but also absorbed a myriad of Western influences. Western musical concepts are conveyed via the television, classical music concerts and Western-trained teachers.²⁵

As an African composer, Nketia was eager to adopt contemporary compositional techniques of Western music in order to gain a better understanding of these musical cultural traditions. The influences and effects of colonialism in Africa were not enough to persuade Nketia to compose solely for Western audiences. His experiences and knowledge of his own culture and those Western techniques he acquired could not be applied indiscriminately in his compositions. He points out that a trend in Western music does not necessarily imply the same trend in all musical cultures:

It struck me, nevertheless, that some of the techniques of contemporary music could be used for enhancing or reinforcing structures in new composition in the African idiom. For example, dissonant clusters could be exploited for simulating African percussion music by means of melodic instruments. Such instruments could then be developed to function as supporting rhythm section for another set of melodic instruments that would carry the multi-voiced melodies or thematic structures based on African usages.²⁶

The boundaries of music performance and the instruments used in these performances are constantly expanding. Musical traditions are alive and are constantly able to evolve and adapt to changing times. Changing times and changing flutes have brought about changing sounds and changing techniques.

1.2 Rationale of the study

Extended techniques²⁷ on the flute expose an interesting aspect of flute playing and investigating the purpose and use of such techniques in compositions make for a fascinating study. The timbral quality of the flute can be instantly altered though the

²⁴ Kubik, p. 40.

²⁵ Kishibe, preface.

²⁶ J.H. Kwabena Nketia, *Ethnomusicology and African music. Modes of inquiry and interpretation. Collected papers. Volume one.* Accra: Afram Publications (Ghana), 2005, pp. 344-345.

²⁷ Extended techniques include multiphonics, key clicks, singing while playing and flutter tonguing. These techniques are discussed in more detail in Chapter Three.

use of techniques such as, for example, flutter tonguing, singing and playing and pitch-bending effects such as quartertones.

While extended flute techniques such as 'glissandi, jet whistle, multiphonics, quartertones, singing while playing, key clicks, flutter tonguing and pitch bends'²⁸ and 'explosions, hisses, snorts, murmurs, rustling, gurgling, screams, shrieks, buzzing, sounds produced by friction/striking metal, wood, stone, animal and human cries-roars, howls, laughter, sobs and sighs'²⁹ are associated with the 20th and 21st century Western contemporary school of performance and composition, non-Western civilizations such as indigenous Asian and African cultures have also incorporated some of these techniques into their performance practices over centuries.

Robert Dick corroborates the fact that certain extended flute techniques that are considered as novel by 20th and 21st century instrumentalists and composers have been around for many centuries and have been practised by individuals who have not necessarily had any institutional training in music or any means of documenting the use of extended flute techniques, other than passing them on through oral practice. Dick refers to a shepherd, Rajasthan, and how he mistakenly thought the recording he was listening to was performed by two players, when in fact it had been done by only one person. The player was playing two end-blown flutes at the same time using circular breathing,³⁰ a technique many Western flute players have not mastered, or do not see the significance of incorporating into their playing. Many flute players try to rely on good air support from the diaphragm to get through really long phrases.

Different indigenous flute playing cultures consider what is labelled in Western music practice as 'extended techniques' an important aspect of flute playing. Such techniques are ultimately an extension of the sound possibilities of the instrument, whether used on the Western transverse flute, Congolese *nyamulera* or Japanese

²⁸ Robin Mason Horne, *Extended techniques resource page*. <<http://www.larrykrantz.com/et/et.htm>> Retrieved 14 August 2010.

²⁹ Nancy Toff, *The development of the modern flute*. Chicago: University of Illinois Press, 1986, p. 274.

³⁰ Robert Dick, *Circular breathing for the flute player*. St. Louis: Multiple Breath Music, 1987, p. 5.

shakuhachi and *noh-kan*. These four different flutes will briefly be explored in section 1.3 below entitled 'Selection of individual compositions'.

Socio-political influences and effects, musical background and experience, musical climate and cultural environment play a role in the perception of extended flute techniques. To verify this proposition, a study of the role and purpose of extended flute techniques in compositions by exponents of Western, African and Asian cultures is necessary. Therefore, the primary research question is:

What is the significance of the use of extended flute techniques in three solo flute works from three culturally different settings?

Derived from the research question are the following sub-questions:

- What is the purpose of extended flute techniques within the compositional context of three culturally different compositions?
- What comparisons may be drawn with regards to the execution of these techniques on the different flutes?
- What is the socio-cultural environment and musical background of the composer and/or performer and how is this reflected in the composition?
- Are extended techniques regarded as an integral part of flute playing on the four different flutes?

1.3 Selection of individual compositions

The following three compositions have been selected for analysis: *Incantesimo* by Hendrik Hofmeyr – a South African flute solo using Western music notation; *Four flute pieces* by Katsuba Mwangolo – a collection of four short indigenous African flute pieces, transcribed in Western notation by Meki Nzewi and John Blacking, as well as *Mei* by Kazuo Fukushima - a Japanese flute solo using Western music notation. Each composition has been selected because of its exclusive cultural and social reputation within a unique setting. Extended techniques are used in a limited but very distinct and unique way. All four flutes, as mentioned before, namely the Western transverse flute, Congolese *nyamulera* and Japanese *shakuhachi* and *noh-kan*, share commonalities that will be described in more detail in the next few chapters. These flutes are directly linked to the selected compositions.

The reason for selecting solo flute pieces, as opposed to pieces where the flute is part of an ensemble, is based on the focus of the study, which is the exploration of extended techniques and their function within specific unaccompanied compositions. Selecting compositions for flute and one or more instruments would have created interferences in texture and distract from the focus of the flute as a multi-timbral and multi-textural instrument. The reasons for selecting each individual composition are discussed under separate headings below.

1.3.1 *Incantesimo* by Hendrik Hofmeyr

Hendrik Hofmeyr is a South African composer who mainly composes in a Western idiom. Heunis discusses Hofmeyr's *Incantesimo* as a composition employing avant-garde flute techniques.³¹ Whilst the term 'avant-garde' may not be an appropriate term describing the techniques used in *Incantesimo*, it is nevertheless indicative of its unconventional techniques. As the study stems from a South African perspective, the first step was locating a solo flute piece employing extended techniques and composed by a South African composer. Judging from the prior discussion on solo flute compositions in South Africa, the list is not extensive and locating a piece employing extended techniques narrowed down the options even further.

In 2005 *Incantesimo* was selected as the piece to represent South Africa at the World Music Days International Society for Contemporary Music in Croatia. Helen Vosloo, to whom *Incantesimo* is dedicated, mentions that it is regularly performed nationally and abroad. Marietjie Pauw states that she performed *Incantesimo* thirteen times in one weekend at the Darling Festival in 2007.³²

Incantesimo emerges as a piece that contains extended techniques and is a favourite performance piece for quite a number of flute players in South Africa, such as Liesl Stoltz, Merryl Monard, Marietjie Pauw and Cobus du Toit. *Incantesimo* has been selected by these players as a competition piece and as a work to be performed as part of their regular performance concert programmes.

³¹ Daniela Heunis, 'Flute solos by South African composers: an overview (1967-2000)'. *Musicus*. Vol. 30, No. 2, 2002, p. 54.

³² Marietjie Pauw (emcemp@iafrica.com), Private e-mail correspondence, received on 16 November 2007.

1.3.2 *Four Flute Tunes* by Katsuba Mwangolo

Four Flute Tunes, composed by Katsuba Mwangolo,³³ a Congolese herdsman, serves as an example of an indigenous sub-Saharan oral-based composition. The flute tunes, which were recorded in 1952³⁴ by Hugh Tracey³⁵ make use of the technique of humming whilst playing. The pieces are played on the *nyamulera* flute, which is a four-stop end-blown notched flute,³⁶ indigenous to Uganda, also known as the *endere*. The humming technique is regarded as an extended flute technique by many leading Western musicians such as Robert Dick.³⁷ Mwangolo also uses a tonguing technique whereby he tongues from the back of his throat which creates a particular effect.

This flute has been inherited by many peoples of Central Africa, including the Democratic Republic of the Congo (DRC).³⁸ For centuries it had the capability to produce sounds now labelled as extended techniques in the West, but such documented cases illustrating this link are hard to find. It is only through listening to sound recordings and investigating playing techniques of African notched flutes that this fact can be confirmed. The *nyamulera* is one of many African flutes that captured

³³ In his introduction to the discussion of the eight flute tunes from Butembo, John Blacking refers to 'Katsuba Mwangolo'. John Blacking, 'Eight flute tunes from Butembo, East Belgian Congo: An analysis in two parts, musical and physical'. *African Music*. Vol. 1, No. 2, 1955, p. 24. Meki Nzewi, in his article on the pieces refers, to 'Katsube Nwongolo'. Meki Nzewi, *A contemporary study of musical arts-Informed by African indigenous knowledge systems. Vol. 4: Illuminations, reflections and explorations*. Pretoria: CIIMDA, 2007, p. 1. Hugh Tracey uses the name Mwangolo, so this is the one that will be used, as he was the person who came into direct contact with the performer.

³⁴ Hugh Tracey, *On the edge of the Ituri forest: 1952, Congo: Budu, Mbuti, Mangbele, Nande, Bira*. Utrecht, The Netherlands : Stichting Sharp Wood Productions, SWP 009/ILAM.

03. Grahamstown: International Library of African Music, 1998.

³⁵ Hugh Tracey (1903-1977) arrived in Zimbabwe in 1920 with the intention of farming tobacco with his brother. Almost immediately his interest in local African music began. The years spanning the 1920s to the 1970s were spent making many recordings of music of different tribal groups through parts of Africa. He established the International Library of African music (ILAM) in 1954. Elijah Madiba. *Hugh Tracey's portrait*. <<http://www.ru.ac.za/ilam/history/hughtraceysportrait>> Retrieved 18 March 2010.

³⁶ 'The notched flute is a simple tube cut off straight at the end. The instrument is held vertically. One edge is carefully filed', p. 15. The edge is located 'at the end of an incised notch on the edge of a length of hollow reed or bark. The lip almost wholly covers the head of the flute, the air stream being directed towards the notch', p. 16. Raymond Meylan (translated from German by Alfred Clayton), *The flute*. London: B.T. Batsford, 1988, pp. 15-16.

³⁷ Robert Dick, *The other flute: a performance manual of contemporary techniques* (second edition). Santa Barbara: Multiple Breath Music, 1989, p. 143.

³⁸ Between 1908 and 1960 The Democratic Republic of the Congo (DRC) was known as Belgian Congo. It was also known as Zaire between 1971 and 1997. In 1997 it adopted the name Democratic Republic of Congo to distinguish it from the Republic of Congo.

the interest of ethnomusicologists such as John Blacking,³⁹ Percival Kirby, Gerhard Kubik and Hugh Tracey, to name but a few.

1.3.3 *Mei* by Kazuo Fukushima

Since the oldest flutes were excavated from China, and the history of the *shakuhachi* and many other Japanese instruments stem from Chinese instruments, it was important to find a piece written by a composer from one of the oldest musical cultures in the world. The discovery of six playable flutes at Jiahu in Henan province, China gave researchers a rare glimpse into the musical sound world of ancient times. These flutes have between 5 to 8 holes and are vertically held.⁴⁰

In electronic interviews with flute players, such as Peter-Lukas Graf and Liesl Stoltz, and information provided in published articles, it is indicated that *Mei*, which was written for the Western transverse flute, is meant to imitate the sounds of the *shakuhachi*, in some instances also referring to the sounds of the *noh-kan* and the aesthetic values of Japanese music. Articles such as Jan Vinci's 'Using extended techniques in Fukushima's *Mei*',⁴¹ and a published research document entitled *Historical and descriptive highlights of five works for flute* by Janet Patricia Lynch⁴² also support this view. The realisation that *Mei* is not just a contemporary Western transverse flute piece employing extended techniques, but that it is reflective of Japanese flute sounds, broadens the scope of the study.

The *shakuhachi* is a fine example of a Japanese flute that has bridged the gap between East and West, and has become a popular instrument in certain genres of Western contemporary music such as jazz. Its breathy mysterious sounds and capability to produce glissando-type pitch bending makes it a suitable jazz instrument. The *shakuhachi* is able to produce smooth glissandi, which is not always achievable on all notes on the Western transverse flute. Again, techniques that

³⁹ John Blacking (1928-1990) arrived in South Africa from England in 1953 and started working as a musicologist at ILAM. He worked with Hugh Tracey during his field recordings, was a lecturer in social anthropology and African government at the University of Witwatersrand and conducted many ethnomusicological fieldwork research trips in, for example, Uganda, Venda and Zambia. John Blacking, *How musical is man?* Seattle: University of Washington Press, [1973], 2000, n.p.

⁴⁰ Juzhong Zhang, Garman Harbottle, Changsui Wang and Zhaochen Kon, 'Oldest playable musical instruments found at Jiahu early Neolithic site in China'. *Nature*. Vol. 401, No. 6751, 1999, p. 366.

⁴¹ Jan Vinci, *Flute talk*. Vol. 18, No. 3, November 1998, pp. 14-16.

⁴² Janet Lynch, *Historical and descriptive highlights of five works for flute*. Unpublished master's dissertation. El Paso: University of Texas, 2003, p. 53.

Western players consider as extended techniques, the *shakuhachi* players consider part of standard *shakuhachi* playing technique. Such techniques include overblowing in order to extend the range of the *shakuhachi*, glissandi, microtones, tremoli, throat flutter (an effect similar to flutter tonguing but not produced with the tongue) and hole slaps (similar to key clicks on the Western transverse flute).⁴³

Upon first listening to a composition such as *Mei*, the qualities of timbre, texture and atmosphere are highlighted almost immediately. Techniques affecting the timbral quality of the piece are mainly those affecting pitch, which is reminiscent of *shakuhachi* playing. Sounds similar to the ones produced in *Mei* are transferrable to the *shakuhachi*. 'Eerie, mysterious and ghostly' may be words used to describe the sound of the *shakuhachi* at times and those words aptly describe certain sections in *Mei*.

1.4 Literature review on extended flute techniques

Americans and Europeans have long since been experimenting with, and exposed to, extended flute techniques in the art music genre, through literature and publications such as Bartolozzi's *New sounds for woodwind* (1967) and *The avant-garde flute: a handbook for composers and flutists* by Thomas Howell (1974), and more recently, *The other flute: a performance manual of contemporary techniques* (1989) by Robert Dick and *Present day flutes: treatise on contemporary techniques of transverse flutes; for the use of composers and performers* (1995) by Pierre-Yves Artaud.

Browsing through the international scholarly music literature, and in particular publications specifically dealing with the flute, one is bombarded by the wealth of information on flute modification, tips for improving certain aspects of flute playing, general and extended playing techniques, new sounds, performance guides, flute events, flute stores and many more, i.e. all matters relating to flute playing from the past to the present (2010). *Flute Talk* magazine, for example, has featured articles such as 'In search of musical sounds: An interview with Pierre-Yves Artaud' by Kathleen Chastain (September 1998), 'New sounds from Robert Dick' by Kathleen

⁴³ Jeffrey Lependorf, 'Contemporary notation for the *shakuhachi*: A primer for composers'. *Perspectives of new music*. Vol. 27, No. 2, 1989, pp. 232-247.

Goll-Wilson (February 1999), 'Warming up with whistle tones' by Sandy Schwoebel (February 2001), and 'Edgar Varèse's *Density 21.5*' by John Barcellona (July/August 2002), to name but a few. Robert Dick and Pierre-Yves Artaud are leading figures in the promotion of new sounds and extended flute playing techniques. Dick and Artaud are regularly referred to as specialists in extended techniques. Performance guides, such as the article discussing performance techniques for *Density 21.5* listed above, provide useful points of departure for any player who might not yet be accustomed to performing such techniques. The article on whistle tones advises on how to incorporate the technique into daily warm-up routines. Regular practice of such techniques may have long-term positive effects on embouchure responsiveness and flexibility and good control of the airstream.⁴⁴

Another leading international journal identified as dealing specifically with the flute and providing current and up-to-date information on, for example, flute players, flute techniques, new sounds and flute events is the *Flutist Quarterly*.

International flute players' websites such as for example, Larry Krantz <<http://www.larrykrantz.com/wel2.htm>> and Mats Möller <<http://www.sfz.se/mm/>> independently list a special section that deals specifically with extended flute techniques. Flute player John McMurtery, for example, has made video sound recordings of many of these techniques. These can be accessed on his site at <<http://www.johnmcmurtery.com/>>. Some sites even have special links to pieces containing extended techniques, and <<http://www.flute.com/index.htm>> contains links to flute players' websites.

Internet searches of various databases reveal completed international theses dealing with extended flute techniques, contemporary flute designs and compositions including extended techniques, and include titles such as 'Creative strategies for teaching extended flute techniques: A pedagogical approach with a performance and analysis of an original work, 'Dream weaving for flute and tape' by Michael Jerome Davis (Columbia University, 1993), 'A history of extended flute techniques and an

⁴⁴ Helen Bledsoe, *Extended techniques-benefits, applications and tips: whistle tones*. <<http://bledsoe22.blogspot.com/2010/01/extended-techniques-benefits.html>> Retrieved 21 March 2010.

examination of their potential as a teaching tool' by Rebecca Meador (University of Cincinnati, College-Conservatory of Music, 2001), 'A discussion of contemporary flute design and the issues surrounding these developments' by Deborah Carolyn Fether (London, 2005) and 'The extended flautist: techniques, technologies and performer perceptions in music for flute and electronics' by Jean Penny (University of Melbourne, May 2009) to name but a few.

A list of all international contemporary composers who have experimented with extended flute techniques in their compositions would be a lengthy one and beyond the scope of this study. A few familiar and popular pieces that specifically incorporate extended techniques include the following: Berio's *Sequenza I* (1958, flutter tonguing and multiphonics), Takemitsu's *Air for flute* (1996, quarter tones, harmonics and flutter tonguing) and Ian Clarke's *Zoom tube* (1999, jet whistle, quartertones, multiphonics and note bending). *Easing into extended techniques* is a set of books which includes instructions and short sample pieces using sing/play, harmonics, multiphonics, pitch bends, microtones and finger slides by Linda Holland.⁴⁵

Gathering information on South African published articles and internet sources dealing with extended techniques proves slightly more challenging. South African flute websites such as <<http://www.sawoodwind.co.za/>> provide useful purchasing information on woodwinds (including alto flutes), brass instruments and guitars. Another website <<http://www.flutesyou.co.za/>> also lists information about purchasing flutes. Flute concert dates are listed, with the option of sending e-mails with updated dates, but the last update was done in 2007. <<http://www.fluteworx.co.za/index.php>> was found to be the most interactive website. It advertises head-joint production in South Africa, and features articles on methodology, history and technical issues. It also features an advice column that is staffed by South African flute players such as John Hinch and Mikki Steyn. In order to make use of this feature and access the forum, one is required to register as a user. There is a section entitled 'Flute news', but it only contains images. The links to external sites also contain no extended flute technique links. <<http://flutetalk.co.za/>> contains limited information about only three

⁴⁵ No author, *Con brio music publishing*: Linda Holland. <http://www.conbriomusic.com/Catalog/Conb_extend_singPlay_p6.htm> Retrieved 25 August 2010.

flute artists in South Africa, namely Lisa Thom, Corvin Matei and Indian *Bansuri* flute player Deepak Ram. None of these sites feature extended techniques or articles and information on flute performances, concerts, workshops or events in South Africa. Some flute players, such as Cobus du Toit <<http://www.cobusdutoit.com/biography>> and Mikki Steyn <http://www.mikkisflutestudio.co.za/>, who are not featured on these sites, have their own personal sites. Music and musicians <http://www.music-and-musicians.com/flute_events.html> was found to be the most informative website with an updated flute events diary, information on various subjects relating to music issues and even information about Trinity Guildhall music examinations. This is not an exclusive flute site and does not contain any links to extended flute techniques.

At the time of study the NEXUS⁴⁶ database lists 25 dissertations as having been completed, specifically dealing with the flute as a subject.⁴⁷ Works focusing on articulation (phrasing and slurring) and flute tone were submitted by J Hinch, University of Pretoria, 1997 and 2001, AJ Bosch, University of Pretoria, 1998 and HA Potgieter, University of Natal (Durban), 1984. Works dealing with the history of the Boehm flute and the construction and evolution of the flute include a dissertation by NT Von Mayer, University of Cape Town, 1985 and C Matei, University of Cape Town, 2001. Works dealing with flute teaching methods and guidelines were submitted by R Bosman, University of Pretoria, 2000, K Maritz, Stellenbosch University, 2003 and EP Cloete, University of Port Elizabeth, 1989. Submissions by composers of compositions that include the flute include works by D Du Plooy, University of Pretoria, 1974, MC Geyer, University of Pretoria, 1973, CL James, University of Pretoria, 1982, CE Lamprecht, University of Pretoria, 1973, PEOF Loeb Van Zuilenberg, UNISA, 1963, and H Temmingh, University of Pretoria, 1970. Theses with reference to flute works include submissions by D Heunis, Rhodes University, 1994 and WH Steyn, Northwest University, 2008. One submission by IWR Smith, University of Natal, 1987 is a discussion of selected flute compositions of composers resident in South Africa. None of these deal specifically with the subject of extended flute techniques. Only one dissertation has been completed in which a

⁴⁶ NEXUS is a database that contains the titles and abstracts of all dissertations and theses that have been completed in South Africa since 1919. A password is required to access the database of current and completed works.

⁴⁷ *Current and completed research projects database*. <<http://www.nrf.ac.za/nexus>> Retrieved 9 February 2010.

piece employing extended techniques is discussed. Marietjie Pauw completed her MMus dissertation in 1996 (Stellenbosch University), entitled '*Density 21.5* by Edgar Varèse: A case study of the value of semiology in music analysis'. The database lists three current dissertations still in progress, the first one by Liesl van der Merwe, specifically dealing with contemporary flute music. The second one by Inge Pietersen deals with extended flute techniques, with specific reference to the South African flute playing tradition. The third one, by Lisa Thom, is a comparison between traditional and modern flutes.

Other submissions include titles discussing the influences on the flute player's hearing (MG Schutte, University of Pretoria, 2002), finger placing for piano accompaniment for a particular flute piece (EM Van Rooyen-Schaap, University of Pretoria, 1996), the development of the French style of flute playing (LS Klopper, University of Witwatersrand, 2003), distinctive flute sound with reference to William Kincaid (E. Jacobs, University of Stellenbosch, 1998), a survey of the most recent woodwind changes (AE Honey, Rhodes University, 1970) and professionalism in flute playing in the Netherlands (DG Geldenhuys, Stellenbosch University, 1974).

From a list compiled and published by SAMRO (South African Music Rights Organisation) in 1992,⁴⁸ five South African composers are identified as having written flute concerti and other works for orchestra. There are 36 composers recognised as composers of flute soli or ensembles. An internet search reveals no recent updated catalogue or a variant of the one produced by Michael Levy in 1992.

An index list compiled by *Ars Nova*,⁴⁹ covering the years 1971–1998, contains only one published article on the flute in 1996. The article is entitled 'Flute Vibrato' by M. Steyn.⁵⁰ *Ars Nova/Muziki* (1999-2006) contains no articles relating to the flute.

The *Journal of the Musical Arts in Africa* contains one article by John Hinch entitled 'Stefans Grove: Winds of change'. This article examines Grove's 13 pieces for specifically selected wind instruments, of which the flute is one, as a group of pieces

⁴⁸ Michael Levy, *Category guide to SAMRO catalogue of serious music*. SAMRO, 1992.

⁴⁹ The name *Ars Nova* has been changed to *Muziki*.

⁵⁰ George King, 'Editorial: Index to *Ars nova* 1971-1998'. *Ars nova*. Vols 30 and 31, 1999, 2000, p. 54.

commissioned in 1981 to be included in the UNISA (University of South Africa) woodwind examination syllabus.

Musicus (1987-2009) emerges as the journal with the most published articles relating more to woodwind instruments in general than to the transverse flute specifically. There is but one article by Daniela Heunis dealing with solo flute compositions. There are a total of five articles dealing with the recorder and one specifically dealing with the recorder and the avant-garde and the present-day recorder. Three articles deal with the flute as part of composition pieces. Four articles deal with general new publications received in which the flute is also featured. One article is about a wind examiner's impressions. None of these articles feature extended techniques.

In an overview of flute solos by South African composers (1967-2000), Daniela Heunis mentions composers and works such as John Simon (*Sonatine* Op. 14, 1967; *Scena* Op. 26, 1974); Stanley Glasser (*Jabula*, 1971); Norbert Nowotny (*Ten pieces for flute* Op. 15, 1971); Chris James (*Molecular Synthesis*, 1977); Peter Klatzow (*Death and Fire*, 1977); Paul Loeb van Zuilenberg (*Scala*, 1978).

According to Heunis, the most productive year was 1985, with four new solo compositions being written, one each by Klatzow (*Moon ritual*), Cloete, Jordan and Blake, whilst the piece by James was revised. In addition to these composers, three more composers are identified as having written flute solos since the 1980s, namely Waldo Malan (1996), Hendrik Hofmeyr (*Incantesimo* 1996, *Marimba* 2000) and Bongani Ndodana-Breen (*Visions Part I and II*). It is interesting to note that these three composers have been influenced by African music elements in their latest pieces for solo flute.⁵¹

Adding to the list of compositions specifically for the flute and piano, not necessarily employing African musical elements and/or extended techniques, one could include Michael Blake's *Honey gathering song for flute and piano* and Stefans Grove's *Sonata for flute and piano*. Nketia's *Republic Suite for flute and piano* includes African elements and Justinian Tamasuza's *Okwanjula Kw'Endere* for solo flute

⁵¹ Heunis, p. 54.

includes African elements and employs a number of extended playing techniques. Jeanne Zaidel-Rudolph's *The fugue that flew away* for flute and piano also contains many extended flute techniques.

1.5 Research methodology

The research design has two components: firstly, it contains an analysis of the use of extended techniques in three selected works; secondly, it makes use of qualitative research, personal interviews are conducted (in person and via the internet) to gain (a) performers' and composers' views on the three works, and (b) to gather South African performers' and composers' views on extended flute techniques. Ethics clearance was sought according to the guidelines of the University of Cape Town; interviewees were provided with background on the objectives of the study and they gave permission to use their answers in this study, understanding that their confidentiality would be protected should they have requested that.

For this study, apart from including a literature review, it was important to find out how South African flute players and composers view the role of extended flute techniques, as this study is situated in South Africa. In order to draw comparisons between the role that extended flute techniques play in different cultures, it was also important to choose a flute work by a South African composer as well as to find flute works from two other cultures that explored extended flute techniques. For this purpose I contacted and interviewed South African flute players, flute teachers, professors and academics affiliated to tertiary institutions and composers on general aspects of flute playing and the use of extended techniques. This study would have been incomplete without the voice of selected international flute players and therefore their contributions have also been included in the study.

Information was sought from individuals specifically tied to a particular music or academic or research institution. Interviews were conducted either personally or via the internet. These interviewees are established academics and musicians, and this purpose-based sample provided important information on the perceptions of contemporary performers, composers, ethnomusicologists and teachers of developments in the flute playing tradition in South Africa. The following list of interviewees is ordered alphabetically:

- Carver, Christian: Director of African Musical Instruments (AMI), Grahamstown,⁵²
- Devroop, Chatradari: Recorder player and Deputy Director (professional) of Music at UNISA,⁵³
- Hinch, John: Flute player and professor at the University of Pretoria. He established the Flute Federation of South Africa in 1989;⁵⁴
- Hofmeyr, Hendrik: Composer and associate professor at the University of Cape Town. He has composed numerous works for the flute including *Cavatina* for flute and piano (1980), *Concerto for flute and orchestra* (1999), *Incantesimo* for solo flute (1996), *Marimba* for solo flute (2000) and *Il poeta e l'usignolo* for flute and guitar (2004);
- Madiba, Elijah: Sound engineer, International Library of African Music (ILAM),⁵⁵
- Monard, Merryl (né Neille): Flute player and performer who includes the baroque flute in her performances. She received a BMus (performing arts) degree from the University of Pretoria in 2003. Stefans Grove dedicated his piece *December fragments* to her. She received her master's degree from the Conservatory of Amsterdam;⁵⁶
- Nzewi, Meki: African musical arts theorist, composer, music-dramatist, performer and creative writer. Professor of African Music, University of Pretoria and Director, Centre for Indigenous Instrumental Music and Dance Practices of Africa (CIIMDA), Research, Education and Performance for SADC based in Pretoria,⁵⁷
- Pauw, Marietjie: Flute player, performer and teacher at Stellenbosch University,
- Stoltz, Liesl: flute performer of international stature and experience. She has performed many contemporary pieces (with and without extended techniques) as part of her overseas studies. She formally studied for one year at the *Ecole Normale de Musique de Paris* with Pierre-Yves Artaud in order to acquire more insight into the contemporary repertoire and extended techniques. Her experience in these areas provides invaluable insight into the study of contemporary flute playing in general. Stoltz has also won numerous awards and bursaries such as a scholarship offered to her by Japanese flute player

⁵² Mark Holdaway, *Kalimba magic news: interview with Christian Carver*. <<http://www.kalimbamagic.com/newsletters/newsletter3.09/interview.shtml>> Retrieved 19 August 2010.

⁵³ Chatradari Devroop (devroc@unisa.ac.za), Private e-mail correspondence, received on 9 February 2010.

⁵⁴ No author, *Fluteworx. Panelists: John de Courteille Hinch*. <<http://www.fluteworx.co.za/panelists.php>> Retrieved 17 April 2010.

⁵⁵ Elijah Madiba (e.madiba@ru.ac.za), Private e-mail correspondence, received on 18 March 2010.

⁵⁶ No author, *Merryl Monard: biography*. <<http://www.mstring.co.za/merrylmonard/biography.php>> Retrieved 17 April 2010.

⁵⁷ Are Van Schalkwyk, *University of Pretoria. Department of music-music staff: Meki Nzewi*. <<http://web.up.ac.za/default.asp?ipkCategoryID=7839&sub=1&parentid=1508&subid=-7830&ipklookid=9>> Retrieved 18 April 2010.

and teacher, Shigenori Kudo⁵⁸ to study at the *Ecole Normale de Musique: Alfred Cortot* in Paris and she was the overall winner at the ATKV-FORTE competition in 1999. She received second prize in the SAMRO Music Prize competition in 2000. She has travelled extensively and has absorbed musical influences from across the world. More information can be found at <[http://ctbmusic.co.za/ liesl.aspx](http://ctbmusic.co.za/liesl.aspx)>;

- Tamassy, Eva: Flute player and senior lecturer at the Department of Music, Stellenbosch University;⁵⁹
- Tracey, Andrew: Ethnomusicologist and former director of ILAM,⁶⁰
- Thram, Diane: Director, ILAM,⁶¹
- Von Mayer-Pellei, Nerina: Former head of the flute section at the University of Cape Town. She has played alternate principal flute in the Cape Town Symphony Orchestra and Cape Town Philharmonic Orchestra for the past 16 years. She is a member of ensemble called the Hungarian trio;⁶²
- Vosloo, Helen: Helen Vosloo was the first flute player to perform *Incantesimo*, a flute solo which was dedicated to her by composer Hendrik Hofmeyr. She is also the founder of the Keiskamma Music Academy and is principal flute player with the Johannesburg Philharmonic Orchestra. She is also part of a trio ensemble called Trio Hemanay.⁶³

The following international flute players and individuals affiliated to certain music institutions were contacted via e-mail (in alphabetical order):

- Artaud, Pierre-Yves: Professor of flute at the Paris Conservatoire National Supérieur de Musique and *Ecole Normale de Musique*. He is also director of several collections and has compiled several teaching methods and treatises,⁶⁴
- Debost, Michel: Professor of flute and performance at Oberlin Conservatory of music, Oberlin (Ohio), USA. He played principal flute in the *Orchestre de Paris* (1960-1990) and is consulting editor and columnist for the journal *Flute Talk*. He has also recorded numerous solo and chamber works for flute;⁶⁵

⁵⁸ No author, *Shigenori Kudo: profile*. <<http://www.kudoshigenori.com/english/profile.html>> Retrieved 17 April 2010.

⁵⁹ No author, *Stellenbosch University. Department of music: Eva Tamassy*. <<http://academic.sun.ac.za/music/cv/evatamassy.html>> Retrieved 17 April 2010.

⁶⁰ Mark Holdaway, *Kalimba magic new: interview with Andrew Tracey*. <http://www.kalimbamagic.com/newsletters/newsletter3.08/interview_andrew_tracey.shtml> Retrieved 19 August 2010.

⁶¹ Diane Thram (d.thram@ru.ac.za), Private e-mail correspondence, received on 5 March 2010.

⁶² No author, *Hungarian trio. Our profile. Profile of the Hungarian trio musicians: Nerina Von Mayer*. <<http://www.hungariantrio.com/about.html>> Retrieved 17 April 2010.

⁶³ No author, *Trio Hemanay*. <<http://www.triohemanay.com/index.html>> Retrieved 17 April 2010.

⁶⁴ No author, *Pierre-Yves Artaud: biography*. <<http://www.pyartaud.com/EnglishVersion.htm>> Retrieved 19 August 2010.

⁶⁵ No author, *Oberlin College and Conservatory. Conservatory of music. Faculty: Michel Debost-Professor of flute and performance*. <<http://new.oberlin.edu/conservatory/faculty/faculty-detail.dot?id=20693>> Retrieved 17 April 2010.

- Graf, Peter-Lukas: Professor of flute at the Basle Music Academy, Switzerland. He has received numerous awards for his musical contributions,⁶⁶
- Hopegood, Emma: Academic administrator (interim), Trinity Guildhall,⁶⁷
- Tate, Elda: Professor of music at the Northern Michigan University, Marquette, Michigan, USA,⁶⁸
- Trepte, Sara: Administrative assistant, syllabus, Associated Board of the Royal School of Music (ABRSM),⁶⁹
- Watanabe, Mihoko: Assistant professor of flute at Ball State University, Muncie, Indiana, USA.⁷⁰

The analyses are preceded by a clear description of the extended techniques used on each flute; a definition and discussion of the construction properties of each flute is a good starting point to introduce each individual flute. A brief history of the four flutes, playing techniques and acoustic principles of the flutes in question will aim to highlight the commonalities and differences between the flutes.

One of the aims of this study is to emphasise the differences, similarities and limitations of the four different flutes. Special reference is made to the use and execution of extended playing techniques and their purpose in relation to the composition. It is not the aim of this study to give an in-depth technical structural analysis of each flute or musical theoretical analysis of each composition, but rather to highlight the specific function of the extended techniques used and how the specific flute and composition feature in a cultural setting. The analysis will focus mainly on the incorporation and execution of extended techniques with reference to the linear structure of the melody, but with little or no reference to the harmonic structure, especially considering that all three pieces are for solo flute, where consideration of the harmonic structure would be of little or no value. The point of departure for each investigation will be from a Western perspective, as the

⁶⁶ No author, *Peter-Lukas Graf-flutist and conductor: biography*.

<http://www.peterlukasgraf.ch/html/biog_f.html> Retrieved 17 April 2010.

⁶⁷ Emma Hopegood (Emma.Hopegood@trinitycollege.co.uk), Private e-mail correspondence, received on 10 February 2010.

⁶⁸ No author, *Northern Michigan University. Music Faculty and Staff: Elda Tate*.

<<http://webb.nmu.edu/Departments/Music/SiteSections/FacultyAndStaff/ProfileTate.shtml>> Retrieved 17 April 2010.

⁶⁹ Sara Trepte (<SYLLABUS@abrsms.ac.uk>), Private e-mail correspondence, received on 16 February 2010.

⁷⁰ No author, *Ball State University. School of Music. Faculty and staff: Mihoko Watanabe*.

<<http://www.bsu.edu/music/profile/0,2017,12137-1180-168172,00.html>> Retrieved 17 April 2010.

researcher stems from this background. Where possible, data is interpreted against the cultural background of the specific flute and compositions found in literature and interviews.

A pertinent issue that is addressed is how the listener might perceive the piece, and how that perception compares to the intentions of the composer, and the interpretation of the performer. It is necessary to study the score and audio recording co-jointly.

The research is conducted through an aural and textural analysis of each selected piece, with the main focus being on extended techniques. The sections and phrases containing the extended techniques are isolated and the technical performance aspects are examined. Then the techniques are explored within the context of the piece and certain questions are asked as highlighted in the rationale of the study. Additional sub-questions are necessary for each individual piece in order to address issues peculiar to the specific composition or flute. The purpose of analysing the use of extended techniques in the selected pieces is to ascertain their relevance in relation to the overall character of the piece.

Each composition is analysed and discussed under the following headings, in each instance making reference to the way that extended techniques contribute to these elements: texture and tone colour, tempo rhythm and meter, articulation and pitch, and tonality. The reason for choosing these elements as part of the analytical headings is because a preliminary study of the scores revealed these aspects as most suitable to describe the affects/effects of the extended techniques used.

Incantesimo: The piece may be considered programmatic because of the story it reflects. A sub-question to be asked is:

- How does the use of extended techniques enhance the character and mood of the piece in a way that ordinary playing techniques are not able to?

The composer of the piece, Hendrik Hofmeyr was interviewed, as well as Helen Vosloo, Merryl Monard and Liesl Stoltz. Helen Vosloo was interviewed because *Incantesimo* was dedicated to her and she was the first flute player to play the piece. Merryl Monard played *Incantesimo* as part of a CD recording project by the University

of Pretoria and won the SAMRO competition (2009) for best rendering of a South African work, namely *Incantesimo*. Liesl Stoltz has included *Incantesimo* in her repertoire.

Four Flute Tunes: Transcriptions by John Blacking and Meki Nzewi are used for the analysis and were studied in conjunction with the audio recording. Sub-questions to be answered:

- Do these techniques serve a particular purpose?
- Can they be emulated on or equated to Western flute playing styles and techniques?
- Is it possible for the four flute tunes to be played on the Western transverse flute?

Electronic interviews were conducted with Meki Nzewi and Chatradari Devroop. The *Four Flute Tunes* were transcribed by Nzewi and accompanied by a structural analytical model. Devroop performed the *Four Flute Tunes* on the recorder in Heppenheim, Germany in September 2002. Andrew Tracey was also contacted because of his affiliation to ILAM.

Mei: Fukushima indicates that the piece reflects the sounds of the *noh-kan* and other sources indicate the reflection of the sounds of the *shakuhachi*. The standard playing techniques of these instruments are relayed to the Western transverse flute as extended techniques. Sub-questions to be asked are:

- How are the extended techniques used in *Mei* reflective of the *noh-kan*?
- Is it possible to interpret the sounds and techniques and effectively equate them to those of the *shakuhachi*?
- What might the possibilities be for performing the piece on the *shakuhachi*?

The techniques used in *Mei* may be said to reflect Japanese philosophy and aesthetics. Elda Tate, Mihoko Watanabe, Jan Vinci and Hansgeorg Schmeiser were contacted and, where possible, interviews were conducted. Elda Tate has written articles on Japanese music and has experimented with the *shakuhachi*. Mihoko Watanabe has personally interviewed the composer twice and has published an article based on these interviews. Jan Vinci has also published an article on the

performance techniques in *Mei*. The CD recording of Hansgeorg Schmeiser playing *Mei* was the one used for the analysis.

The aim of this study is to show through the discussion of the *shakuhachi*, its sound properties and playing techniques that the interpretation of the sounds of *Mei* may also be linked to the *shakuhachi*. The focus is an exploration of extended techniques, which in turn relates to variable sound textures. Since Fukushima also indicates that the structure of the piece is based on *Noh* performance structure, there is no need to explore *Noh* musical structures, because this study does not focus on a structural or theoretical analysis of the compositions, but rather on the playing techniques, sound effects and purpose of the techniques used, and how these may be reflective of the musical traditions of the environment the flute stems from. Because of the musical traditions of the *Noh* to which Fukushima feels a special kinship, they will be referred to from time to time, but will not form the main point of discussion. Whilst *Noh* theatre is very central to Japanese traditions, so too is the *shakuhachi*. None of the flutes are discussed or viewed as superior to the others; they serve different functions in different musical contexts and styles.

With specific reference to the *shakuhachi* and *noh-kan*, similarities and differences will be drawn between the playing techniques and sound properties of these two flutes, but the main flute of focus will be the *shakuhachi* for reasons explained above. Interpretation of music is personal. Aural interpretation is based on sound perceptions and sonic qualities and mood. Throughout the study reference will be made to show evidence of why the sounds of the *shakuhachi* may be used as a means and guide for interpreting the sounds of *Mei*. Therefore, with regards to *Mei*, the study will investigate the assumption and probability that *Mei* could be based on *shakuhachi* sounds.

This study would be incomplete without some reference to the influences of Western, African and Japanese cultures on each other. Where required, these inter-cultural influences will be highlighted, but not explored in depth. When drawing comparisons between the flutes, they will not be limited only to performance techniques, but will also take into account structural and performance capabilities.

To summarise: in order to achieve the objective of the study, which is to investigate the significance of the use of extended flute techniques in three culturally different pieces, the researcher interviewed acclaimed South African and international flute performers and composers. Apart from gaining their perspectives on flute techniques in general and in relation to the three selected flute pieces, three culturally different flute solos were also analysed.

1.6 Chapter outline

In order to fully comprehend all the contemporary extended flute techniques, it is necessary to construct a clear path starting with a history and definition of flutes in general, to be followed by a definition of each flute of focus in this study, where the mechanics and structure of the instruments will be discussed.

Chapter Two provides an overview and description of each individual flute and its history, and also deals with sound production and the acoustical properties of the flutes in question. There are many different types of flutes that originated in many different types of cultures all around the globe. Each of these flutes followed its own distinct developmental path. With reference to the Western transverse flute, *nyamulera*, *shakuhachi* and *noh-kan*, each is discussed in a separate section. The Western transverse flute in C is but one member of the flute family. The African *nyamulera* is but one member of the vast number of African flutes, and the *shakuhachi* and *noh-kan* are only two of many types of Japanese flutes. This study is conducted from a Western point of view and the deductions and comparisons are made from that perspective. Brief references are made to other members of the Western transverse flute family and other Japanese flutes, but these are not expanded upon.

Chapter Three is a detailed attempt to cover all aspects of extended techniques on the Western transverse flute. The Western world refers to special effects on the flute as extended techniques. Indigenous cultures view similar techniques as part of ordinary playing techniques. Therefore, it is important to define and clarify 'extended flute playing techniques' as well as their function and significance in music. The reason these techniques are not discussed for the *nyamulera*, *shakuhachi* and *noh-kan* is because these techniques are not considered in those cultures as extended

techniques, but rather as techniques inherent in the playing tradition of the instrument. References to the playing techniques of these flutes will be made where necessary.

Chapter Four is a discussion based on a cultural-contextual analysis of the three compositions. According to Zbikowski:

Musical analyses are in truth dialogues, and not just dialogues between the analyst and an imagined audience: musical analyses are also dialogues between the analyst and some body of theoretical knowledge. Analysis rarely, if ever, simply corroborates a theory: analysis pulls theory and pushes it, extending and changing theory just as it also extends and changes our understanding of musical phenomena.⁷¹

Chapter Four also highlights how some of the techniques discussed in Chapter Three are used in the three selected compositions.

Chapter Five summarises the study, presenting conclusions and recommendations.

⁷¹ Lawrence M. Zbikowski, *Conceptualizing music-cognitive structure, theory, and analysis*. New York: Oxford University Press, 2002, p. 19.

Chapter Two

Structural and sound properties of the Western transverse flute, African *nyamulera*, and Japanese *shakuhachi* and *noh-kan* flutes

2.1 Introduction: general classification and definition of flutes

Compositions for the flute (Western, African and Asian) are closely related to the history, development and function of the instrument. Familiarity with the developmental progress of the instrument assists flute players of the 21st century in their understanding of how the instrument's physical characteristics impact on the technical content and stylistic features of the repertoire.

In terms of the Western transverse flute, the *New Grove dictionary of music and musicians*¹ specifies that the noun '*flauto*' indicates the use of the recorder before the late 18th century. '*Flautino*' and '*flauto piccolo*' referred to a descant and sopranino recorder respectively. If a musician wanted to refer to the transverse flute, s/he had to add a prefix to the noun, such as 'cross, transverse, *traversiere*' or '*traverso*'. Specifically during the period from 1670-1730 the words 'flute, English flute, *flute-a-bec*' and 'common flute' were used to designate the part to be for the recorder. 'German flute, *flauto traversiere*, flute *traversiere* and *traversa*' would indicate the use of the transverse flute.²

The flute, Western and non-Western, falls in the category referred to as aerophones. Veenstra defines the flute as 'any instrument in which the sound is produced by air striking a sharp edge or lip, and so setting into vibration a body of air',³ which corresponds with Von Hornbostel and Sachs's definition of aerophones which states that 'only the air itself is the vibrator in the primary sense'.⁴ Norberg goes on to further distinguish between 'whirling aerophones, explosive aerophones, idiophonic

¹ Jeremy Montagu, 'Flute'. *New Grove dictionary of music and musicians*, edited by Stanley Sadie. Vol. 6, 1980. London: Macmillan, p. 665.

² Paul Carrol, *Baroque woodwind instruments: a guide to their history, repertoire and basic technique*. Brookfield: Ashgate, 1999, p. 46.

³ Adolf Veenstra, 'The classification of the flute'. *The Galpin Society Journal (reprint)*. Vol. 17, 1964, p. 55.

⁴ Erich M Von Hornbostel and Curt Sachs, (translated from the original German by Anthony Baines and Klaus P. Wachsmann), 'Classification of musical instruments'. *Galpin Society Journal*. Vol. 14, [1914], 1961, p. 24.

aerophones, megaphones, flutes, reed instruments, and horns and trumpets⁵ as instruments included in the areophone category. Therefore, the Western transverse flute, African *nyamulera* and Japanese *shakuhachi* and *noh-kan* are universally classified as aerophones, as they exhibit some or all of the properties as described above.

Coltman lists the 'piccolo, fife, recorder, organ pipe, ocarina, *shakuhachi* and all sorts of whistles and pan pipes as members of the flute family, because each in some way confines a volume of air that is set in motion by blowing across an orifice'.⁶ James Galway, British flute player and teacher, offers a concise description of the flute that links up with Coltman's definition: 'The flute is a hollow tube blown, without reed, in such a way that the air enclosed inside it vibrates'.⁷ Curt Sachs simply states that a 'sharp-edged mouth hole is the characteristic quality of any flute'.⁸ Another general description of a flute is:

Any instrument sounded by a stream of air crossing a hole in either a tube or a vessel, for example the ocarina. The hole may be at the end (end blown flute) or in the side, or the air may be led through a duct (duct flute) as on a recorder or a flageolet.⁹

There are various ways to produce a sound on a flute, but essentially, as may be deduced from the descriptions above, it is a hollow tube through which a column of air vibrates. The player directs an air stream across a hole and a portion of the air ejected from the player's lips hits the opposite edge of the hole to produce a sound.

In the Western world one can distinguish between two types of flutes based on the manner in which the sound is produced. The first type is flageolets, also known as fipple flutes, of which the recorder is one. These instruments produce a sound by directing the air stream into a mouthpiece or fipple; the air stream is split and a sound is produced. The second type is the transverse flute, which is part of the focus of this

⁵ Ake Norborg, *A handbook of musical and other sound-producing instruments from Namibia and Botswana*. Stockholm: Musikmuseets, 1987, p. 291.

⁶ John W Coltman, Acoustics of the flute. *Flute talk*. Vol. 19, No. 6, 2000, p. 14.

⁷ James Galway, *Flute*. London: Kahn & Averill, 1982, p. 3.

⁸ Curt Sachs, *The history of musical instruments*. New York: W. W Norton, 1940, p. 44.

⁹ Jeremy Montagu (edited by Alison Latham), *The Oxford companion to music*. New York: Oxford University Press, 2002, p. 467.

discussion, in which the air stream is directed across a hole at the one end of the tube.¹⁰

From a Western perspective it is fairly easy to imagine what a flute might be. From a non-Western perspective it is similarly easy to understand what a flute is, but when comparing the structural properties and characteristics of what the term 'flute' conveys in different cultures, it becomes clear that there are numerous differences. The *New Grove dictionary of music and musicians* supplies the following description of a flute:

The term 'flute' is a broad one, used to refer to a vast number of instruments, from the modern orchestral woodwind to folk and art instruments of many different cultures. Generically, a flute is any instrument having an air column confined in a hollow body and activated by a stream of air from the player's lips striking against the sharp edge of an opening producing what acousticians term an 'edge tone'. Organologists class the flute as an 'air reed'... The airstream of the flute may be shaped and directed by the player's lips alone as on the modern orchestral flute and many earlier forms of transverse and vertical flutes.¹¹

Curt Sachs, referred to earlier, and Erich Von Hornbostel classified all sound-producing instruments across the world.¹² These classifications were based on the physical characteristics of the instrument and the action that is required to produce a sound. Prior to their classification system musical instruments were generally divided into three main instrumental categories, namely stringed, wind and percussion instruments. Stringed instruments were classified and categorised because of their vibrating strings. Wind instruments branched into woodwind and brass, but this classification totally disregarded the history of the instrument. For example, flutes and cornets used to be made of wood, but by the 20th and 21st centuries they were no longer made of wood, but metal and brass. Instruments that did not fit these three categories, such as the aeolian harp which is blown, and the piano in which the strings are struck, were classified as miscellaneous.¹³ Physical attributes of sound production were an important starting point for Sachs and Von Hornbostel when they set out to produce their classification of instruments.

¹⁰ Edwin Putnik, *The art of flute playing*. Miami: Summy-Birchard, 1970, p. 1.

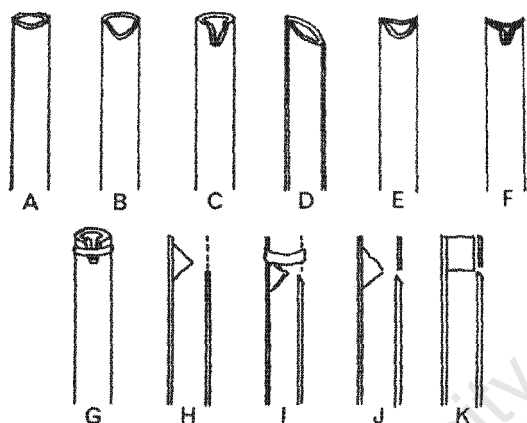
¹¹ Montagu, 1980, pp. 664-655.

¹² The first publication was in 1914 followed by a revised English translation in 1961.

¹³ Von Hornbostel and Sachs, pp. 5-24.

Veenstra divides flutes into two groups, namely ones by which the sound is produced by the air from human lungs and the other whereby the air is not produced from human lungs and is either moving or static. The latter group includes instruments such as flue-voiced organ pipes and the bull-roarer respectively. The first classified group, which is also the larger of the two, is further divided into end-blown flutes, also known as vertical flutes, and side-blown flutes.¹⁴ Transverse or cross-flutes are side-blown. End-blown flutes are further subdivided according to mouthpiece, number of pipes and stopped or open pipes.

Figure 2.1 Veenstra's classification of different mouthpieces for end-blown flutes



These mouthpieces have been arranged from the simplest form to a more complicated form in Fig. 2.1:

- A Plain and unnotched;
- B Single-notched U;
- C Single-notched V;
- D Oblique-angle cut;
- E Double-notched U;
- F Double-notched U and V;
- G V notch with flat binding forming a rudimentary languid (which languid was previously formed by the lips);
- H V notch with rudimentary plug in the form of some obstruction to divert the air stream upwards against the lip of the notch;
- I V notch with flat binding and rudimentary plug;
- J Rudimentary plug with a hole with a sharpened edge (the flat binding replaced by the material of the pipe itself);
- K The whistlehead.¹⁵

¹⁴ In Veenstra's opinion: 'the term 'end-blown' is more descriptive, as there are some end-blown flutes which are not held vertically, either because their length prevents their being so held, or because convention or individual taste demands that they be held obliquely or horizontally. Transverse (cross) flutes I call side-blown, as there is some confusion over the terms 'side-held' and 'transverse'. Veenstra, p. 56.

¹⁵ Veenstra, pp. 57-58.

Side-blown flutes are characterised by their mouthpiece, which is a hole in the instrument at the one end. The sound is produced by holding the flute to the lips or mouth at a 90°-degree angle and forming an aperture with the lips while emitting a stream of air from the mouth which hits the edge of the flute.¹⁶ A side-blown flute can be:

- (A). *Non-columnar*, i.e. any shape as long as the internal wind body is not confined to a column. This type of instrument is usually called an ocarina.
- (B). *Columnar*, with the embouchure somewhere near the centre.
- (C). *Columnar*, with the embouchure near one (the closed) end.¹⁷

The further classification of end-blown and side-blown flutes depends on the finger holes and thumb holes. The number and position of finger holes and thumb holes affect the sounding pitch. For classification purposes, details need to be very clear and accurate with regard to, for example, the number of holes for the left and right hand, the hand that is closest to the mouth, and for side-blown flutes whether the flute is held to the left or right side of the body. On some flutes there are holes that are never covered and these are known as vents. Some flutes also have tuning holes which may either be plugged or unplugged. Tuning holes are small holes drilled into the flute to aid with tuning. Such flutes should not be classified separately as they form an integral part of the overall flute structure. Flutes can be further classified according to their bore shape.¹⁸

When describing an instrument, especially where the focus is on the physical properties, as much detail as possible should be included. The information should be so clear in describing the instrument that the reader is able to make a sketch of it. Veenstra mentions the details that should be included in the description of any instrument:

Local name, decoration, material and method of construction – i.e. whether jointed, shape of bore (conical, parabolic or cylindrical), keys-and for which holes, and basic note pitch. If possible, the method of playing should also be given. Method of holding, blowing and any unusual features in the performance, such as whether the player hums while playing, etc.¹⁹

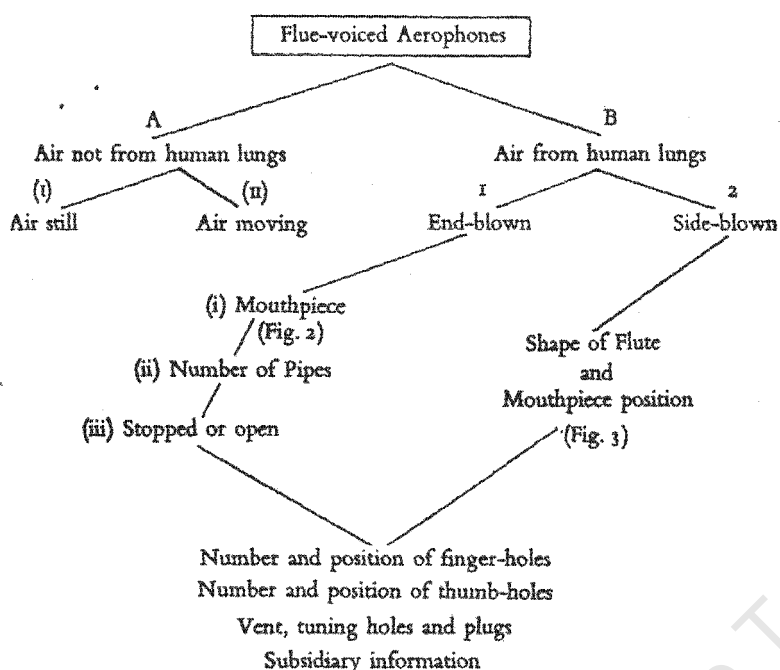
¹⁶ Veenstra, pp. 57-61.

¹⁷ Veenstra, p. 60.

¹⁸ Veenstra, pp. 60-61.

¹⁹ Veenstra, p. 61.

Figure 2.2 Veenstra's classification of aerophones



The above brief description of the classification of flutes illustrates how the four culturally different flutes discussed in this dissertation – namely the Western transverse flute, the African *nyamulera*, and the Japanese *shakuhachi* and *noh-kan* – are linked by reference to the way in which sound is produced and how the instrument is constructed. The Western transverse flute and Japanese *noh-kan* are transverse or cross-flutes that are side blown, whilst the African *nyamulera* and *shakuhachi* are end-blown flutes and are played vertically.

The remainder of this chapter discusses each flute individually in terms of its physical description and attributes, sound production and acoustical properties. Each subheading will introduce each particular flute, followed by an account of its origins and history. Whilst only an overview of each of these aspects will be provided, it is essential to do so in order to place each flute and its attributes within the context of the study.

2.2 The Western transverse flute defined

The Western transverse flute is described by Philip Bate in the following way:

In essence it consists of a tube of wood, metal, or man-made material, usually rather more than two feet long, and about three quarters of an inch in diameter, closed at one end by a cork or stopper. Near the stopper is a fairly large hole with a sharp edge – the mouth-hole, or in French the embouchure – and at intervals along the body of the tube there are a minimum of six more holes so placed that they can be opened and closed by the fingers, either directly or with the help of some mechanism.²⁰

The New Grove dictionary of music and musicians defines the Western transverse flute in the following way, with specific reference to its place in the orchestra:

The modern orchestral flute has a tube of wood or more often metal (silver or an alloy but sometimes gold or even platinum) about 66 cm in length and 2 cm in diameter. It is built in three sections: a head joint with the mouth-hole or embouchure in one side (raised in metal flutes to give the hole its proper depth) the body or middle joint with the principal keywork, and the foot joint with the keys for the right little finger. In the head joint the bore is terminated by a plug or stopper, usually threaded, which can be shifted to adjust intonation. The tenon of one joint slides into the socket of the other. The junction of the head joint with the body is also used as a tuning-slide, which can be pulled out to lower the instrument's pitch.²¹

Plate 2.1 Standard Western transverse flute made of metal²²



The above definitions present the fact that the Western transverse flute may be constructed of wood²³ or metal. The transverse flute is a cylindrical tube roughly 66 cm in length and has a bore of 1.905 cm. It consists of three distinct parts namely: the head joint which contains the mouth-hole (embouchure hole), the main body

²⁰ Phillip Bate, *The flute*, London: Ernest Benn Limited, 1975, p. 1.

²¹ Montagu, 1980, p. 665.

²² Offset G – a G key which is extended to the side of the other two left-hand finger keys (along with the G sharp key), thus requiring less bending of the wrist, rendering it easier to reach and cover effectively, and less uncomfortable and fatiguing to play. No author, *Brass & woodwind*, Yamaha Flute YFL-211 WC. <<http://www.brassnwoodwind.com.au/YamFluteYFL221.html>> Retrieved 4 February 2010.

²³ 'The wooden flute naturally gives a denser, more powerful sound than the metal and requires rather more forceful blowing and attack, lightness and delicacy of control being secured with skill and practice'. Anthony Baines, *Woodwind instruments and their history*, New York: Dover publications, 1991, p. 54.

which contains the main key work mechanisms and the foot joint which contains the keys for the right-hand little finger.²⁴ The head joint and foot joint attach to the body of the flute through a rotating sliding action. The flute is closed at the head-joint end²⁵ which has an adjustable cork plug at the closed end as well as a lip plate²⁶ mounted over the embouchure hole on which the lower lip of the player rests.²⁷ The cork position should not be adjusted, as it should already have been set by the manufacturer at 17.3 mm²⁸ from the centre of the embouchure hole. The position of the cork has no effect on the first two octaves.²⁹

There are 16 openings in the body of the flute. The openings serve to adjust the length of the vibrating air column.³⁰ These openings are covered by pads and when depressed and released in different combinations are responsible for producing all notes of the chromatic scale.³¹

The bore of the transverse flute may either be conical or cylindrical. The conical bore³² stems from the 18th century and is today reserved for piccolos. The cylindrical bore is one which was introduced by Theobald Boehm in 1847, and is the one on which the design and construction of the modern-day flute is based. All of Boehm's flutes consisted of three parts and were also closed at the one end by a cork stopper.³³

Western transverse flutes have three different registers that may be classified further into low, medium, high and very high. Notation for all flutes is done in the conventional Western way on staff notation. Artaud noted:

²⁴ Baines, 1991, p. 52.

²⁵ 'Just to the left of the mouth-hole, the bore is terminated by the *stopper*, which is of cork, or some hard material lapped with cork, faced with a metal disc'. Baines, 1991, p. 53.

²⁶ Wooden flutes do not have lip plates, but the embouchure hole is cut directly into the head joint.

²⁷ Murray Campbell and Clive Greated, *The musicians guide to acoustics*. London: JM Dent, 1987, p. 282.

²⁸ Fletcher *et al.* indicate this distance to be 17.5 mm. Fletcher Neville H, John Smith, John Tann and Joe Wolfe. Acoustic impedances of classical and modern flutes. *Journal of sound and vibration*. Vol. 243, No. 1, 2001, p. 132.

²⁹ Trevor Wye, Intonation: time for change. *Flute talk*. Vol. 26, No.4, 2006, p. 20.

³⁰ Charles A. Culver, *Musical acoustics*. New York: McGraw-Hill Book Company, 1956, p. 199

³¹ Campbell and Greated, p. 282.

³² '...is practically the same as the ordinary recorder bore: head, cylindrical; body and foot, contracting conically towards the lower end'. Baines, 1991, p. 53.

³³ Theobald Boehm, (translated by Dayton C. Miller and introduction by Samuel Baron), *The flute and flute playing in acoustical, technical, and artistic aspects*. New York: Dover Publications, [1871], 1964, p. 14.

Indeed apart from the fact that this notation is currently in use by flute players, it is the only notation which enables [one] to judge relative pitch range, and this is a fundamental parameter influencing tone quality and the limits of playing possibility.³⁴

Boehm has remained a popular figure because of the vast improvements he made to the flute's overall structure and the effects these alterations and innovations have had on tone production. Many musicians, writers and researchers such as Bartolozzi and Baines refer to Boehm as an essential figure in the development of the flute. Bartolozzi also made use of the Boehm fingering system in his explanations in his book.³⁵

2.2.1 The history and construction properties of the Western transverse flute

When the origin of the transverse flute is investigated, the mythical story of Syrinx and Pan is often referred to.³⁶ As the story goes, there once was a nymph, named Syrinx, who was feverishly pursued one day by the god Pan. She ran away hastily, without pausing to hear his compliments, and he pursued her until she reached the banks of a river. Having no other route of escape, she barely had enough time to call on her friends, the water nymphs, to assist her. No sooner had Pan arrived and embraced what he assumed would be the nymph, then he disappointingly found only a tuft of reeds.³⁷ Syrinx had transformed herself into water reeds.³⁸ He plucked some of the reeds, and placing the unequal lengths of reeds together side by side, made an instrument he called Syrinx, in tribute to the nymph.³⁹ The panpipes⁴⁰ may also be referred to as syrinx. *The concise Oxford dictionary of current English* and *The Harvard dictionary of music* define the syrinx in the following way respectively: 'Syrinx: Panpipe';⁴¹ 'The syrinx was associated with the god Pan and by extension with pastoral life'.⁴²

³⁴ Pierre-Yves Artaud, *Present-day flutes. Treatise on contemporary techniques of transverse flutes. For the use of composers and performers*. Paris: Gerard Billaudot, 1995, p. 5.

³⁵ Bruno Bartolozzi (translated and edited by Reginald Smith Brindle), *New sounds for woodwind*. London: New York Oxford University Press, 1967, p. 7.

³⁶ Baines makes reference to the god Pan, playing his flute under a tree, Baines, p. 52.

³⁷ C. Scott Littleton (editor), *Gods, goddesses and mythology. Vol. 1*. New York: Marshall Cavendish, 2005, p. 1076.

³⁸ Gareth Morris, *Flute technique*. New York: Oxford University Press, 1991, p. 1.

³⁹ Littleton, p. 1076.

⁴⁰ Flutes made from more than three pipes are called pan pipes or 'Syrinx, after the Greek legend telling of the origin of the first flute'. Veenstra, p. 58.

⁴¹ J.B. Sykes, *The concise Oxford dictionary of current English*. Oxford: Oxford University Press, 1976, p. 1174.

⁴² Don Michael Randel, 'Syrinx'. *The Harvard dictionary of music*. London: Harvard University Press, 1986. p. 828.

Debussy gives quite an accurate account of this story through his composition *Syrinx*.⁴³

Meylan mentions the immediate ancestors of the transverse flute in the following chronological order under the headings 'bone whistles, fipple flutes, nay and kaval, panpipes, quena, and the middle-hole flute'.⁴⁴ These flutes are all end blown and stem from all over the globe.

In 1995 a Neanderthal bone flute approximately 45 000 years old, with two definite holes and two partial holes at either end, was discovered by Ivan Turk, who is a palaeontologist at the Slovenian Academy of Sciences in Ljubljana. He indicates that the significance of the distance between the holes signals that it was possible to produce a diatonic scale on the flute. Turk indicates the following:

The distance between holes 2 and 3 is virtually twice that between holes 3 and 4. The line-up of the holes indicate that it is a flute [...] These three notes on the Neanderthal bone flute are inescapably diatonic and will sound like a near-perfect fit within any kind of standard diatonic scale, modern or antique. We simply cannot conceive of it being otherwise, unless we deny it is a flute at all.⁴⁵

Victor Mair mentions a three-finger-hole bone flute, dated approximately 35 000 years old, which was discovered in 2004 in a mountain cave near the small town of Ulm, situated in south-western Germany. Even though he repudiates Turk's claims, he does acknowledge the discovery of 1995. Mair dismisses the claims that Turk's flute is the oldest flute to have been discovered, because he says 'at the time the perforations were made in this fragmentary bear femur, neither the technology for working bones nor the requisite artistic behaviour existed'.⁴⁶

Morris⁴⁷ indicates that pipes blown at the end or across a mouth-hole bored in the side existed in India, China, Japan, Greece and Egypt, approximately 3000-4000 years BC. James Galway concurs with Morris's indication that flutes were used in

⁴³ Claude Debussy, *Syrinx for solo flute* (edited by Trevor Wye). London: Chester Music, 1978.

⁴⁴ Raymond Meylan (translated from German by Alfred Clayton), *The flute*. London: B.T. Batsford Ltd, 1988, pp. 20-26.

⁴⁵ Bob Fink, *Neanderthal flute*. <<http://www.webster.sk.ca/greenwich/fl-compl.htm>> Retrieved 6 May 2002.

⁴⁶ Victor Mair, 'Prehistoric European and east Asian flutes'. *Festschrift in honour of Christoph Harbsmeier on the occasion of his 60th birthday* (edited by Christoph Anderl and Halvor Eifring). Oslo: Hermes Academic Publishing, 2006, p. 210.

⁴⁷ Morris, p. 1.

Greece in the early stages of the flute's evolution. Galway states that the Greeks seem to have been the first to use a six-finger-hole flute, which aided them in being able to play all the notes of the mode or scale in which the instrument was tuned.⁴⁸ Besides the six holes flutes referred to by Galway and also the Ulm flute, another early collection of bone flutes was discovered in Jiahu, Henan province in China. These flutes have five, six, seven and eight holes and are playable. The flutes range in age from 7000-5800 BC.⁴⁹

With the disintegration of Western Roman empires at the start of approximately the third century, the flute was neglected and almost became extinct in Europe during this time. It made its reappearance as the recorder during the tenth and eleventh centuries and became popular in Germany and England. As musical forms, styles and structures evolved and developed, so did the instruments. Viols became violins and cellos, the clavichord and virginals gave way to the harpsichord and eventually the recorder was surpassed by the transverse flute as the instrument of choice.⁵⁰

Powell indicates that tracing the flute's journey from its incipient stages to the present-day Western transverse model proves to be slightly problematic and vague at times, because of a lack of scholarly documentation. He cites pictorial evidence⁵¹ in ancient historical art works as proof of the flute's existence in the days of the ancient Egyptians and Sumerians. Whilst these art works show evidence of the existence of flutes during a specific historical time period, they are not sufficient to enable us to construct a clear historical path of the flute's development.⁵² Carroll points out that the transverse flute might have originated somewhere between Central Asia and China.⁵³ However, some of the earliest flutes discovered at Jiahu in

⁴⁸ Galway, p. 5.

⁴⁹ Mair, p. 213.

⁵⁰ Morris, p. 1.

⁵¹ Ardal Powell, *Medieval flutes*. <<http://www.flutehistory.com/Instrument/Medieval.php3>> Retrieved 6 May 2002. Examples of such artworks can be found in the following sources: Urs Graf, 'Flute quartet', in Philip Bate, *The flute*. London: Ernest Benn, 1975, introduction, Plate 1, [n.p.]; Hans Burgkmair, 'Holy roman emperor Maximilian surrounded by his musicians' in Donald J. Grout and Claude V. Palisca, *A history of Western music*. London: W.W. Norton, 1988, p. 285.

⁵² Ardal Powell, *The flute*. London: Yale University Press, 2002, p. 13.

⁵³ Carroll, p. 47.

China were not transverse flutes but vertical flutes.⁵⁴ Although these are not the flutes referred to by Carroll, it remains unclear where and when transverse flutes were in use. The answer as to whether the transverse flute emerged from a culture whose history and customs are not well documented might probably only be found through speculation and through the study of historical instrumental relics⁵⁵ or through further archaeological findings.

The Germans revived the Western transverse flute in the 15th century, known at the time as the cross-flute.⁵⁶ It was not possible to play in all keys on this 'German flute',⁵⁷ as it was referred to by the English,⁵⁸ because the instrument lacked certain mechanisms that would facilitate semi-tonal movement. The French, to whom the flute was known as *la flute allemande*, added another key to the flute for the sake of intonation. Quantz attributes this addition to an unknown person,⁵⁹ but it may be safely assumed that this person was Jacques Hotteterre as he is documented as having been the first person to add the first key to the transverse flute.

The Baroque era marks the period during which documented sources containing information on the transverse flute and its developments became more reliable and consistent, which can be attributed to many scholarly papers produced by flute players and flute makers such as, for example, Quantz and Hotteterre.

2.2.1a The development of the Baroque flute (1600-1760)

Campbell and Greated suggest that Jacques Hotteterre was pivotal in bringing about the earliest fundamental changes to the structure of the flute during the 1700s.⁶⁰ Hotteterre's exact date of birth, and even of his death, have not been established. Very few written sources, including biographies, were available at the time. Of the

⁵⁴ Zhang, Juzhong, Garman Harbottle, Changsui Wang and Zhaochen Kon, 'Oldest playable musical instruments found at Jiahu early Neolithic site in China'. *Nature*. Vol. 401, No. 6751, 1999, p. 367.

⁵⁵ Carroll, p. 47.

⁵⁶ Veenstra also refers to the transverse flute as a cross-flute. Veenstra, p. 54.

⁵⁷ The 'German' flute was the name given to the transverse flute because it was popularised in Germany during the Middle Ages; this term was also used to distinguish this kind of flute from other vertically held flutes at the time, such as the recorder. Powell, 2002, pp. 7-26.

⁵⁸ The English referred to the recorder as the English flute to distinguish it from the German flute. Roy Bennet, *Music dictionary*. Cambridge: Cambridge University Press, 1995, p. 266.

⁵⁹ Johann Joachim Quantz, (translated by Edward R. Reilly), *On playing the flute*, London: Faber and Faber, [1752], 1966, pp. 29-30.

⁶⁰ Campbell and Greated, p. 280.

documents that are available, many sources were very unreliable and inaccurate. But it has been estimated that he was born around 1680.⁶¹

Hotteterre replaced the Baroque narrow cylindrical bore with a conical bore which tapered towards the end of the instrument. However, the head joint still retained its cylindrical bore. His aim was to eradicate the shrill-sounding tone of the flute and also to improve the intonation. The conical taper of the body produced tonal advantages, but also meant that the finger holes could now be placed closer together and so avoid uncomfortable finger stretches. He also added the first key on the flute, namely the D-sharp key that was depressed by the right-hand little finger. This instrument was pitched in D major.⁶²

The flutes produced in the 17th century consisted of three parts, had a conical bore and had one key for D-sharp and E-flat.⁶³ Flutes during this period were made of different types of wood such as ebony and boxwood. Where boxwood was more durable, ebony proved to produce the purest tone.⁶⁴ Even though the recorder had been replaced by the transverse flute as the instrument of choice, it was not discarded completely. However, the recorder did not display the same problematic symptoms, such as unreliable intonation and a small dynamic range, as the flute did.⁶⁵ The Baroque flute had the embouchure hole set on a separate unit referred to as the head joint and this unit was slid onto the main body of the flute and could also be adjusted by sliding the head joint in or out in order to sharpen or flatten the pitch and become more in tune.⁶⁶

The flute had become as popular in Germany as it was in France. The flute still exhibited various anomalies, i.e. certain notes still sounded impure and this motivated Quantz to remodel the structure and add a second key in 1726.⁶⁷

⁶¹ Jacques Hotteterre, (translated and edited by David Lasocki), *Principles of the flute, recorder & oboe*. London: Barrie & Rockliff, [1707], 1968, pp. 8-12.

⁶² Campbell and Greated, p. 280.

⁶³ Powell, 2002, p. 74.

⁶⁴ Quantz, p. 31.

⁶⁵ Putnik, p. 1.

⁶⁶ Campbell and Greated, p. 280.

⁶⁷ Quantz, p. 31.

During this period the flute was included as part of a four-part ensemble used for court music. Because of the different sizes of the flutes used in these consorts,⁶⁶ the music often had to be transposed to fit the varying pitches of a consort of flutes. Consort music was a popular pastime for amateur as well as professional musicians. Consort flutes were used mainly for music written in the Dorian and related modes. The upper register of consort flutes was clear and pure in tone and often blended well with the other consort flutes.⁶⁷

Plate 2.2 One-key Baroque flute consisting of four parts⁷⁰



Plate 2.3 One key Baroque flute consisting of three parts⁷¹



2.2.1b The development of the Classical flute (1760-1820)

The recorder's development had basically come to an end, but it was still used in ensemble music with the advent of the Classical period. The transverse flute was the preferred and more suitable instrument to be used in the Classical orchestra.⁷²

It is known that Mozart was not an admirer of the flute, but this did not mean that he totally disregarded the instrument. On the contrary, his music for flute reflects an

⁶⁶ Consort (an old spelling of 'concert', meaning a concert performed by a body of performers.) A whole consort was one in which all the instruments were of one family, a broken consort one in which there was a mixture. Michael Kennedy (editor), *The concise Oxford dictionary of music*. Oxford: Oxford University Press, 1980. p. 145.

⁶⁹ Powell, 2002 p. 38.

⁷⁰ Boaz Berney, *My baroque flutes August Grenser*. <http://berneyflutes.com/pages/02flutes/modes/baroque_grenser.html> Retrieved 11 February 2010.

⁷¹ Boaz Berney, *Example of earliest baroque flute or so called Hotteterre flute: three-part Naust*. <http://berneyflutes.com/pages/02flutes/modes/baroque_naust3pt.html> Retrieved 11 February 2010.

⁷² Galway, p. 14.

understanding and awareness of the flute's capabilities, both good and bad. Mozart's music for the flute reflects both warmth and charm. He found that many flute players could not emulate the sounds he had intended for the flute in any of his flute compositions. The main problem at the time was the intonation of the flute. Spaethling suggests that the puzzling remark quoted below probably has more to do with the fact that Mozart wanted to move on to new things in his life and felt pressurised by his father to finish the commissioned works than actually having a dislike for the flute. In a letter to his father he writes:

Besides, my mind gets easily dulled, as you know, when I'm always supposed to write for an instrument that I can't stand.⁷³

Then, in total contradiction to the above statement, Mozart mentions in another letter to his father that the effects produced by flutes, oboes and clarinets in a symphony were marvellous.⁷⁴

Only after hearing the flute player J.B. Wendling did his appreciation for the instrument grow. This is evident in his later scores for orchestra.⁷⁵ A doctor and amateur flute player had commissioned Mozart to write a pair of quartets for the flute and three short and easy piano concertos. Wendling, who by then had become his friend, passed on this information to him and he relayed it in a letter to his father.⁷⁶

Charles Nicholson was a prominent composer and performer during this period. His alterations to the flute are said to have been the inspiration for the revolutionary flute that was yet to come. Wendell Dobbs, flute player and teacher, also points out that Nicholson, in collaboration with his father, is acknowledged as being the pioneer behind experiments that led to a flute with a larger bore and larger tone holes.⁷⁷ Nicholson had quite large hands and had his own specifications to accommodate the placement of his fingers for the flute. He had enlarged the finger holes and embouchure hole. This adjustment called for a more flexible and confident

⁷³ Robert Spaethling, (editor and translator), *Mozart's letters, Mozart's life - selected letters*. London: Faber and Faber, 2000, p. 129.

⁷⁴ Spaethling, p. 197.

⁷⁵ Morris, p. 3.

⁷⁶ Spaethling, p. 112.

⁷⁷ Wendell Dobbs, 'Life with an eight-key flute'. *Flute talk*. Vol. 26, No. 3, 2006, p. 14.

embouchure, but it also meant that the emitted sound was a lot stronger and the pitch was more flexible.⁷⁸

Plate 2.4 Classical period eight key flute⁷⁹



2.2.1c The flute in the early 19th and 20th centuries (1820-1920)

Theobald Boehm arrived in London in 1831 to give a recital when he heard Nicholson play. He was overwhelmed by Nicholson's majestic tone and warm sound. These impressions lead him to develop a flute that could match the tone of Nicholson's playing. Boehm explained:

I did as well as any Continental flutist could have done, in London in 1831, but I could not match Nicholson in power of tone, wherefore I set to work to remodel my flute. Had I not heard him, probably the Boehm flute would never have been made.⁸⁰

Dayton C Miller, translator of Boehm's publication, refers to Boehm as the 'inventor of the modern flute'.⁸¹ Boehm (1794-1881), who was a Royal Bavarian Court Musician in Munich⁸² was both a flute player and flute maker of very high regard. He had great vision and was very ambitious in bringing about the necessary changes needed for the modification of the flute to the one we know today. Even though the flute is still undergoing modification and improvement, no drastic changes similar to Boehm's alterations have been made.⁸³ Baron indicates that many flute players regard Boehm's model as the example that is still used by modern flute makers and flute players alike.⁸⁴

⁷⁸ Morr s. p. 4.

⁷⁹ William Henry Potter. *Ebony 8-key*. <<http://www.mcgee-flutes.com/collection.html>> Retrieved 7 April 2010

⁸⁰ Boehm, p. 8.

⁸¹ Boehm, p. xxiii.

⁸² Boehm, p. xxiii.

⁸³ Bate. p. 115

⁸⁴ Boehm, p. v.



Boehm's progress on the flute inspired him to develop an instrument that produced a better tone along with improved intonation. He used to rely on his flutes being manufactured by other flute makers, but was never satisfied and eventually opened up his own flute shop in 1828. By 1829 Boehm was playing on a flute that had his approval, with the quality of tone and intonation that he was striving for. This flute was widely adopted by flute players. Dayton C Miller had such a flute in his possession in 1922 and describes it in the following way:

This flute is of cocus-wood, with silver keys and flat gold springs, with workmanship and finish which are perfect: it is certainly superior to any other contemporary flute which has been examined, and comparable with the later instruments of Boehm & Mendler. The tone is very beautiful, sweet and mellow, and, of course, not powerful; the tuning is astonishingly good considering that it is a flute of the old system.³⁶

Even with the triumphant success of this new flute (conical flute of 1832), his passion for designing as flawless a flute as possible led to the design of the ring-keyed flute. In his quest for excellence he discovered that changing the bore of the instrument would improve the overall effects of flute playing. Boehm was still not satisfied, because even though the position of the tone holes were acoustically in the correct position, he was intrigued and puzzled by the fact that the flute was blown at the wider end of the tube. The head was cylindrical, but the body was conical and tapered off towards the end. Boehm conducted many further experiments, but despite his determination, the ring-keyed flute remained unchanged for 15 years.

Boehm advocated that the calculations of the numerical proportions of the air columns and tone holes of each instrument should be made separately. By 1846 Boehm had constructed numerous flutes made of metal and wood and with different

³⁵ No author, *The conical Boehm flute (1832)*. <<http://www.oldflutes.com/boehm.htm#con>> Retrieved 7 April 2010

³⁶ Boehm, p. 8.

bore and dimensions in order to study what the effect on the tone quality would be. Boehm's investigations and experimentation produced the following findings:

- The volume of the air set in motion is proportional to the strength and quality of the fundamental tone;
- The production of tones and the tuning of the octaves are directly influenced by the contraction of the bore of the headjoint of the flute;
- A cylindrical tube is best for the formation of the nodes and segments of sound waves.⁸⁷

Boehm's 1847 design consisted of a cylindrical body with a tapered headjoint. The diameter had been reduced from 20 mm to 19 mm, making allowance for the register of the flute to be extended to a complete three octaves. This had some effect on the tones in the first two registers, but as the flute was included increasingly in music written at the time, Boehm thought it imperative that all three octaves be fully functional. The cork stopper was placed 17 mm from the centre of the embouchure, which has the best effect on the lowest and highest tones. The embouchure hole was shaped like an 'elongated rectangle with rounded corners'.⁸⁸ The embouchure hole was 10 mm wide and 12 mm long. All the tone holes were made slightly larger and had a constant diameter of 13.5 mm for metal flutes and 13 mm for wooden flutes.⁸⁹

Boehm had enlisted the help of scientists in order to produce a more 'in-tune' instrument. Their combined experience and expertise lead Boehm to produce the first metal flute, with the holes covered and with a fully cylindrical bore. Boehm's frustration and displeasure with the flute's 'limited range, impure and irregular tone and pitiable intonation had driven him to construct an instrument that has not changed an awful lot from the modern Boehm-flute today'.⁹⁰ Many improvements to the flute in terms of design, proportions and theory, since Boehm's time, are based on his documented theories and experimentation on the flute and flute playing. Through Boehm's experiments and studies he discovered that the tapering of the head joint allows for adequate control of intonation.⁹¹ Boehm states that the relationship between the size of the embouchure and that of tone production is

⁸⁷ Boehm, p. 16.

⁸⁸ Boehm, p. 21.

⁸⁹ Boehm, pp. 19-27.

⁹⁰ Boehm, p.13.

⁹¹ Nancy Toff. *The development of the modern flute*. Chicago: University of Illinois Press. 1986. p. 183.

significant. The tone will be more powerful when more air particles are set in motion. An elongated rectangle with rounded corners is favoured above a rounded or oval hole, even if similar in size.⁹² The shape of the embouchure hole as well as the thickness of the wall of the embouchure also affects tone production. A larger embouchure may produce a bigger sound, but it also requires very flexible and strong mouth and lip control. A thicker wall produces full sounding harmonics in the lower register. The position of the embouchure hole on the head joint also affects the sound. Placed too close to the cork, a weak lower register is the result, but further placement away from the cork produces more resistance in the higher registers.⁹³

The parabolic head joint tapers with a curvature from 19 mm to 17 mm. Boehm had experimented with various flutes with the head joint diameter being 20 mm and found that even though the first two octaves were good, the third one was not of the same standard. The notes were sounded with difficulty and it was difficult to play really softly. So it was decided that, taking into account the general use of the flute in an orchestra, a flute with a bore of 19 mm would be best.⁹⁴

The Boehm flute was accepted and adopted as a flute of superior quality in the 1800s because of, for example, its ability to produce good-quality low notes, trills and even good intonation.⁹⁵

2.2.1d The 20th and 21st century contemporary flute

There are presently seven types of flutes⁹⁶ using the Boehm system, namely the concert flute in C, the piccolo (sounding one octave higher than the concert flute in C), the alto flute in G (sounding a fourth below the concert flute), the bass flute in C (sounding one octave lower than the concert flute),⁹⁷ the contr'alto flute in G, the sub-contrabass in G (sounding two octaves lower than the alto flute and one octave lower than the contr'alto flute) and the contrabass flute in C (sounding two octaves lower

⁹² Boehm, p. 21.

⁹³ James Phelan, *The complete guide to the flute*. Boston: Conservatory Publication, 1980, p. 108.

⁹⁴ Boehm, pp. 19-20.

⁹⁵ Edward Blakeman, *Taffanel - genius of the flute*. New York: Oxford University Press, 2005, p. 11.

⁹⁶ Some of these flutes are not side-blown flutes because of the size of the instrument and the way in which it has been constructed in order to make blowing and holding the instrument most comfortable.

⁹⁷ Artaud, 1995, p. 5.

than the flute in C). Robert Dick, who is versatile on the entire flute family,⁹⁸ refers to the contrabass flute in C as the true bass flute.⁹⁹ Dick designed his own inexpensive bass flute, which produces a good-quality sound. The flute has closed holes, trill keys and is equipped with a B foot joint. Because of the physical enormity of the instrument, he moved the buttons of the keys so they may comfortably fit the hand.¹⁰⁰ The Kingma system flute is the eighth type of flute; it has a different mechanical structure to the flutes mentioned above, but is also based on the Boehm system. Wooden flutes are also briefly explored under this heading.

The range of the standard concert flute in C, which is referred to as the Western transverse flute in this study, may be extended downwards by using a different foot joint. By adding a B foot joint, the lowest note produced is a B, as the B foot joint displays an additional hole drilled into the body of the foot joint.

Plate 2.6 Interchangeable B/C foot joints¹⁰¹



Plate 2.7 B foot joint¹⁰²



⁹⁸ Victoria Jicha, Robert Dick: pushing the boundaries. *Flute talk*. Vol. 26. No. 7, 2007, p. 10.
⁹⁹ Dick, p. 7.

¹⁰⁰ Kathleen Goll-Wilson, 'New sounds from Robert Dick' *Flute talk*. Vol. 18. No. 6, 1999 p. 12

¹⁰¹ No author, *Products-foot joints- B foot, C foot, D foot or convertible B/C foot*.
 <<http://www.tomgreenflutes.com/>> Retrieved 1st February 2010.

¹⁰² No author, *Fluteragious creations. Solid silver B flute foot joint*.
 <<http://fluteragious.blogspot.com/2007/03/solid-silver-b-flute-footjoint.html>> Retrieved 7 April 2010.

Flutes may also be closed or open holed. An open-hole flute has holes in five of the keys that are usually covered by the fingers. An open-hole flute is useful for advanced techniques, increased volume and the ability to half cover the holes. An open-hole flute also promotes correct hand and finger positions. However, an open-hole flute is generally not recommended for beginners.

Plate 2.8 Gold open hole flute with B foot joint¹⁰³



Plate 2.9 Open hole flute with B foot joint¹⁰⁴



Wooden transverse flutes are still in use today, even though metal flutes have gained superior status. Because of the difference in sound between metal and wooden flutes, flute makers have compromised by manufacturing wooden flutes with metal headjoints or thinned metal headjoints. There are also metal flutes with wooden headjoints. Metal flutes may be constructed from various metals such as silver, platinum or 18-carat gold. Silver is the most affordable of the three and also the recommended type of instrument for beginners.¹⁰⁵

¹⁰³ No author. *Sankyo flutes. 18K gold flute*. <<http://www.sankyoflute.com/e/catalog/18k.html>> Retrieved 11 February 2010.

¹⁰⁴ No author. Flickr. No title. <<http://www.flickr.com/photos/ikhsamerica/3729427729/sizes/o/>> Retrieved 6 April 2010.

¹⁰⁵ Baines, pp. 54-55.

Plate 2.10 Wood head joint for the Boehm flute with raised lip plate¹⁰⁶



Plate 2.11 Wood head joint for Baroque players without raised lip plate¹⁰⁷



There appears to be individual preferences for either the wooden Baroque flute or the metal modern transverse flute because of the differences in construction, flexibility and sound.¹⁰⁸ To a certain extent modern flute players dictate what their audiences will listen to by determining what trend they will follow.¹⁰⁹ There are players, such as Wendell Dobbs, a teacher and performer, who performs early music on early flutes from that particular period. Playing a flute from a period before the invention of the Boehm flute presents the challenges of adjusting to a conical bore, adopting the fingering for an early flute and learning to hold the flute. Because early flutes

¹⁰⁵ Grenadilla (*Dalbergia melanoxylon*), or African Blackwood, is a classic wood of choice for making Boehm flutes. It is a very dense wood and easy to turn, carve, file and cut. Its grain structure is very tight and a smooth finish can be achieved quickly by sanding. The bore is sealed, but there is no finish on the outside of grenadilla headjoints. The oil from the player's hands would eventually be absorbed into the wood and gives it a fine sheen. The colour of grenadilla ranges from black to a dark chocolate brown. The sound is strong with rich resonance and warmth, does not thin out in the high register, and generally has a deep quality. No author, *Handmade wood headjoints in grenadilla (and other exotic hardwoods)* <<http://www.sideblown.com/wood.htm>> Retrieved 11 February 2010.

¹⁰⁷ No lip plate boxwood headjoint with a little oval embouchure and a traverso-styled crown. This headjoint gives the player a familiar feeling when switching between early flute and Boehm flute. Baroque flute techniques and expressions can be transferred freely to the modern flute with satisfaction. No author, *Handmade wood headjoints in grenadilla (and other exotic hardwoods)* <<http://www.sideblown.com/wood.html>> Retrieved 11 February 2010.

¹⁰⁸ Baines, pp. 54-55.

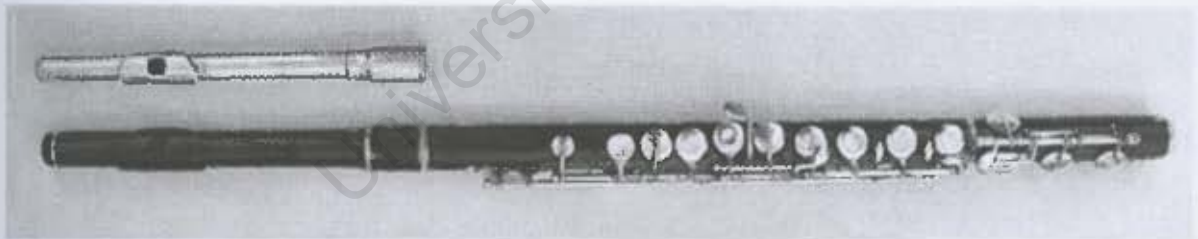
¹⁰⁹ Hotteterre, p. 8.

developed from having no keys to having up to eight keys, certain adjustments need to be made when transferring from a modern flute to an early flute. Wendell experimented and eventually mastered playing early music on an eight-key flute.¹¹⁰ When asked why he would choose to play on an instrument inferior in many ways to the modern flute, he replied:

I believe that playing on a historically authentic instrument allows me to come closer to the original flavour of the music, which is much the same sentiment held by Baroque flutists. Interpretative insights often emerge from the attributes and limitations of the instrument, and I sense that I am one step closer to the flute's 18th-century predecessors, as well as filling a gap in the flute's progression to its present form.¹¹¹

Even though wooden-flute makers would also produce metal flutes, the best known for the production of wooden flutes was Rudall Carte, which later merged with Boosey & Hawkes. Other leading metal- and wooden-flute makers include Haynes, Powell, Altus and Gemeinhardt and even more recently, Kingma, who specialises in producing 'extended flutes'. The Brannen-Cooper Kingma system flute is compatible with both the traditional flute repertoire as well as those requiring the use of extended techniques.¹¹²

Plate 2.12 1921 Rudall Carte flute¹¹³



¹¹⁰ Dobbs, pp. 16-17.

¹¹¹ Dobbs, p. 17.

¹¹² What makes this flute so unique is that in addition to the standard Boehm mechanism, there are six extra keys. [...] The second acoustic advantage of this instrument is its ability to produce unique multiphonics. No author, *Flutes, the Brannen-Cooper flutes*. <<http://www.brannenflutes.com/flutes.html>> Retrieved 20 October 2007.

¹¹³ Made in 1921. Cocuswood. German silver (nickel silver) keys, closed G#. Thinned headjoint, with additional silver headjoint by Flutemakers Guild. Bigio, Robert. *Rudall Carte flutes for sale by Robert Bigio*. <http://www.bigio.demon.co.uk/rudall_carto.htm> Retrieved 11 February 2010.

Plate 2.13 Piccolo¹¹⁴



Plate 2.14 Alto flute with straight head joint¹¹⁵



Plate 2.15 Alto flute with curved head joint¹¹⁶



¹¹⁴ No author, *Stages music piccolo*. <<http://www.stagesmusic.com/cgi-bin/quickstore.cgi?category=piccolo>> Retrieved 6 April 2010.

¹¹⁵ No author, Flickr. *Jupiter Alto Flute 1217ES* <<http://www.flickr.com/photos/khsamerica/3729479995/>> Retrieved 7 April 2010.

¹¹⁶ No author, Flickr. *Jupiter Alto Flute 1319ES* <<http://www.flickr.com/photos/khsamerica/4387998114/>> Retrieved 7 April 2010.

Plate 2.16 Vertical bass flute¹¹⁷



University of Cape Town

¹¹⁷ No author, Flickr, No title <<http://www.flickr.com/photos/khsamerica/4387998068/sizes/o/>> Retrieved 7 April 2010.

Plate 2.17 Contrabass flute¹¹⁸

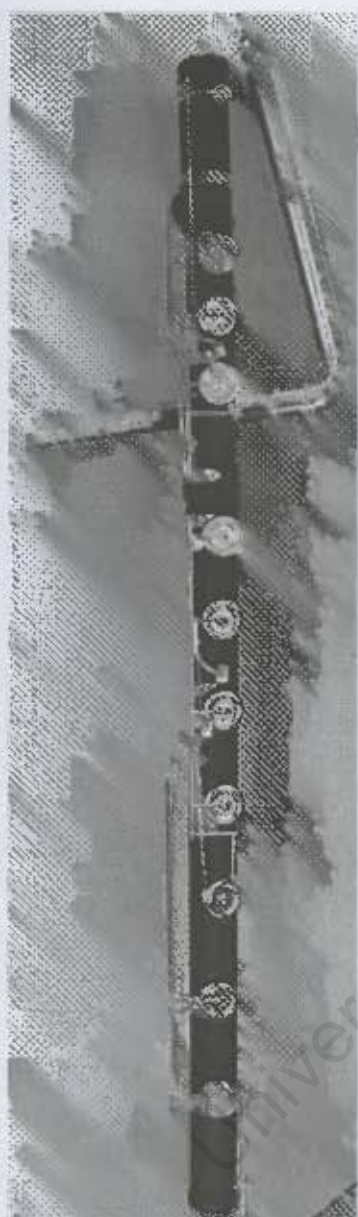


Plate 2.18 Bass flutes, including contrabass, Sub in G and contr'alto flutes¹¹⁹



¹¹⁸ No author, *Hogenhuis flutes* <<http://home.kpn.nl/einbama/pages/contrabassflute.html>> Retrieved 7 April 2010

¹¹⁹ No author, *Carlisle Primrose orchestral flutes Photo album/Eva Kingma's workshop. All of CPOFs Kingma basses - including Contrabass, Sub in G and Contralto flutes*. <<http://microsites.theguidlife.net/cpof/photo/album/kingma/bigflutes/view>> Retrieved 4 February 2010.



Flutes from left to right: Flute in C, piccolo, bass flute, alto flute, contr'alto flute, contrabass flute and the sub-contrabass flute in G.

¹²⁵ Sharyn L. Byer, *Columbia flute choir. About the flutes in Columbia flute choir.*
<<http://www.columbiaflutechoir.org/about-the-different-flutes>> Retrieved 7 April 2010.

By the end of the 20th century the Kingma system flute was developed. The Kingma system flute has opened up a wide variety of possibilities for the transverse flute and makes it possible for the player to achieve certain microtones inherent in so many music cultures around the globe. The Kingma system flute is a standard Boehm system flute, with a C-sharp trill key and with the addition of six extra keys through a 'key-on-key' system which is completely reliable. Kingma originally used this system on her alto and bass flutes. The extra keys allow for the production of six of the seven quartertones and multiphonic vents, which are absent on the standard Boehm system flute. The seventh quartertone is achieved by pressing the C-sharp trill key, along with normal C. On a Kingma system flute it is possible to play a complete chromatic quartertone scale through all registers, whereas on a standard open-hole model, the full quartertone scale is not possible, but several quartertones can be produced by venting the open holes and through alternate fingerings. Every key on the Kingma system flute can be half-vented, not just the open hole keys. Chromatic progressions of multiphonics are also possible, as the flute is able to vent keys that are normally covered. It is also possible to play triple stops, as on a string instrument. Pitch control is another added benefit of the Kingma system flute. Improved intonation is created by venting otherwise closed holes.¹²¹

All Kingma system flutes are made with an offset G key, a B foot joint and C sharp trill key, and the mechanism and keys are always made of silver. The flutes may be pitched to A-440, A-442, A-444 or A-446. Kingma system flutes are not available for flutes with the following keys: inline G keys,¹²² plateau keys,¹²³ split E mechanism,¹²⁴ C foot joint and D^{sharp} roller¹²⁵ for the foot joint.¹²⁶

¹²¹ No author, *Kingma system flutist*. <<http://www.brannenflutes.com/kingma.html>> Retrieved 11 February 2010.

¹²² An inline G key flute has the G key in the same line as the rest of the keys of the flute. Mark Shepard, Ann Subercaseaux and Paul Horn, *How to love your flute: a guide to flutes and flute playing*, San Pedro: Shepard Publications, 1999, p. 22.

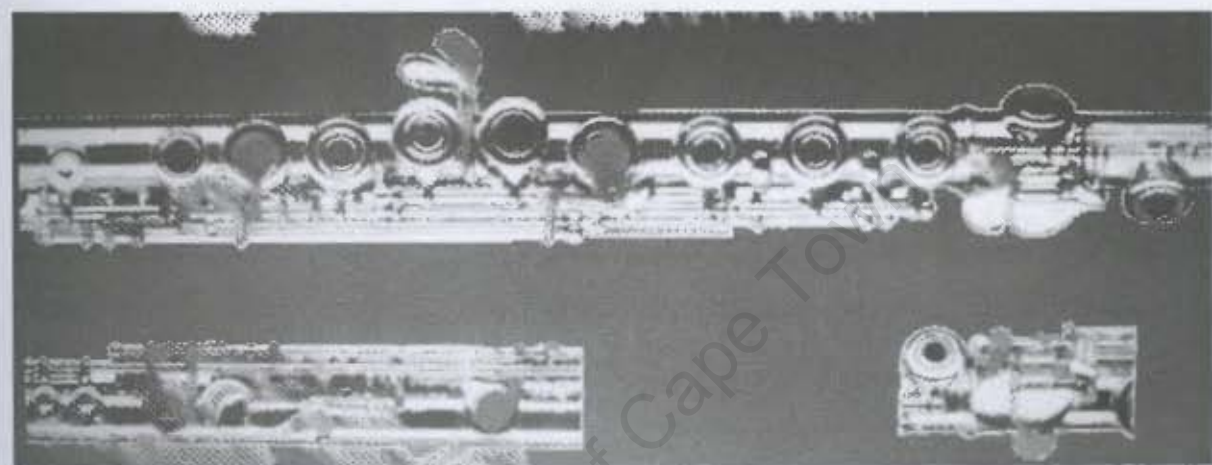
¹²³ Plateau keys have no venting at the centre of the keys. Shepard *et al.*, p. 22.

¹²⁴ On the Split E flute the G key has been divided up into two separate keys able to move independently but linked, so that when the G is pressed it brings down its twin. The split E mechanism can dramatically improve the response of high E. This mechanism divides the action of the upper and lower G keys, permitting the lower G key to close when high E is played. Closing the lower G key and fingering high E decreases venting and brings more stability to the note with a faster response. This mechanism employs a separate rod, adding a slight bit of weight to the flute. The split E mechanism must be made on the flute during manufacture. No author, *Miyazawa*. <http://www.miyazawa.com/index.php?option=com_content&task=view&id=34&Itemid=62> Retrieved 14 May 2011.

Plate 2.20 Brannen-Cooper Kingma system flute¹²⁷



Plate 2.21 Kingma system flute with extra keys¹²⁸



2.2.2 Sound production and performance techniques on the Western transverse flute

Through careful manipulation of the embouchure and through careful and precise finger dexterity, various timbral effects may be achieved on the flute.¹²⁹ The early Western transverse flute was, in most cases, held to the right side of the body.¹³⁰

¹²⁵ A roller key that facilitates ease of movement for the little finger from one key to the next. Karen Moratz, *Flute for dummies*. Hoboken: Wiley Publishing, 2010, p. 50.

¹²⁶ No author, *Kingma system flutist*. <<http://www.brannenflutes.com/kingma.html>> Retrieved 11 February 2010.

¹²⁷ The revolutionary Brannen-Cooper Kingma system flute is the result of extensive collaboration between the Dutch flute maker, Eva Kingma, and Bickford Brannen. This is the first C concert flute to offer a full quarter-tone scale, as well as complete multiphonic venting, for the modern flute repertoire. Moreover, flutists can also use this flute to play all of the traditional literature just as they would on any flute. No author, *Kingma system flutist*. <<http://www.brannenflutes.com/kingma.html>> Retrieved 11 February 2010.

¹²⁸ No author, *Eva Kingma flutes The Kingma system*. <<http://www.kingmaflutes.com/mySite/Kingmasystem.html>> Retrieved 21 February 2010.

¹²⁹ Akiko Shimada, 'Cross-cultural music: Japanese flutes and their influence on Western music'. *The flutist quarterly*. Vol. 34, No. 2, 2009, p. 28.

¹³⁰ There are others who, not having been shown the principles, put their right hand on top and their left below and hold the flute to the left. Hoffetorre, p. 38.

between the thumb and index finger with the left-hand at the top, closest to the body. The rest of the fingers are curved around the body of the flute to cover the remaining three holes. The right hand supports the flute with a slightly curved thumb and with the rest of the fingers being almost straight.¹³¹

Sound production on the flute can be thought of in the same way as for a flute organ pipe. A stream of air is directed across the embouchure hole and hits the edge of the hole, thus producing an edge tone. The speed and direction of the air stream is responsible for the pitch of the edge tone. Similar to the organ flute pipe, the column of air vibrates, as described by Theobald Boehm:

The air column enclosed by the tube of the flute is set into vibration by blowing across the mouth-hole, causing the fundamental tone to sound. The pitch of this tone depends upon the total length of the vibrating column of air measured from the cork to the lower end of the tube. The higher tones of the first octave are obtained by shortening the length of the vibrating column of air, for which purpose lateral tone-holes are bored in the tube.¹³²

Positioning of the embouchure, relating to sound production and quality of tone in the different registers of the flute is not the same for all flute players. Baines describes sound production in the following way:

The near edge of the mouth-hole is set against the edge of the red part of the lower lip, and it must be central, not to one side. The lips are partially closed, the tongue is moved [...] and the breath is aimed towards the far edge of the hole. To reach the higher notes, the principle is to narrow the lip aperture (by tightening the lips or compressing them at the sides) while directing the air-stream more upwards, i.e. more directly on to the edge of the hole (through movement of the lower lip or chin; not by turning the hole inwards).¹³³

Robert Dick indicates that the placement of the lip plate should be under the lower lip and not on the lower lip. The first reason for this, he says, is that if the lip plate is placed on the lower lip, it places excessive strain on the lip to take on more responsibilities and thus not producing desirable effects. Its job becomes that of 'controlling the size of the hole, and defining the bottom of the air stream'.¹³⁴ The second reason is that the placement under the lip creates more power. Dick explains this as follows:

Studying acoustics with Arthur Benade in 1978 taught me that there is a *transit time*, which is the time it takes for an air molecule to pass through the lip aperture and flow in

¹³¹ Hotteterre, pp. 35-36.

¹³² Boehm, pp. 14-15.

¹³³ Baines, p. 54.

¹³⁴ Jicha, 2007, p. 11.

the air reed until it touches the flute. Every note you play has a minimum transit time. As you play louder and blow harder, the air moves faster, and the transit time becomes shorter. When the transit time gets too short, the sound begins to distort and the resonance shuts down because there is a molecular traffic jam at the embouchure hole. Putting the flute under the lower lip increases the distance between the lip aperture and the headjoint, which increases the transit time and creates more power.¹³⁵

William Kincaid suggests that before trying to produce a tone on the flute, one should try blowing over the open end of a narrow-necked bottle. Different sound effects are produced by directing the air stream differently. By blowing across the top opening creates whistle tones and by blowing into the bottle at an angle creates a more full tone. The experimentation with different lip positions and changes in the lip pressure to get the desired effect will give any budding flute player an opportunity to experience first-hand the subtleties in embouchure variation and control needed for quality of tone and pitch.¹³⁶

Robert Dick uses a lot of jaw and lip motion and attributes this to the fact that he studied with Julius Baker, whom he says got the best tone results by using excessive jaw and lip motion.¹³⁷ Jean-Pierre Rampal does not agree with mouth movement. He indicates that in order to move between different flute registers one only needs to alter the direction of the airstream, because changing the mouth position changes the sound for each register, defeating the objective of trying to achieve a homogenous sound throughout the entire range of the flute. Rampal recommends simply opening and closing the lips and changing the direction of the air stream.¹³⁸

Sound production on a wooden flute generally requires a 'tight' embouchure, compared to the more flaccid metal-flute embouchure. To produce a 'tight' embouchure the corners of the mouth are pulled up, almost forming a smile. This produces a brilliantly rich tone throughout the registers, especially in the low register where the tone, as described by Baines is a 'full reedy fortissimo'.¹³⁹

¹³⁵ Jicha, 2007, pp. 11-12.

¹³⁶ William Kincaid, *The art and practice of modern flute technique*. N.p: Universal Music Publishing Group, 1995, p. 13.

¹³⁷ Jicha, 2007, p. 11.

¹³⁸ Victoria Jicha, '25 Years of flute talk'. *Flute talk*. Vol. 26, No. 1, 2006, p. 28.

¹³⁹ Baines, p. 55.

Even though the metal flute can also be played with a 'tight' embouchure causing it to sound similar to the wooden flute, the more relaxed embouchure has been adopted by many and developed by the modern French school of flute playing, of which Paul Taffanel, often referred to as the father of modern flute playing, was at the forefront.¹⁴⁰ A relaxed embouchure produces a clearer and lighter tone and the attack on notes is also lighter. An unstrained embouchure can be produced in the following way:

The lips are turned more or less loosely outwards – especially the upper lip – making a rounder aperture, controlled by compression of the lips towards their sides and in-and-out movements of the jaw.¹⁴¹

The characteristic tone of a relaxed embouchure is distinguishable from that of the 'tight' embouchure in the sense that the notes in the lower register are overtoneless and hollow sounding. The notes in the bottom register are often inaudible in ensemble playing unless *vibrato* is used lavishly, but the trenchant quality of the higher notes is quite distinctive. The technical aspects of this style of playing allows for good contrast between varying dynamic levels in the higher registers.¹⁴²

In 1957 Gerald Jackson, principal flute player of London's Royal Philharmonic Orchestra, echoing the words of J.G. Tromlitz a century and a half earlier, wrote:

Sound is a personal matter [...] it is simply a matter of taste.¹⁴³

However true this might be, more and more English flute players were trying to emulate the French school of playing by adopting the more relaxed embouchure. Different timbral and sound effects are possible on the transverse flute and enhance the general tone quality of the flute. To produce a good tone on the transverse flute requires not only a flexible embouchure, but also a 'keen' ear.

The contemporary use of *vibrato* is essentially to aid in tone production, and add variety and expression to the tone of a flute player. Even though there is a lot of controversy about the production, use and teaching of *vibrato*, flute players and

¹⁴⁰ Blakeman, p. 4.

¹⁴¹ Baines, p. 56.

¹⁴² Baines, p. 56.

¹⁴³ Gerald Jackson, *A talk for flute players (and others!): woodwind book*. London: Boosey and Hawkes, 1957, p. 48.

teachers alike agree that if it is not naturally produced it should be taught. *Vibrato* is part of standard flute-playing technique for the contemporary flute player. James Galway¹⁴⁴ insists on never leaving the house without *vibrato*.

During the Baroque and Classical periods *vibrato* was often added as an ornament and was notated as such in the music. *Vibrato* at the time was referred to as finger *vibrato* or *flattement*,¹⁴⁵ whereby the player would partially open and close the next tone hole down from the long note or rapidly open and close another hole, depending on the circumstances. Ornamentation was integral to the music of the time. The term 'Baroque' was first used in architecture to describe the highly decorative art and buildings of the time and¹⁴⁶ similarly Baroque music is also described as highly ornamental and decorative.¹⁴⁷ Classical composers such as Mozart and flute virtuoso Johann Tromlitz agreed that if finger *vibrato* were to be used, it should be done sparingly and restricted to long notes.¹⁴⁸ Hotteterre considered *flattement* as an ornament that was absolutely essential for the excellence of playing.¹⁴⁹

Players were discouraged from using any other type of *vibrato*, such as chest or throat *vibrato*, as this was thought to interfere with, or permanently damage, a good tone. During the first half of the 20th century breath *vibrato* was considered innovative. It was not the norm to use *vibrato* on the wooden flute from the previous era, but by the 1940s flute *vibrato* had become quite common, especially on metal flutes, which were also starting to replace the more common wooden flute.¹⁵⁰ Moysé is said to have possessed '*vibrato* modelled more on the human voice than on any other instrument'.¹⁵¹

Even though *vibrato* is an extension of flute playing, it is not considered an extended technique. Marietjie Steyn (1996) and Fanie Jooste (1986) both wrote published

¹⁴⁴ Jicha, 2006, p. 22.

¹⁴⁵ Hotteterre, p. 66. 'The *flattement* is a fingered vibrato onto the flat side of the note in question. Normally nowadays vibrato is considered as being on both sides of a note, or onto the sharp side. Note that this ornament cannot be done on many notes on the modern Boehm flute'.

¹⁴⁶ Roy Bennet, *Investigating musical styles*. Cambridge: Cambridge University Press, 1992 p. 34.

¹⁴⁷ Bennet, 1992, p. 43.

¹⁴⁸ Fanie Jooste, 'Die gebruik van vibrato op houtblaasinstrumente'. *SAMUS*. Vol. 6, No. 1, 1986, p. 31.

¹⁴⁹ Hotteterre, p. 59.

¹⁵⁰ Marietjie (Mikki) Steyn, 'Flute vibrato'. *Ars Nova*. No. 28, 1996, pp. 29-39.

¹⁵¹ Meylan, p. 119.

articles on flute *vibrato*. They discussed the use of *vibrato* as it is known and used today and also mentioned in detail how, when, where and why key *vibrato* was used, but neither of them referred to it as an extended technique, but rather a technique used as an embellishment in Baroque and Classical music. Ann Cherry includes *vibrato* as a technique in her article 'Having a flutter'. She bears witness to the fact that many contemporary composers include *vibrato* as a 'structural component of the music'¹⁵². She refers to pieces in which the pulse of the *vibrato* has been indicated from no pulse to very fast *vibrato*. Other contemporary flute players, such as Nerina Von Mayer-Pellei, regard *vibrato* as an important aspect of flute playing.¹⁵³

2.2.3 Tuning and intonation

Western flutes produced in the 17th century had no standard acoustical setting. This meant that flutes made by different flute makers would have a different length of tubing when tuning to the standard concert pitch of A. It was generally up to the preference of the instrument maker and his/her own perception of intonation¹⁵⁴ and tone. The differences in timbre, intonation, range and flexibility of tone is due to the differences in the measurements of the bore taper and bore diameters.¹⁵⁵ The pitch of the early Baroque flutes ranged from A=395 to A=408. In France a pitch of A=390, in Germany A=410 and in England A=408. These differences in pitch would later have an effect on the construction and development of the flute after 1720.¹⁵⁶ Even today flute makers appear to have personal preferences for dividing the octave into twelve equal parts,¹⁵⁷ referred to as equal temperament.¹⁵⁸ As Wye (flute player, teacher and author) points out, the head joints from different manufacturers are of different lengths, but most of the head joints are generally a bit short and require the

¹⁵² Ann Cherry, 'Woodwind: having a flutter'. *Music Teacher*. Vol. 78, No. 10, 1999, p. 32.

¹⁵³ Nerina Von Mayer-Pellei, Personal interview. Constantia, Cape Town, 25 February 2004.

¹⁵⁴ 'Intonation refers to 'playing or singing in tune'. Arthur J. Greenish, *The student's dictionary of musical terms*. London: Stainer and Bell, 1953, p. 47. Trevor Wye: 'Intonation refers to the ability to control a particular pitch or tone'. Trevor Wye, *Practice book for the flute. Volume I: tone*. London: Novello, 1987, p. 37.

¹⁵⁵ Powell, p. 74.

¹⁵⁶ Powell, p. 75.

¹⁵⁷ Trevor Wye, 'Intonation: time for change'. *Flute talk*. Vol. 26, No. 4, 2006, p. 18.

¹⁵⁸ The principle of equal temperament is the division of the *octave* into twelve *equal semitones*; the vibration numbers of the consecutive notes of the chromatic scale are therefore proportional, and all intervals of the same name have the same ratio. Richard Shepherd Rockstro, *The flute. Part I*. Buren: Frits Knuf, 1986, p. 109.

player to pull out the head joint a bit in order to be 'in tune'. Some head joints also don't offer a consistent octave leap from the low to middle register.¹⁵⁹

Equal temperament, which may also be referred to as 12-tone temperament, is applied to instruments such as, for example, the piano. The octave is divided into 12 equal semitones, which means that each pair of adjacent notes has an identical frequency ratio.¹⁶⁰ The transverse flute, on the other hand, makes use of just intonation, which makes it possible to play all notes in tune in all keys by making minor adjustments through adjusting the airstream and manipulating the embouchure and being sensitive to certain 'problem' notes and adjusting those to sound 'in tune' within the context of the music being performed.¹⁶¹

The tuning of Hotteterre's one-keyed flute was based on the mean tone scale¹⁶² and pitched in D major.¹⁶³ The Boehm concert flute is pitched in C major and covers a compass of three octaves extending from middle C to three octaves above it. This register can be extended through cross-fingerings.¹⁶⁴

In the past (and even today) it was up to the player to learn to make the necessary embouchure and air pressure adjustments to compensate for incorrect pitching problems. Hotteterre advised players to turn the flute in or out on the lip, so as to adjust to the correct pitching of notes.¹⁶⁵ Trevor Wye indicates that rolling the flute in and out on the lip in order to adjust the pitch is unwise and leads to an unsteady embouchure. He classifies this type of action as an extended technique that should be reserved for the proper occasion and not to improve intonation.¹⁶⁶

¹⁵⁹ Wye, 2006, pp. 16-20.

¹⁶⁰ Rockstro, p. 109.

¹⁶¹ No author, *Flutehistory.com. Tuning and intonation.*

<http://www.flutehistory.com/Resources/Theory/Tuning_and_Intonation.php3> Retrieved 19 July 2010.

¹⁶² The principle of the system was the division of each of the *major thirds* of the scale into two equal parts, each part being a *mean* between the *major* and *minor tones*; hence the term *mean tone*. Rockstro, p. 107.

¹⁶³ Campbell and Greated, p. 280.

¹⁶⁴ Campbell and Greated, p. 282.

¹⁶⁵ Hotteterre, p. 50-51.

¹⁶⁶ Wye, 2006, p. 16.

For many years flute players have struggled with intonation. Toff relates that Bernard Goldberg, retired principal flute player of the Pittsburgh Symphony Orchestra, use to quote his teacher saying:

For three hundred years flute players tried to play in tune. Then they gave up and invented vibrato.¹⁶⁷

Vibrato is something that is mentioned by flute players such as Wye and Rampal as an integral component of a good tone. It can be defined in many ways, but in essence it is a fluctuation of airspeed around the notes produced and adds to the expression of a performance.¹⁶⁸

Wye refers to the gestures that teachers make and words they use as a guide for students to adjust their intonation as 'idiotic advice'.

I have seen teachers pull at their ears to indicate an intonation problem [...] support, the holy word of teaching, is suggested as a cure for a flat note. Sometimes an open throat is offered as a remedy.¹⁶⁹

He goes on to blame this type of advice for the inability of many flute players to make proper intonation adjustments where needed. Wye points out that, although much attention had been and is being paid to good technique and tone, amongst other things, very little, if any, attention has been devoted to intonation and it seems to form the smallest percentage of flute players' training. He points out that many flute players leave it up to flute manufacturers to produce flutes with the tone holes set in the correct positions, so the notes played when the keys are pressed are actually in tune and perhaps also to compensate for inadequate tuning problems on the players' part.¹⁷⁰ Wye has written a series of practice books for flute players, amongst them one specifically dealing with intonation. He goes on to say:

The bottom line here is the use of expression; loud and soft playing with musical inflection is impossible without control of both dynamics and intonation.¹⁷¹

¹⁶⁷ Nancy Toff, *The flute book: a complete guide for students and performers*. New York: Oxford University Press, 1996, p. 113.

¹⁶⁸ Steyn, p. 25.

¹⁶⁹ Wye, 2006, p. 16.

¹⁷⁰ Trevor Wye, *The scourge of modern flute playing-intonation*. <<http://www.trevor-wye.com/page26.html>> Retrieved 7 November 2002.

¹⁷¹ Wye, 2006, p. 16.

Wye is appalled when people point out that 'intonation is an obsession of the English'.¹⁷² As suggested by Corvin Matei, the reason for not being used to listening to intonation is that players use one prescribed fingering for one note and take for granted that the note will be in tune. The importance of the relationship between good embouchure control, proper abdominal breathing, correct fingering and good intonation has to be understood and explored.¹⁷³ Wye indicates that the majority of flute players rely on flute manufacturers to place the holes in the proper positions so they have to only make minor adjustments. He refers to an anonymous flute maker who claimed that flutes were not out of tune, but rather flute players; Wye suggests that both are. He does, however, credit modern flute makers with designing flutes with well-balanced scales. Even with the various improvements over the centuries the left-hand C-sharp tone hole still appears to be placed too high on the flute and, while many players can make the necessary adjustment for this note, there are just as many players who still sound sharp on this particular note. Many players tune sharp to begin with so that they don't sound flat when playing softly. Some recording artists are accused of never varying the dynamic level, so as not to affect the pitch, but Wye indicates that this is a very expressionless and unmusical way to perform any piece of music. Wye relates the following conversation between him and the director of the Paris Conservatoire, when he was invited to be an external examiner at their annual prizes examinations:

After two recitals he (the director) turned to me to ask, 'Is it difficult to control intonation on the flute?' I answered no. 'Why then, do so many of these players play so out of tune?' I told him it is a French tradition.¹⁷⁴

Wendell Dobbs indicates that simple scale passages such as G and D major are easier to play on an eight-key flute than on the modern flute. He also acknowledges that even though the intonation on 18th century flutes is quite good, it is better on the modern flute.¹⁷⁵

Wye points out that when a flute scale is good and the octaves are in tune, the notes of the third octave can be individually tuned through embouchure flexibility and

¹⁷² Wye, 2006, p. 19.

¹⁷³ Corvin Matei, *Peculiarities and factors influencing the intonation of woodwind instruments*. Unpublished doctoral dissertation. Cape Town: University of Cape Town, 2001, pp. 13-16.

¹⁷⁴ Wye, 2006, pp. 17-18.

¹⁷⁵ Dobbs, p. 17.

special fingerings.¹⁷⁶ Intonation problems on the piccolo have been corrected through alternate fingerings.¹⁷⁷

Whilst it is evident that the transverse flute has undergone several important changes through the centuries, a flawless instrument has yet to be manufactured. Being a flute player requires sensitivity to the inadequacies of the instrument, a good knowledge basis of the properties of the instrument as well as awareness of the fact that subtle adjustments in the embouchure and control of the airstream are all factors that allow for the production of a good sound.

2.3 The African *nyamulera* flute defined

The *nyamulera* or *endere* is a popular instrument of choice in indigenous music in all regions of Uganda. The name *nyamulera* indicates that the flute had its origin in Uganda and comes from the *Nyoro* people.¹⁷⁸ Depending on the region in which it is played, the four-stop flute is widely known as the *nyamulera* or *endere*,¹⁷⁹ *endere* meaning flute.¹⁸⁰

It has had a high status as both a solo and accompaniment instrument.¹⁸¹ As Cooke points out, the ethnic groups of Uganda had many uses for flutes, which were often end blown, 'either with a straight-cut sharp rim (blown across the rim obliquely) or of the notched variety'.¹⁸² The notched flute was popular as a solo instrument in Ganda and used to be quite long. It has since fallen out of use as a solo instrument,¹⁸³ but has been kept alive by performers such the contemporary folk group leader Albert Ssempeke.¹⁸⁴

¹⁷⁶ Wye, 2006, p. 20.

¹⁷⁷ Jicha, 2006, p. 24.

¹⁷⁸ Margaret Trowell and K. P. Wachsmann, *Tribal crafts of Uganda*. London: Oxford University Press, 1953, p. 340.

¹⁷⁹ Trowell and Wachsmann, p. 339.

¹⁸⁰ John Blacking, 'Eight flute tunes from Butembo, East Belgian Congo: An analysis in two parts, musical and physical'. *African music*. Vol. 1, No. 2, 1955, p. 24

¹⁸¹ Gideon Ampeire (director), *Music and the culture of Uganda: endere (flute)*. <<http://echouganda.com/1.html>> Retrieved 18 October 2007.

¹⁸² Peter R Cooke, 'Ludaya'. A transverse flute from eastern Uganda. *Yearbook of the international folk music council*. Vol. 3, 1971, p. 79.

¹⁸³ Trowell and Wachsmann, p. 340.

¹⁸⁴ Joshua Uzoigwe, Michael Nixon, Benon Kigozi (edited by Anri Herbst, Meki Nzewi and Kofi Agawu), 'Musicianship'. *Musical arts in Africa: theory, practice and education*. Pretoria: University of South Africa, Pretoria, 2003, pp. 61-63.

The *nyamulera* flute composition discussed in this dissertation is based on the recordings made by Hugh Tracey and data collected by John Blacking, and specifically refers to the *nyamulera* flute played by a man known as Katsuba Mwongolo (see Plates 2.22 and 2.23). Blacking experimented with and studied a flute similar to the one played by Mwongolo, which he refers to as the Bukuku flute, which is how it has been documented by International Library of African Music (ILAM). Blacking but did not have the opportunity to experiment with Mwongolo's personal *nyamulera* flute. The flute Blacking experimented with, which was collected from the Konjo people, is in the possession of ILAM.¹⁸⁵ The flute was made and owned by a Konjo man.¹⁸⁶ Mwongolo's performance on his *nyamulera* was first recorded by Hugh Tracey on 24 July 1952.¹⁸⁷

Plate 2.22 Katsuba Mwongolo, *nyamulera* flute player¹⁸⁸

Plate 2.23 Katsuba Mwongolo¹⁸⁹



¹⁸⁵ Blacking, 1955, p. 46.

¹⁸⁶ 'Nande is the name given to those of the Konjo Tribe who live in the Belgian Congo. The word Konjo means 'mountain people', which aptly describes the environment of the tribe'. Blacking, 1955, p. 24.

¹⁸⁷ Blacking, 1955, p. 24.

¹⁸⁸ Hugh Tracey, *On the edge of the Ituri Forest, North Eastern Belgian Congo, 1952*. CD (SWP 009/HT 03) Sleeve notes.

¹⁸⁹ Tracey, 1952, CD (SWP 009/HT 03) Sleeve notes.

2.3.1 The construction properties of the *nyamulera*

Aerophones in African music are divided into three groups, namely flutes, reed pipes and a group collectively referred to as horns and trumpets. The *nyamulera* belongs to the flute group. The *nyamulera* is personally made by the player and adapted to his or her own specifications in terms of hand and finger size, type of bamboo used and personal preference for the length of the tube.¹⁹⁰ There are therefore slight variations in length, finger-hole placements and size of the holes between flutes made by different players. Despite these differences, the *nyamulera* falls within the category of notched end-blown flutes.

The type of material used to make the *nyamulera* depends on the region it is from and played in. It is made from a wide range of naturally occurring materials such as reed grass from swamps, bamboo or the hollow stem of the castor oil tree.¹⁹¹ The flute may also be carved from wood, but the natural bore of 'bamboo, the husk of cane, the stalks of millet, or the tip of a horn or gourd'¹⁹² provides a good mould for sculpting a flute. Blacking describes the process of construction as follows:

After the reed has been brought in from the swamp, the musician himself cleans its outside and cuts it to a length suitable, in his opinion, for a flute. He puts the reed to his lips as if he were playing, in order to bring his fingers into the position he is accustomed to on other instruments. He marks the places where the two fingers nearest to his mouth, come down, and the distance between them becomes the standard length which determines the position of the third and fourth stops. The hands are placed in such a way that a node of the reed comes between them. He then proceeds to burn the stops into the wall of the reed with a red-hot wire or nail. The pith is removed from the inside, first with a smooth, pointed stick and then with a stick slightly thicker and covered with branch knots which act like the rough surface of a file. This accomplished, a mark is scratched, carefully, in line with the finger stops, near the upper rim for the notch. A V-shaped incision is cut with a knife and enlarged to a U-shaped notch with a red-hot iron. The flute is now ready except for the final process of 'proofing' the material: it is dipped into hot water for a moment, greased with butter, and exposed to the sun to dry. This rule-of-thumb results in the stops being placed at equal distances from each other.¹⁹³

It is clear from the above description that the four-hole notched flute was custom made according to the player's needs and demands of the indigenous music practice. The manufacturing process of the flute 'is remarkable in that no [scientific] acoustic test is applied at any stage of the process'.¹⁹⁴

¹⁹⁰ Trowell and Wachsmann, p. 339.

¹⁹¹ Trowell and Wachsmann, p. 339.

¹⁹² J.H, Kwabena Nketia, *The music of Africa*. New York: W.W. Norton, 1974, p. 92.

¹⁹³ Trowell and Wachsmann, p. 339.

¹⁹⁴ Trowell and Wachsmann, p. 339.

The function of the instrument affects the number of finger holes it has. Flutes with one or two finger holes have a very limited range. Such flutes are often made in sets, each with a different pitch. These sets are played together in order to produce melodies of a wider range using the hocket technique. Solo flutes and sets of flutes are quite common.¹⁹⁵

The flute belonging to Mwongolo was made from a single section of bamboo and has four finger holes; apart from producing the four fundamental tones, overtones can also be produced through over-blowing, a technique whereby the notes produced are based on the overtone series. (Harmonics and an extended register, achieved through alternate fingering and over-blowing, are both listed as extended techniques in Western transverse flute manuals.) The *nyamulera* studied by Blacking is 72 cm in length and has the following diametric measurements: external 3 cm and internal 2 cm. The four holes are spaced as follows:¹⁹⁶ 7.2 cm, 14 cm, 20.8 cm and 28 cm. 'Thus the holes (diameter 1.25 cm) are almost equidistant in spacing. The notch at the proximal end is like an equilateral triangle (length of base 1.2 cm, height 1.8 cm).'¹⁹⁷ According to Trowell and Wachsmann the notched flute received its name from the V or U-shaped notch against the breath that is directed at it.¹⁹⁸

The recording of Mwongolo's performance made by Tracey and discussed by Blacking was made on the edge of the Ituri Forests of the Democratic Republic of the Congo (known as the North-eastern Belgian Congo at the time of the recording in 1952). This area was known for economic and intercultural interaction as the Mbuti Pygmies 'borrowed' flutes from the Nande, Bira, Budu and Mangbele of the Congo. The *nyamulera* is played by the Nande.

Merriam describes the Bashi farmers in what was then known as the East Belgian Congo as people who are not only agricultural farmers, but also cattle farmers. Within this context an end-blown flute has somewhat of a revered status among cattle farmers within certain ethnic groups. Similarly, in Uganda the *endere* was used in

¹⁹⁵ Nketia, 1974, p. 93.

¹⁹⁶ Measured from the centre of each hole and the distance from the distal end.

¹⁹⁷ Blacking, 1955, p. 47.

¹⁹⁸ Trowell and Wachsmann, p. 339.

pastoral settings as well as cultural festivals and court music.¹⁹⁹ Merriam discusses two types of flutes, one with two finger holes and one with four finger holes, both of which have a U or V shaped notch in its upper end. The four-holed flute is played at the corner of the mouth and does not resemble the way in which Mwongolo played his *nyamulera*. The two-holed flute of the Bashi is known as *mulizi* and the four-holed flute is called the *kalallrd*. If the body of the flute suffers any damage, a leather covering is bound around the body of the flute to protect it from further damage.²⁰⁰

These two flutes described above have similar properties to those of the *nyamulera*, namely the four finger holes, the fact that it is played in the centre of the lips (in the case of the *mulizi*), it makes use of a sheath to wrap around a damaged flute, it is end-blown and has a notched carving. These flutes appear to be very closely related. The *mulizi* emerges as the instrument of choice for cattle herders of the Bashi tribe. Like the *nyamulera*, the *mulizi* can also either be played as a solo instrument or be accompanied by others.²⁰¹

Plate 2.24 *Endere*²⁰²



It was customary to decorate the flutes with patterns, such as beads sewn around the instruments, tussles of goat hair hanging from the end of the instrument or copper wire wound around the bamboo nodes.²⁰³

¹⁹⁹ Wendy Hymes, *Justinian Tamusuzza: Okwanjula Kw'Endere (Track 16)* <<http://wendyhymes.com/>> Retrieved 26 February 2010.

²⁰⁰ Alan P Merriam, 'The Bashi Mulizi and its music: An end-blown flute from the Belgian Congo' *The journal of American folklore*, Vol. 70, No. 276, 1957, pp. 143-145.

²⁰¹ Merriam, 1957, pp. 143-145.

²⁰² No author. *Face music-Traditional instruments-Uganda: endere*. <http://www.face-music.ch/instrum/uganda_instrumen.html> Retrieved 11 February 2010.

2.3.2 Sound production and performance techniques on the *nyamulera*

The flute is held between the thumb and index finger of each hand and the holes are closed by the first and third fingers. (John Blacking noted the way that Mwongolo held his instrument was different from the way other notched flutes were held. Like most Western wind instruments, notched flutes are held with the left hand above the right, but Mwongolo held his instrument with his right hand above the left.)²⁰⁴ In order to create a sound, a player purses his lips and blows against the notch. An additional throat sound can be produced by contracting the larynx and diaphragm. This movement of the larynx and diaphragm creates a 'tongued' effect.²⁰⁵ This instrument described by Blacking is a lot longer than the one used by Mwongolo and needs to be held at arm's length, which would make fast playing quite difficult.

Plate 2.25 An end-blown notched flute²⁰⁶



²⁰³ Trowell and Wachsmann, p. 341.

²⁰⁴ Blacking, 1955, p. 25.

²⁰⁵ Blacking, 1955, p. 48.

²⁰⁶ Nketia, 1974, p. 93.

Judging from the arm positions, this flute is longer in length than the one used by Mwangolo. This large flute may make rapid finger passages quite difficult to execute as the instrument is held at arm's length.

2.3.3 Tuning and intonation

Having only four finger holes, the *nyamulera's* range can be extended through the technique of over-blowing. The more holes a flute has the wider the range, but if a flute has fewer holes this is not necessarily a handicap.²⁰⁷

The lowest tone on the *nyamulera* described by Blacking is 212 vibrations per second (v.p.s) compared to the recording by Tracey of Mwangolo's *nyamulera*, which is 296 v.p.s. Discrepancies between the flute described by Blacking and the one played by Mwangolo may be attributed to the fact that Mwangolo's flute was shorter and therefore higher in pitch. Blacking highlighted that 320 different patterns could be created through the combination of the different ways of stopping the flute, without repeating a note. Blacking considers the fact that when any of these patterns are combined at random, or the technique of over-blowing is used, the instrument is able to produce a vast array of musical sound patterns.²⁰⁸

²⁰⁷ Nketia, 1974, p. 93.

²⁰⁸ Blacking, 1955, pp. 48-51.

Table 2.1 Blacking's comparative table of blowing and fingering of the Bukuku flute and Mwangolo's *nyamulera*

● represents stopped hole. line (i) of the tempered equivalents is for Mwangolo's flute;
 ○ represents open hole. line (ii) for the flute from Bukuku, whose v.p.s. are quoted.

| | | | | | | | |
|------------------------------|--------------------|-------------|-------------------------------|-------------|------------|------------|------------|
| R.H. | { 1st finger | ● | ● | ● | ● | ● | ○ |
| | { 3rd finger | ● | ● | ● | ○ | ○ | ○ |
| L.H. | { 1st finger | ● | ● | ○ | ● | ○ | ○ |
| | { 3rd finger | ● | ○ | ○ | ● | ○ | ○ |
| Fundamental:- | v.p.s. | 212 | 226 | 252 | 268 | 284 | 318 |
| approx. tempered equivalent: | (i) | d' | e' | f' | f#' | g' | a' |
| | (ii) | ab | a | b | c' | db' | eb' |
| Octave:- | | 424 | 452 | 504 | 536 | 568 | 636 |
| | | d'' | e'' | f'' | f#'' | g'' | a'' |
| | | ab' | a' | b' | c'' | db'' | eb'' |
| Twelfth:- | | 636 | 680 | 760 | — | 848 | — |
| | | a'' | b'' | c''' | | d''' | |
| | | eb'' | e'' | gb'' | | ab'' | |
| Fifteenth:- | | 848 | 904 | 1008 | — | — | — |
| | | d''' | e''' | f''' | | | |
| | | ab'' | a'' | b'' | | | |
| Seventeenth:- | | 1072 | 1136 | — | — | — | — |
| | | f#''' | g''' | | | | |
| | | c''' | db''' | | | | |
| Nineteenth:- | | 1280 | — | — | — | — | — |
| | | a''' | | | | | |
| | | eb''' | (sharper than a''' and eb''') | | | | |

The notes produced at the octave, twelfth, fifteenth, seventeenth and nineteenth are natural harmonics based on the fundamental note. The fundamental v.p.s given is that for the Bukuku flute and the approximate tempered equivalents on Mwangolo's flute, but the sequence of intervals and succession of tones on Mwangolo's flute differs from the one given in the example.

Blacking describes that the physical action of opening and stopping the holes is part of the overall performance of the piece:

The physical relaxation of throwing the fingers off the flute produces a tone that is harmonically tense, while the physical tension of stopping certain holes produces a tone that is harmonically relaxed.²⁰⁹

²⁰⁹ Blacking, 2000, p. 17.

According to Baines, with reference to a West African notched flute, 'lifting one finger after another gives approximate[ly] one and a quarter tones'.²¹⁰ These tones may be altered by 'lipping into the whole tones and one and a half tones of the music'.²¹¹

In African music the pentatonic scale is largely used, but its arrangement varies from one language group to another. This kinship between African music and African languages creates a kind of authenticity not found in Western music, but because language and instruments vary from region to region, African musical scales and instruments do not become standardised. Lo-Bamijoko identifies four types of scales found in African music: tetratonic, pentatonic, hexatonic and heptatonic.²¹²

John Blacking found that the players of the *Nande/Konjo* tribe did recognise and use pentatonic, hexatonic and heptatonic scales as well as having the knowledge to construct the intervals of these scales.²¹³ The flute has a pentatonic scale consisting of the tones 'sol, la, do, re, mi or do, re, mi, sol, la'. As the xylophone is an ubiquitous instrument in Uganda, its pitch is used to tune the *endere*.²¹⁴ Both Blacking and Nzewi point out that scales cannot simply be based on, or derived from, only one piece of music.

There is a need to correct a general misrepresentation of African cultural scales. A cultural scale cannot be prescribed as pentatonic or hexatonic on the basis of an isolated piece of music, or range of notes on an instrument. A corpus of different types of music in the culture must be studied to prove this.²¹⁵

Blacking discovered a working scale just over an octave on the flute he had at his disposal.²¹⁶ Nzewi pointed out that

Any two instruments of the same type and species could have different starting pitches for precisely the same scale/tone-row structure. The internal structure of the intervals determining the scale or tone-row of a melodic or melorhythmic instrument is, however, fixed and must not

²¹⁰ Baines, p. 183.

²¹¹ Baines, p. 183.

²¹² Leslie R. Saunders and Joy Nwosu Lo-Bamijoko, 'Conversations on African Music'. *Music educators journal*. Vol. 71, No. 9, May 1985, p. 57.

²¹³ Blacking, 2000, p. 26.

²¹⁴ Gideon Ampeire (director), *Music and the culture of Uganda: endere (flute)*. <<http://echouganda.com/1.html>> Retrieved 18 October 2007.

²¹⁵ Meki Nzewi, *A contemporary study of musical arts-Informed by African indigenous knowledge systems. Vol. 4: Illuminations, reflections and explorations*. Pretoria: CIIMDA, 2007, p. 102.

²¹⁶ Blacking, 1955, p. 45.

be compromised. Hence meticulous attention is paid to tuning of [some] instruments before and during performances.²¹⁷

The *nyamulera* may be thought of as an individualistic instrument, since much of the manufacturing process is personalised and dependent on the player's personal specifications and use of the instrument within the musical society. Playing techniques and methods may have evolved over the years, but the instrument itself has not undergone structural changes in order to be able to produce certain effects. The role and function of the instrument as part of a community's musical needs are quite important aspects of the use of the *nyamulera*.

2.4 The Japanese *shakuhachi* defined

Japanese flutes have long had an effect on Western flute literature. The 'diverse tone color and presence'²¹⁸ of the *shakuhachi* seems to have had the most influence. William Malm says:

One of the easiest ways to approach the music from another culture is through its flute literature. There seems to be something in the tone of the flute that has a universal appeal. This catholic quality is amply illustrated by the example of the *shakuhachi*.²¹⁹

Cross-cultural explorations of musical styles have become more prominent, as the differences and similarities between different musical cultures and traditions can be quite intriguing.

Exploring cross-cultural music, including flute music, is becoming more popular in Western classical music. Japanese music in particular focuses more on tone color and spiritual appeal than on the traditional elements of Western music: melody, rhythm, and harmony. Western music stresses vertical structure as well as linear lines, while Japanese music emphasizes linear and spatial elements.²²⁰

Andreas Gutzwiller and Gerald Bennett agree that in Western musicology musical analysis does not focus on individual tones, but rather on the way in which the different tones have been combined to create music. At the same time, an analysis of an individual instrumental tone disregards the music made up of many of these tones. Music occurs where several tones enter into a relationship together either simultaneously or successively. They go on to say that:

²¹⁷ Nzewi, 2007, pp. 2-3.

²¹⁸ Shimada, p. 27.

²¹⁹ William P. Malm, *Traditional Japanese music and musical instruments* (new revised edition). New York: Kodansha International, 2000, p. 165.

²²⁰ Shimada, p. 26.

In such a context, interest in a single note will necessarily be restricted to its acoustical characteristics. In Japanese music we find quite a different situation. There is a deep-seated attitude towards realization of a self-sufficient musical world within the scope of even a single sound. This is the world in which sounds are created and experienced as organic and free from the instinct to build and form complicated structure.²²¹

Plate 2.26 *Shakuhachi* view from the front and back²²²



In 1927 the *shakuhachi* was described as:

An instrument which sounds 'sweet and soothing' even according to our ideas. A thick bamboo flute (blown like a clarinet) its timbre lies between a bass clarinet tone and the shimmering tremulando of the organ's *Vox humana stop*.²²³

The *shakuhachi* is an end-blown notched flute from Japan, made of bamboo and has four finger holes on the front of the instrument and a thumbhole at the rear. The notch which is cut in the lip of the flute aids sound production.²²⁴ A combination of fingering and embouchure adjustments produces a three-octave range plus a fourth. The *shakuhachi* appears in various lengths a semitone apart.²²⁵ It is possible to produce all the pitches of the chromatic scale by partly covering the finger holes. D, F

²²¹ Gerald Bennet and Andreas Gutzwiller, 'The world of a single sound: basic structure of the music of the Japanese flute *Shakuhachi*'. *Musica Asiatica*. Vol. 6, 1991, p. 36

²²² William P. Ma'm, 'Japanese music'. *Encyclopaedia Britannica Online*. Encyclopaedia Britannica, 2010. <<http://www.search.eb.com/ebi/article-283263>> Retrieved 6 February 2010.

²²³ Heinrich Werkmeister and Frederick H. Martens, 'Impressions of Japanese music'. *The musical quarterly*. Vol. 13, No. 1, 1927, p. 102

²²⁴ Michæl Randel (editor), '*Shakuhachi*'. *The new Harvard dictionary of music*. London: Belknap Press of Harvard University Press, 1986, p. 746.

²²⁵ Montagu, 2002, p. 1144.

G A and C are the fundamental pitches and the tones upwards can be produced by over-blowing, lipping and cross-fingering.²²⁶

It may be thought of as a recorder-like flute and is played vertically. Originally it was an instrument associated with Buddhist monks²²⁷ and to the practice of meditation. Hence the tone is smooth and rhythmically it is very free. Explosive, breathy sounds are possible, but its main purpose is to create intensity. Overall *shakuhachi* music creates a sense of 'nothingness and ambiguity'.²²⁸ Presently it enjoys a status also as an ensemble instrument played with the *shamisen*²²⁹ and the *koto*.²³⁰ The *shakuhachi* produces subtle breathy sounds that can be very spellbinding.²³¹ The *shakuhachi* style is characterised by 'rhythmic freedom, dynamic swells and the grace note that concludes each phrase'.²³²

The name of the flute refers to its length, which is a traditional Japanese unit of measurement.²³³ The Garland Encyclopaedia and New Grove dictionary define the *shakuhachi* as follows:

The name - a Japanese reading of Chinese characters - refers to measurements in a decimal system derived from China and thus specifies the standard size: *syaku* 'a fixed unit of length' and *hati* 'eight'; therefore, the instrument is 1.8 *syaku* long, about 54.5 centimetres.²³⁴ The name derives from the old Japanese measurement *isshaku hassun* (54.5 cm), [t]he length of the most commonly played modern *shakuhachi*. The name also refers to a family of 18 flutes of varying lengths (33.5 cm-84.5 cm).²³⁵

The above definition may not be entirely complete in its description of the *shakuhachi*, but it provides enough detail to bring a complete image of the *shakuhachi* to mind. Although there are *shakuhachi* of various lengths, all players play the 1.8 *shaku* length and it is therefore referred to as the standard length, even

²²⁶ Baines, 1991, p. 183.

²²⁷ Randel, 1986, p. 746.

²²⁸ Shimada, pp. 27-28.

²²⁹ This traditional Japanese instrument is a long necked lute and has three strings. Jeff Titon and Linda Fujie, *Worlds of music: an introduction to the music of the world's peoples*. Belmont: Cengage Learning, 2005, p. 169.

²³⁰ Randel, 1986, p. 746. The Koto is a thirteen string zither. 'Traditional Japanese plucked string instrument with moveable frets on the sounding board'. Titon *et al.*, p. 192.

²³¹ Heidi Varian, *The way of taiko*. Berkeley: Stonebridge Press, 2005, p. 59.

²³² Stanley Sadie (editor), '*Shakuhachi*'. *The new Grove dictionary of music and musicians*, p. 218.

²³³ Varian, p. 59.

²³⁴ Satosi, p. 701.

²³⁵ Sadie, p. 218.

though the fingerings will vary on *shakuhachi* with more finger holes. *Shakuhachi* performance techniques can be practised on the different length *shakuhachi*.²³⁶

While it is possible to present a summarised definition of the *shakuhachi*, a slightly more in-depth study of its origin, development, structure and playing technique is necessary to fully reveal the full capabilities of the instrument.

2.4.1 The history and construction properties of the Japanese *Shakuhachi*

The *shakuhachi* is said to be the most popular Japanese instrument since the mid-19th century. However, it was first introduced from China in the eighth century as part of an ensemble used for Chinese court music.²³⁷ The *shakuhachi*, with its attractive tone which reflects sorrow and warmth, has a captivating history and it is well deserving of its revered status on the global music stage. The existence of the *shakuhachi*, or something similar to it, can be traced back to ancient Egypt. Similarities can be found in a flute known as the *sabi*, which had a similar mouthpiece to the *shakuhachi*, but was much longer and thinner in construction. Historical evidence traces the instrument's journey as it travelled from Egypt, through Iran and India until it reached China,²³⁸ and then made its way to Japan some time during the 8th century.²³⁹ Therefore it can safely be said that the Japanese *shakuhachi* is a descendent of the Chinese form, developed and modified in Japan.²⁴⁰

The term *shakuhachi*, 'known for its delicate tonal shadings and evocative, breathy sounds',²⁴¹ is derived from the word for the Chinese measurement of one of the bands of pipes that was used in the Chinese courts to tune the court orchestra. In Japanese it is pronounced *issaku hassun*²⁴² ('one *shaku* and eight *sun*,' approximately 56 centimetres).²⁴³ The name *shakuhachi* is therefore 'a corruption of

²³⁶ Jeffrey Lependorf, 'Contemporary notation for the shakuhachi: A primer for composers'. *Perspectives of new music*. Vol. 27, No. 2, 1989, p. 234.

²³⁷ Lee Riley, '*Shakuhachi* honkyoku notation: written sources in an oral tradition'. *Musica Asiatica*. Vol. 6, p. 18. New York: Cambridge University Press, 1991.

²³⁸ William P. Malm, *Japanese music and musical instruments*. Tokyo: Charles E Tuttle, 1959, p. 151.

²³⁹ Riley, p. 18.

²⁴⁰ Malm, 1959, p. 151.

²⁴¹ Varian, p. 122.

²⁴² Malm, 1959, pp. 151-152.

²⁴³ Malm, 2000, p. 166.

the Chinese measurement for one such instrument, (known as the *Xiao* in Chinese)'.²⁴⁴

This band of pipes was essentially a series of Chinese pitch pipes joined together in a bundle to form something similar to pan pipes. There were no finger holes and no other indentation on the body of the instrument. This meant the player had to blow across the pipes, which were much like hollow tubes, over which the player directed an airstream. This instrument would then be used to tune the instruments of the court orchestra. Each time a new emperor sat on the throne, the pitch pipes would have to be re-measured because each emperor had different specifications for the tuning of the pipes. The reason for this was because they placed great importance on the flawless tuning of instruments for religious ceremonies and rituals and they did not want to upset the divine unity between man and celestial entities with inadequately tuned instruments.²⁴⁵ Disassembly of these bands of pipes led to each of these pitch pipes being fitted with five holes which transformed it into an independent melodic instrument. This separation of the pipes marks the origin of the Japanese *shakuhachi*.²⁴⁶

Through Japanese innovation the *shakuhachi* mouthpiece was constructed obliquely outward, in exactly the opposite way to that of the Chinese pitch pipes. In the years to follow bone or ivory was placed over the playing edge to prevent withering and erosion.²⁴⁷

In observing the historical journey of the Japanese *shakuhachi* since its incipient stages in Japan, it is necessary to focus on three main types of *shakuhachi*, namely the *gagaku shakuhachi*,²⁴⁸ *hitoyogiri shakuhachi* and the *fukeshu shakuhachi*.²⁴⁹

²⁴⁴ Malm, William P, 'Japanese music'. *Encyclopaedia Britannica Online*. Encyclopaedia Britannica, 2010. <<http://www.search.eb.com/eb/article-283263>> Retrieved 6 February 2010.

²⁴⁵ Malm, 2000, p. 166.

²⁴⁶ Malm, 2000, p. 165.

²⁴⁷ Malm, 2000, p. 166.

²⁴⁸ Malm, 1980, p. 48.

²⁴⁹ Malm, 2000, p. 151.

2.4.1a *Gagaku shakuhachi*

The 8th century witnessed the arrival of the *shakuhachi* in Japan as part of an ensemble used for *gagaku*²⁵⁰ music. There was a definite awareness of the existence of the *shakuhachi* in Japan since the *Nara Period* (710-794).²⁵¹ As the *shakuhachi* was introduced as a member of the *gagaku* ensemble, it was widely known as *gagaku shakuhachi*. It was not really suited for an orchestral role, as its tone was very soft and it might have enjoyed more success as a solo instrument.²⁵²

The *gagaku shakuhachi*, still fashioned after the Chinese model and making use of the Chinese pentatonic scale, flourished during the *Heian period* (794-1185). The appearance of another type of *shakuhachi*, the *hitoyogiri shakuhachi*,²⁵³ caused the *gagaku shakuhachi* to move into the background and it has never been successfully revived since.²⁵⁴

2.4.1b *Hitoyogiri shakuhachi*

The embryonic stages of the *hitoyogiri shakuhachi* stemmed from a Chinese vertical flute known as *Hsiao (Xiao)*, which made its appearance during the *Muromachi period*,²⁵⁵ (1338-1573). This instrument was a one-node,²⁵⁶ small, short and narrow bamboo tube, measuring 33.02 cm, making it much shorter than the present-day *shakuhachi*, which is longer and thicker. The root end of the tree was used for the playing edge. It featured five finger holes, four on the front and one on the back.²⁵⁷ The *hitoyogiri shakuhachi* featured a new blowing edge (without the bone or ivory insertion of the later *shakuhachi*) and was able to produce Japanese folk scales. Because it was short in length, its pitch was quite high²⁵⁸ and it had a pleasurable tone.²⁵⁹

²⁵⁰ The term *gagaku* 'elegant music' is generally associated with traditional Japanese court music. However, *gagaku* is also performed at Shinto shrines and Buddhist temples as part of religious rituals. Terauchi Naoko, 'Gagaku'. *The Garland encyclopaedia of world music: East Asia-China, Japan and Korea*. Vol. 7, No. 2002, New York: Routledge, p. 619.

²⁵¹ Satosi, p. 701.

²⁵² Malm, 1959, p. 151.

²⁵³ Known as a 'one-node' *shakuhachi*. Satosi, p. 701.

²⁵⁴ Malm, 1959, p. 152.

²⁵⁵ Shigeo Kishibe, *The traditional music of Japan*. Tokyo: Ongaku No tomo Sha corporation, 1984, p. 7.

²⁵⁶ Satosi, p. 701.

²⁵⁷ Malm, 2000, p. 167.

²⁵⁸ Malm, 2000, p. 169.

²⁵⁹ Malm, 1959, p. 152.

The *hitoyogiri shakuhachi* was played by nomadic Zen Buddhist priests. They were referred to as *komoso* 'rice straw priests' or 'straw mat monks', as they used to travel with rolled-up straw mats tied to their backs, which would be used as beds to sleep on. These monks' chosen life of poverty was one where they considered the *shakuhachi* as a religious tool through which to practice meditation. They wore large straw hats and eventually modified the hat into a structure that resembled something similar to a straw basket. They would play their *shakuhachi*, with these baskets covering their entire head and face to show their detachment from the rest of the world; it was also a way to conceal their identity.²⁶⁰

With the demise of the *komoso* 'rice straw priest' tradition, the prominence of the *hitoyogiri shakuhachi* and its pleasant tone was short lived. The music of the *hitoyogiri shakuhachi* made appearances during the *Edo* period (1600-1868), but merely as a cultural hobby. By the 19th century the music of the *hitoyogiri* was almost lost in oblivion.²⁶¹

2.4.1c *Fukeshu shakuhachi*

When the *shakuhachi* resurfaced again, it was during the *Edo* period (1600-1867) and this time at the hands of mendicant monks, known as *komuso* 'priests of emptiness'.²⁶² '*Fukeshu/fuke shakuhachi*' is a modern-day scholarly term used in order to distinguish it from the other two previous *shakuhachi*. Sources during the *Edo* period would refer to this particular *shakuhachi* as '*komuso shakuhachi*'.²⁶³

The change in the design of the *shakuhachi* during the time of the *komuso* 'monks of emptiness' may be attributed to the following factors. This era was marked by the disintegration of feudal Japan and many regions were afflicted with violence. The *komuso* 'monks of emptiness' were dislodged ex-samurai combatants. And as they no longer carried any swords, they found a new 'weapon' of protection in the *shakuhachi* and a guise in the *shakuhachi* playing tradition of the previous 'rice straw

²⁶⁰ Satosi, p. 703.

²⁶¹ Malm, 2000, p. 167.

²⁶² Riley, p. 18.

²⁶³ Alison Tokita and David W. Hughes (editors), *The Ashgate research companion to Japanese music*, p. 150.

monks'.²⁶⁴ These masterless ex-samurai were known as *ronin* and had by then lost all their prestige and benefits that went along with being a *samurai*.²⁶⁵ They modified the instrument by making it broader and longer and the bell of the instrument was made from the trunk of the root end of the bamboo plant.²⁶⁶ The *shakuhachi* had gained notoriety as a musical instrument, with the ability to be used as a weapon of self-defence should a situation call for such actions.²⁶⁷

By supposedly adopting the tradition of the *komuso* 'rice straw priests' they also had to pretend to be seeking spiritual fulfilment. Because they were also fearful that their cover might be blown, they organised themselves into a group known as *fukeshu*. Monks from established authentic temples were not taken in by this guise and the *komuso* 'monks of emptiness', came up with a plan to continue using the original 'straw-mat monk' tradition, not only as a way to move around the country with their identity concealed, but also to solicit alms through their performances on the *shakuhachi*. They falsified the document stating their origin and then claimed it had been lost in a fire. They also said that amongst those documents were papers giving them exclusive right to play the *shakuhachi*. Weary of whether to trust these *ronin*, a compromise was reached between the *shogun* of Japan and the *ronin*. They were allowed to play the *shakuhachi* freely around the country as long as they acted as spies on other *ronin*.²⁶⁸ The *shogun* had found an ally in the *ronin* and in turn the *ronin* were able to keep their identity secret.

Anyone who was interested in playing the *shakuhachi* had to obtain a permit from the *fukeshu* group. This did not prevent *shakuhachi* players from appearing in other parts of the country without a licence. Even though the *fukeshu* pretended to be monks, their music was not very Buddhist in character, but rather contained hints of folk and other popular music influences.²⁶⁹

²⁶⁴ Malm, 1959, p. 157.

²⁶⁵ Malm, 1959, p. 151-154.

²⁶⁶ Malm, 1959, p. 157.

²⁶⁷ P Dunbar-Hall and G. Hodge, *More aspects of music*. Marrickville, Australia: Science Press, 1999, p. 73.

²⁶⁸ Malm, 1959, p. 151-154.

²⁶⁹ Malm, 1959, p. 157.

The *komuso* 'monks of emptiness' developed a repertoire for the *shakuhachi*. The pieces originally composed and performed by the *komuso* are known as *honkyoku*,²⁷⁰ which literally means 'original pieces'.²⁷¹ The *honkyoku* are essentially solo pieces intended to be performed only on the *shakuhachi*.²⁷² Traditional *honkyoku* pieces are today the most valued music of the *shakuhachi*, which is passed on orally.

Even after the adoption of various notation systems became widespread, the *shakuhachi honkyoku* tradition remained fundamentally an oral one. *Shakuhachi* lessons almost always consist of the student playing together with the teacher. A student is never asked to sight-read a new *honkyoku* piece; in fact he is told that this is impossible since *honkyoku* notation is a mere outline of the music at best and frequently is totally unrelated to the actual sounds produced. The transmission of the piece is accomplished orally (or aurally) from teacher to student.²⁷³

Malm suggests that perhaps these 'original pieces' were used as a way to weed out the true *ronin* from those who were acting as spies. The *komuso* who played the *shakuhachi* were very popular during the Edo period and feature in paintings and poetry of the time.²⁷⁴ As James H Sanford relays in his experience of watching Japanese television:

Practically every evening on Japanese television, viewers are offered a variety of costume dramas, usually set in the Edo period, in which an intrepid samurai, fighting against truly astonishing odds, cuts down a host of evil foes with his sharp sword and then manfully strides away from the corpse-strewn scene. In quite a number of these colourful *chambara*, there appears a strange and solitary figure, playing a long Japanese flute and wearing an odd beehive-shaped basket hat which completely conceals his face. His dress and demeanour indicate that he is some sort of travelling priest, and indeed the haunting melody of his flute has a religious quality about it. Yet in the final scene, when he is attacked by a band of wicked swordsmen, the 'monk' wades into his assailants fearlessly, wielding his heavy flute to such effect that the ruffians are either bludgeoned to the ground or put to ignominious flight.²⁷⁵

During the Edo period the *shakuhachi* was used in Buddhist services, but later it was used as a chamber music instrument.²⁷⁶ In the late Edo period the *shakuhachi* was used as both a secular and solo instrument.²⁷⁷ The *shakuhachi* as a solo instrument was not tuned to any other particular instrument. It was often hand-made by the player himself, who relied on his own intuition. This meant that there would be varied

²⁷⁰ Riley, p. 18.

²⁷¹ Dunbar-Hall and Hodge, p. 73.

²⁷² Tokita and Hughes, p. 155.

²⁷³ Riley, p. 18.

²⁷⁴ Malm, 2000, p. 167.

²⁷⁵ James H. Sanford, 'Shakuhachi zen. The fukeshu and komuso'. *Monumenta Nipponica*. Vol. 32, No. 4, p. 411.

²⁷⁶ Satoshi, p. 702.

²⁷⁷ Malm, 2000, p. 170.

sizes and lengths of *shakuhachi*, with even the finger holes spaced differently and according to whatever felt comfortable for the player. No other modifications would be made, other than lacquering the inside of the tube for durability; i.e. to protect the inside against moisture.²⁷⁶

The role of the *shakuhachi* and its performance style had evolved throughout the Edo period. It had started with the *komuso* 'straw-mat monks' in the early Edo period, progressed to being played by the *komuso* 'monks of emptiness' and lastly, the *komuso* 'monk spies' of the late Edo period.²⁷⁹

Plate 2.27 Komuso *shakuhachi* player²⁸⁰



²⁷⁶ Tokita and Hughes, p. 153.

²⁷⁷ Satosi, pp. 701-703.

²⁸⁰ No author, *Shakuhachi, the Japanese traditional bamboo flute*.

<<http://thejapanesepage.com/culture/shakuhachi>> Retrieved 14 February 2010.

2.4.1d The modern day *shakuhachi*

There are mainly two types of *shakuhachi* schools namely *Tozan* and *Kinko* schools. The *Tozan* School plays more recent music written on staff notation and features no traditional *honkyoku* in their repertoire. The *Kinko* school teaches traditional *honkyoku* written in traditional Japanese calligraphy symbols known as *katakana*. These symbols are used to show fingering positions.²⁸¹ Jeffrey Lependorf indicates that the biggest problem facing anyone interested in exploring the capabilities of the *shakuhachi* is its notation system. Much of the music is taught and learnt by rote. *Shakuhachi* tablature differs from school to school and pieces learnt at one school may not necessarily be available at another. Using Western notation for *shakuhachi* music presents certain challenges to the composer and each performance produces different results.²⁸²

Elda Tate points out that the '*shakuhachi* have some small distinctions due to the specific *honkyoku* schools regarding the cut of the tone edge, the size of the finger holes. There are of course different lengths'.²⁸³

Plate 2.28 A *Kinko* school-style *shakuhachi* mouthpiece²⁸⁴



²⁸¹ Riley p. 20.

²⁸² Lependorf, pp. 232-247.

²⁸³ Elda Tate (etate@nmu.edu), Private e-mail correspondence, received on 30 October 2007.

²⁸⁴ Jem Klein, *Hosetsu shakuhachi: options for your shakuhachi*. <<http://www.hosetsu.com/>> Retrieved 14 February 2010.



Tracing the evolution of the modern *shakuhachi*'s music during the Edo period proves challenging as it is known that the Edo writers of the time forged historical documents, so not all historical sources may be reliable and trustworthy. The active and sporadic distribution of the music of the *shakuhachi* from the Edo period may be attributed to the 'rice straw priests', who played while having their heads covered by straw baskets.²⁸⁶

There are two types of *shakuhachi* repertory:

- *Honkyoku* (original music), solo pieces in free form and rhythm created prior to and during the Edo Period;
- *Gaiyoku* (outside pieces) adapted from *koto* music; these pieces have a 'lighter structure and more metrical rhythm (with frequent changes of tempo)'.²⁸⁷

Maintaining the traditions of the performing arts in Japan is achieved through teaching and imitating the teacher in fairly strict way. The value placed on teaching these forms is almost on a par with, if not on a slightly more elevated level, than performance itself. It is not about personal performance technique.

²⁸⁵ Jem Klein, *Hosetsu shakuhachi: meditation shakuhachi*

<http://www.hosetsu.com/specia_order_a_meditation.html> Retrieved 14 February 2010.

²⁸⁶ Malm, 2000 p. 167.

²⁸⁷ Randel, 2003, p. 271.

Elda Tate says about the *shakuhachi* as an instrument of meditation: 'The very production of a sound and the use of the breath is a process of meditation and its history is tied to Buddhism'.²⁸⁶

A relatively new type of blend of the *shakuhachi* and Western flute has manifested itself in what is known as the *shakulute*. The *shakulute* was designed by Monty Levenson. It basically is a *shakuhachi* headjoint manufactured to fit the body of a standard Western transverse flute.²⁸⁵ Alto versions of the *shakulute* are also available. Mastering the control of a good sound, which resonates from both bamboo and metal, requires practice and patience.²⁹⁰ It can be thought of as a perfect physical blend of Eastern and Western instruments.

Plate 2.30 'Shakulute'-*Shakuhachi* headjoint for Western transverse flute²⁹¹



²⁸⁶ Elda Tate (etate@nmu.edu), Private e-mail correspondence, received on 30 October 2007.
²⁸⁹ No author, *Shakulute*. <<http://www.suddensite.net/MultipleFlutes/ShakuluteBase.html>> Retrieved 24 July 2010.
²⁹⁰ Jan Engoren, *Beautiful music*. <<http://www.miamiartzine.com/vol3/issue66/1right.htm>> Retrieved 24 July 2010.
²⁹¹ No author, *Tai hei shakuhachi Shakulute: shakuhachi headjoint for the silver flute* <<http://www.shakuhachi.com/>> Retrieved 14 February 2010.

Plate 2.31 *Shakuhachi* headjoint for Western transverse flute²⁹²



Plate 2.32 'Shakulute' fitted on a wooden Western transverse flute²⁹³



2.4.2 Sound production and performance techniques on the Japanese *shakuhachi*

The basic tone of the *shakuhachi* is equated to the sound obtained when blowing across the opening of a bottle. The instrument is held vertically and air is blown downward into the instrument.²⁹⁴ The sound of the *shakuhachi* can be mellow in its low tones, the sound equated to that of a recorder. One way of modifying the sound would be to use different playing techniques in order to create, for example, either a breathy or shrill sound, particularly in the upper register.²⁹⁵ Performance techniques include partially opening and closing the finger holes, lowering and raising the head

²⁹² No author, *Tai hei shakuhachi. Shakulute: shakuhachi headjoint for the silver flute*. <<http://www.shakuhachi.com/>> Retrieved 14 February 2010

²⁹³ No author, *Tai hei shakuhachi. Shakulute: shakuhachi headjoint for the silver flute*. <<http://www.shakuhachi.com/>> Retrieved 14 February 2010.

²⁹⁴ Shimada, p. 27.

²⁹⁵ Dunbar-Hall and Hodge, p.73.

to fluctuate pitch settings and varying the intensity of the air stream. It is suggested by Satosi that it is the use of such techniques that has allowed for flexibility in expression and has led to the culmination of the *shakuhachi* becoming quite popular not only in Japan, but also abroad.²⁹⁶ Dunbar-Hall and Hodge indicates that the *shakuhachi* retains its popularity in Japan today not only because it serves as a link to the past through folksong as a solo or ensemble instrument, but also because it features in modern performing ensembles such as jazz groups and other popular styles.²⁹⁷

In *shakuhachi* musical tradition the main element is the tone itself. Typical *shakuhachi* melodic characteristics would be: 'Melody that lends itself to extreme dynamic change and to pitch bending and colour. Melody that can be somewhat contemplative'.²⁹⁸ In order to create various timbral shadings, the player needs to be quite skilful and have a flexible and responsive embouchure. Timbral effects are achieved by 'covering the holes in different combinations, by varying the speed of the airflow, and by tilting the *shakuhachi* inward and outward'.²⁹⁹ Below is a short description of *shakuhachi* performance techniques relating to timbral and pitch change.³⁰⁰

- *Merikari*: Pitch and timbre can be affected without changing the fingering when the chin is placed onto the blowing edge of the mouthpiece. A drawn-in chin and relaxed lip creates a lowering of pitch (*meri*). A pushed out chin and tight lip creates a raise in pitch (*kari*). Lowering the pitch from one to another produces intervals of whole tones and raising the pitch produces half tone intervals at the most.
- *Uchiyubi/Atari*: Tonguing is not used in traditional performance practice and repeated notes are played with separated finger actions known as *uchiyubi*, which is basically the opening and closing of a hole. The start of a note is created through finger hits. This ornamentation is known as *atari*.
- *Muraiki*: One of the essential styles of *shakuhachi* playing, which creates an explosive breathy sound, requires the player to blow a strong stream of air

²⁹⁶ Satosi, p. 701.

²⁹⁷ Dunbar-Hall and Hodge, p. 73.

²⁹⁸ Elda Tate (etate@nmu.edu), Private e-mail correspondence, received on 30 October 2007.

²⁹⁹ Shimada, p. 28.

³⁰⁰ Shimada, p. 28.

over the mouthpiece, also known as *utaguchi*. Essentially this is noise and at its most intense, the noted pitch can barely be heard, but the volume of the breathy sound is more overpowering.

- *Yuri*: Refers to a movement of the head which is used to produce a type of *vibrato* effect and is also used in traditional practice. There is no use of diaphragmatic *vibrato*. Different types of *vibrato* can be created depending on the head movement. For example, when the head is moved vertically (*tate-yuri*), as opposed to horizontally (*yoko-yuri*), the *vibrato* is wider. It is not just a matter of simply moving the head horizontally or vertically, but it requires skill that is acquired through years of practice.

The basic pitches are achieved by covering or uncovering the holes in succession. The rest of the pitches are produced by partially covering the holes in different combinations and this is done in conjunction with or without raising or lowering the chin. The second octave notes are produced by over-blowing the notes of the first octave. The basic pitches can be accessed at any time and from any direction and has the best range for dynamic variation. The chin needs to be in the correct position before altered pitches can be produced and they therefore need more preparation time to execute.³⁰¹

Tongued articulation is not used for successive notes of the same pitch, but instead a 'system of grace note articulation' and glissandi are utilised as part of regular performance practice.³⁰² Tongued articulation is possible and creates an effect whereby the *shakuhachi* sound resembles that of a flute. This type of effect is reserved for special occasions and is usually included with a footnote to inform the player that such an attack is required. Tongued articulation works well in loud dynamic passages.³⁰³

³⁰¹ Lependorf, p. 234.

³⁰² Lependorf, p. 233.

³⁰³ Lependorf, p. 235.

2.4.3 Tuning and intonation

An important feature of a large part of Japanese music is that it is typified by 'five-tone scales with and without semitones'.³⁰⁴ The *shakuhachi* is tuned to a pentatonic scale without semitones. The scale of the *shakuhachi* is explained by Elda Tate: '...in the simplest terms, it could be said to be pentatonic. It is capable of far more complex tones/scales incorporating quarter and eighth tones'.³⁰⁵ Japanese music does not use a tempered scale.³⁰⁶ The closed hole pitches do match the pitches of equal temperament, but since the *shakuhachi* does not have a key or valve system, producing microtones is a fairly straightforward process.³⁰⁷

The Japanese tone system makes use of all twelve chromatic tones, the scales and their tonalities. This 12-tone system stems from the Chinese system and is of absolute pitch. This system is common in all Japanese music except that of the *Noh*. At the same time it should be said that the idea of 'key' and 'absolute pitch' is not adhered to in common musical practice, with the exception of the *gagaku* style. The most characteristic scale used in Japanese music is the five-tone scale, with or without semitones, but again with the exception of the *gagaku* style.

The *shakuhachi* has a colourful history and the way it was used as a music tool through the years has many variations. The instrument itself has not undergone significant changes to the extent the Western transverse flute has, but the *shakuhachi* has succeeded in bridging the gap between East and West and has successfully carried forth ancient music traditions and merged with Western music traditions.

2.5 The Japanese *noh-kan* defined

The *noh-kan* is a transverse bamboo flute with a varnished finish and has seven finger holes. The *noh-kan*'s unique timbral and pitch qualities may be attributed to the extra piece of bamboo called the *nodo*, which is inserted in the flute bore 'between

³⁰⁴ Shigeo, p. 19.

³⁰⁵ Elda Tate (etate@nmu.edu), Private e-mail correspondence, received on 30 October 2007.

³⁰⁶ Shimada, p. 27-29.

³⁰⁷ Lependorf, p. 233.

the first finger hole and mouth hole'.³⁰⁸ The *noh-kan* is similar in appearance to an older transverse flute, the *ryuteki* which is used in *gagaku*. This similarity in appearance suggests a common ancestry between the two flutes.³⁰⁹ The *noh-kan* has a tapering conical bore and plays uniquely high-pitched sounds.³¹⁰

The *noh-kan* is used in *Noh* theatre and is the only melodic instrument part of a four-instrument ensemble. The main characteristic of *Noh* music is the rhythmic element, since three of the instruments are percussive instruments.³¹¹ The instruments of the *Noh* consist of one woodwind – a flute (*fue*) – and three percussion instruments: a shoulder-drum (*ko-tsuzumi*), a hip-drum (*o-tsuzumi*) and a stick-drum (*taiko*).³¹² The instrumental ensemble is seated at the back of the stage.³¹³ Vocal music may be accompanied by the ensemble. The *Noh* flute melodies do not necessarily vary from one *Noh* drama to the next. There is a selection of 'stock melodies' that is frequently drawn upon by the author and/or composer.³¹⁴ The *Noh* performer is also a singer and dancer.³¹⁵ There are three types of performers who portray the roles in *Noh* play:

1. *Shite*: the main actor who wears a mask for each role s/he portrays;
2. *Waki*: supporting actors who do not wear masks;
3. *Hayashi*: Musicians

The *shite* portrays a range of characters ranging from spirits of men and women and even plants or trees, to gods, demons and supernatural beings. *Waki* portray real living men, for example, Shinto priests, Buddhist monks and samurai.³¹⁶

³⁰⁸ Zeami (translated by Tom Hare), *Zeami performance notes*, Columbia University Press, 2008, p. 448.

³⁰⁹ Zeami, p. 448

³¹⁰ No author, *Noh and kyogen*. <<http://www2.ntj.jac.go.jp/unesco/noh/en/roles.html>> Retrieved 9 March 2010.

³¹¹ Tatsuo Minagawa, 'Japanese noh music'. *Journal of the American musicological society*. Vol. 10, No. 3, 1957, p. 181.

³¹² No author, *The roles in noh plays*. <http://www2.ntj.jac.go.jp/unesco/noh/en/roles_musical.html> Retrieved 7 March 2010.

³¹³ Minagawa, p. 181.

³¹⁴ Minagawa, p. 194.

³¹⁵ Minagawa, p. 181.

³¹⁶ No author, *The roles in noh plays*. <<http://www2.ntj.jac.go.jp/unesco/noh/en/roles.html>> Retrieved 9 March 2010.

Plate 2.33 Noh flute player³¹⁷



Plate 2.34 Noh ensemble³¹⁸



2.5.1 The construction properties of the Japanese *nôh-kan*

Yukihiro Isso describes the making of the *nôh-kan* as a process in which the bamboo is split into pieces and then put back together again, but with the hard outer parts now facing inwards. It is then bound with cherry bark or rattan.³¹⁹

He has pondered about this unconventional way of construction and at first he assumed that it was this unusual construction process that may be responsible for the 'hard-pitched sound that is used at critical moments in the play when the flute seems to be calling forth a spirit'.³²⁰ He points out that the *nôh-kan* is not made from only one piece of bamboo, but also makes reference to the thin bamboo piece (*nodo*)

³¹⁷ Joseph Uy, *Noh flute player*. <<http://www.pbase.com/reefkeeper/image/63985296>> Retrieved 6 March 2010.

³¹⁸ Joseph Uy, *The orchestra*. <<http://www.pbase.com/reefkeeper/image/63985268>> Retrieved 6 March 2010.

³¹⁹ Kazumi Narabe, *Artist Interview. From the Noh stage to the contemporary music scene. Talking to innovator Yukihiro Isso*. <http://www.performingarts.jp/E/art_interview/0512/1.html> Retrieved 7 March 2010.

³²⁰ Kazumi Narabe, *Artist Interview. From the Noh stage to the contemporary music scene. Talking to innovator Yukihiro Isso*. <http://www.performingarts.jp/E/art_interview/0512/1.html> Retrieved 7 March 2010.

that is inserted between the blow hole and seven finger holes. This *nodo* reduces the diameter of the flute.³²¹

2.5.2 Sound production and performance techniques on the *noh-kan*

The music of the Noh is mentioned as being a lot simpler than many other forms of Japanese music, even though it is reflective of a number of elements and characteristics of the styles of all other forms of Japanese traditional music.³²² Important characteristics of *noh-kan* technique include 'cross-fingerings, pitch gliding and constant delicate ornamentation. The *noh-kan* is also capable of producing a certain number of piercing shrieks called *hishigi*, useful for cueing actors backstage'.³²³

The flute (*fue*) is part of the instrumental ensemble of the *Noh*, consisting of four instruments at most. The *noh-kan* always accompanies the singing with a melody that is distinct from the sung melody and in free rhythm.³²⁴

In the present day the *noh-kan* does not play the singer's melodies, even though it used to be related to the vocal lines of the singer. The flute's holes are fingered by the middle joint of the finger instead of the tip. This technique results in the melody being very fluid. For this reason it is difficult to notate the notes played on the *noh-kan* in standard Western notation. When part of the stage performance in *Noh* play, its melodic line is not very clear and it does not compete with the vocal line. 'The music of *noh* drama seems on first hearing to be one of the most puzzling of East Asia's exotic sounds, but a study of its principles reveals it to be as reasonable and as beautiful as a Bach cantata'.³²⁵

Yukihiro Isso recalls being taught how to hold the *noh-kan*, but was not specifically taught any technique. He learnt by watching his father, who was also a *noh-kan*

³²¹ Kazumi Narabe, *Artist Interview. From the Noh stage to the contemporary music scene. Talking to innovator Yukihiro Isso*. <http://www.performingarts.jp/E/art_interview/0512/1.html> Retrieved 7 March 2010.

³²² Minagawa, p. 181.

³²³ Zeami, p. 448.

³²⁴ Koizumi, p. 519.

³²⁵ William P. Malm, 'Japanese music'. *Encyclopædia Britannica. Encyclopædia Britannica online*. Encyclopædia Britannica, 2010. Web. 4 Mar. 2010 <<http://www.search.eb.com/eb/article-283259>> Retrieved 4 March 2010.

player, move his fingers on the flute. The *Noh* repertoire contains a vast number of pieces.³²⁶

Performing with musicians from different *Noh* schools affects variations in the accompaniment. 'A *noh* flutist is considered a professional if he masters performance of the four plays *Dojoji*, *Shakkyo*, *Midare* and *Okina*'. Isso says he was taught *Midare* by his father, but learnt the others just by watching performances and listening from backstage. The decorative sounds known as *sashiyubi* are unique to each player. It is also not a technique that is indicated in scores. He too has his own *sashiyubi* technique. 'When the *sashiyubi* comes in it makes the sound richer and it is really impressive'. When I first began learning the flute I would try the *sashiyubi* and my father would say, 'Stop that. When you are young you should play it straight without *sashiyubi*'. However, he confessed to having ignored his father's advice.³²⁷

2.5.3 Tuning and intonation

The range of the flute is usually B to F sharp in the third octave. The second octave is over-blown, causing the low notes in that octave to be sharp and the higher notes to be slightly flat. Because a short cylinder has been inserted in the tube of the flute, the upper holes on the flute over-blow a seventh and not the octave as with all other flutes. This characteristic is unique to the *Noh* flute. In *Noh* performance the flute may be used as the cue to a pitch entry for the vocal line.³²⁸

Because each *noh-kan* flute varies in bore, size and length, there is no expectation for two flutes to be in tune with each other, because each flute plays its own pitch.³²⁹

This property of the *Noh* flute also means that the pitch of the *noh* flute and that of the singers on the *Noh* stage will not match. The reason for this is that even though both the singer's and the *noh-kan* player's parts are written down, they are not at the

³²⁶ Kazumi Narabe, *Artist Interview. From the Noh stage to the contemporary music scene. Talking to innovator Yukihiro Isso.* <http://www.performingarts.jp/E/art_interview/0512/1.html> Retrieved 7 March 2010.

³²⁷ Kazumi Narabe, *Artist Interview. From the Noh stage to the contemporary music scene. Talking to innovator Yukihiro Isso.* <http://www.performingarts.jp/E/art_interview/0512/1.html> Retrieved 7 March 2010.

³²⁸ William P. Malm, 'Japanese music'. *Encyclopædia Britannica. Encyclopædia Britannica Online.* Encyclopædia Britannica, 2010. Web. 4 Mar. 2010 <<http://www.search.eb.com/eb/article-283259>> Retrieved 4 March 2010.

³²⁹ Zeami, p. 448.

same pitch. The singer selects a pitch and sings it and the *noh* flute player has to adapt to whatever the pitch is of its *noh* flute. The singer is able to function with this disparity, even throughout changes as they occur during the performance. The time from when the flute melody starts until it is completed is generally fixed, but this is played in isolation from what the singer is doing. The music may be synchronised to the point where the flute player knows when to play his flute; apart from that the flute functions independently of the vocal part. Whilst tradition sets the tone for the tempo of the flute player, this is different from the vocal part as the tempo and rhythm are fairly free.³³⁰ The drum parts provide a closer match to the vocal part than the *noh* flute does.³³¹

The flute melody is vaguely outlined in terms of interval and pitch and makes use of delicate changes of intonation.³³² Yukihiro indicates that it is possible to raise the pitch of a note by one octave simply by blowing harder and retaining the same fingering on the horizontally held Japanese flute, the *yokobue*. The *nodo* piece in the *noh-kan* does not allow for this same technique. Yukihiro goes on to say that every *Noh* flute is tuned to a different pitch; the way in which it is played affects the sound. He says:

The pitch is a relative thing; it is not strictly set like a Western flute. It is often noted that Japanese traditional instruments don't fit the Western 'sol-fa' scale. The reason they don't is because they don't adopt a 'tempered scale' like Western music.³³³

2.6 Similarities and differences between the four flute types

There are numerous physical differences and similarities between the Western transverse flute, *nyamulera* flute and the *shakuhachi* and *noh-kan*. These are listed in the table below.

³³⁰ Minagawa, p. 194.

³³¹ Minagawa, p. 197.

³³² Koizumi, p. 519.

³³³ Kazumi Narabe, *Artist Interview. From the Noh stage to the contemporary music scene. Talking to innovator Yukihiro Isso.* <http://www.performingarts.jp/E/art_interview/0512/1.html> Retrieved 7 March 2010.

Table 2.2 Comparative table of four flutes

| BOEHM FLUTE | NYAMULERA FLUTE | NOH-KAN | SHAKUHACHI |
|---|--|--|---|
| Side Blown | End blown | Side Blown | End blown and notched |
| Lip plate mounted on headjoint with blowing hole | Notched blowing edge | Blowing hole carved into head joint | Oblique blowing edge |
| Horizontally held | Vertically held | Horizontally held | Vertically held |
| Embouchure firm yet relaxed Requires tightening in upper registers | Firm yet relaxed | Varies between relaxed and firm embouchure | Embouchure is relaxed in both registers, but high registers require a firmer embouchure |
| Reasonable amount of controlled air needed to create sound | Very little air is needed to produce a sound | Very little air is needed to produce a sound | Very little air is needed to produce a sound |
| Made of Metal and/or wood | Made of bamboo, reed grass or of the hollow stem of the castor oil tree. | 3-6 short lengths of bamboo joined together | Made of bamboo |
| 16 holes covered with key padding | 4 finger holes on the front side of the instrument | 7 finger holes | 4 finger holes on the front and one thumb hole on the back |
| Key mechanisms | Holes only | Holes only | Holes only |

Elda Tate commented on the differences between the Western transverse flute and *shakuhachi*: 'Obviously the instruments are held differently, the transverse flute has keys and over a three-octave range. Both require breath control. In my opinion, the *shakuhachi* has more depth to the tone, more partials and is more difficult in the secure production of sound. It requires much air and control to achieve the colours of many of the *honkyoku* pieces'.³³⁴

Justinian Tamasuza's *Okwanjula Kw'Endere* is a good example of the transference of the playing techniques of the Ugandan *endere* to the Western transverse flute. In this composition he makes use of techniques such as 'microtonal fingering, flutter tonguing, simultaneous singing and playing, harmonics, pitch bends and key clicks. These techniques embody the essence of *endere* music'.³³⁵

This chapter has not only outlined the distinctive individual quality of each flute, but has also highlighted the many similarities between the flutes; each flute emerged as an instrument of integrity in its unique cultural setting.

³³⁴ Elda Tate (etate@nmu.edu), Private e-mail correspondence, received on 30 October 2007.

³³⁵ No author, *African art music for flute*. <<http://africarts.org/AGCD2081/>> Retrieved 27 March 2010.

Chapter Three

Extended techniques on the Western transverse flute

3.1 Introduction

Music as an art form is not stagnant, as it continues to evolve; it is a product of historical and sociological advancement. According to Nketia, the desire of people from all nations and cultures to constantly search for new ways of making musical sounds have led to very complex musical creations¹ and similarly complex technical proficiency and even instrument modification. He sees contemporary music as a 'cultural phenomenon'.² Blacking views musical displays as a statement of people's thoughts and behaviours.³ As such, the development of new music styles and instrumental developments are the result of composers' quests for new ways of expressing their and societies' ideals.

Theobald Boehm's 'new' flute of 1847 had remained relatively unchanged up until the 20th century when modified flutes were being manufactured. There are many flute players today who perform the repertoire from previous centuries on the 'old' Boehm flute. And there are also players who perform the repertoire of the 20th and 21st centuries on the same 'old' flute. In most cases, it is really a question of the repertoire being performed on the contemporary flute, rather than of the type of flute being used.

One of the musical styles before World War I (1914-1918) explored the concept of contrasting choirs of instruments of different tone colours, for example, Schoenberg's *Five pieces for orchestra* (1909). It may be thought that the meaning behind the title of the first of the five pieces, *Premonitions*, indicates Schoenberg's fear of the unknown and his movement towards something new and unknown, i.e. his period of atonality, and movement towards a change in compositional techniques which had

¹ J.H. Kwabena Nketia, *Ethnomusicology and African music. Modes of inquiry and interpretation. Collected papers volume one*. Accra: Afram Publications (Ghana), 2005, p. 337

² Nketia, 2005, p. 338.

³ Patricia Shehan Campbell, 'How musical we are: John Blacking on music, education, and cultural understanding'. *Journal of research in music education*. Vol. 48, No. 4, 2000, pp. 341-342.

an effect on timbral music structures. According to Toff,⁴ this exploration of contrasting choirs of instruments of different tone colours has encouraged composers to expand the playing and sound possibilities of solo instruments. Yet there is also evidence that suggests that composers dating from previous centuries and even those of ancient cultures, such as for example the Japanese, were long aware and appreciative of such timbral possibilities and the extensions of standard playing practice.⁵

Robert Dick, flute player and composer, makes mention of the fact that what is considered as extended techniques today will in a few years' time become an accepted practice used commonly in music.⁶

Richard Strauss was introduced to flutter tonguing, which is classified as an extended playing technique, and used it in some of his compositions. John McMurtery also mentions that flutter tonguing, along with glissandi, is one of the oldest and most extensively used extended techniques and he mentions Richard Strauss as using it in his composition *Don Quixote*.⁷ Circular breathing, the use of an extended register and glissandi were included in a number of extended playing techniques that existed before the 20th century. Tchaikovsky's Symphony No. 3 offers an example of the use of the flute's extended register. There are several low B-flats notated in the 3rd movement (at letter B) of the symphony. Read Gardner suggests that it is not known whether it was an error on the composer's part or whether it was meant to be considered as an extension.

While composers in the 20th century treated the performance techniques of stringed instruments in novel ways at the beginning of the 20th century, it was not until the mid-1960s that novel techniques, generally referred to as extended techniques (as

⁴ Nancy Toff, *The flute book – a complete guide for students and performers*. New York: Oxford University Press, 1996, p. 273.

⁵ 'In Japanese music, as in other musics, preferences in timbre or tone color and the sense of sound as such indicate the influence of aesthetics and philosophy'. Shimosako Mar, 'Philosophy and aesthetics'. *The Garland encyclopaedia of world music: East Asia-China, Japan and Korea*. Vol. 7, 2002, New York: Routledge, p. 550.

⁶ Robert Dick, *Circular breathing for the flute player*. St. Louis: Multiple Breath Music Company, 1987, p. 46; Alison Latham, *The Oxford companion to music*. New York: Oxford University Press, 2002, p. 468.

⁷ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.html>> Retrieved 13 January 2008.

they were seen as an extension of the instrument's capabilities)⁸ were being applied to the woodwind family of instruments.⁹ Yet there is limited evidence that proves that some of these extended techniques were employed before the 1960s; one such example is Varèse's composition for solo flute, *Density 21.5*, composed in 1936. *Density 21.5* employs key clicks and it is also credited as being the first composition to employ this technique.¹⁰ Bartolozzi describes how multiple sounds could be played on the bassoon as early as 1960. He and a few other wind players experimented with multiple sounds and thus confirmed their existence on other instruments as well.¹¹ Compositions such as Ibert's *Flute concerto* (1934) and Jolivet's *Chant de Linos* (1944) had also already experimented with new sounds, but it was not until Bruno Bartolozzi published his book *New sounds for woodwind*,¹² that the full potential of the flute was realised. In this book he suggests amongst other things, fingering and embouchures in the following ways:

- The playing of chords by a single instrument;
- The production of quartertones;
- A new variety of tone colours and sounds on a single pitch.¹³

Jane Gottlieb¹⁴ confirms that Berio's *Sequenza* was the first piece in the woodwind literature to employ multiphonics. *Sequenza* was composed in 1958 for flute player Severino Gazzelloni. Other than also employing key clicks, Berio's *Sequenza* also employs a new type of notation, referred to as spatial notation which is also known as graphic notation. By using spatial notation, the music is freed of restrictions of time and tempo. This notation system and approach provide guidelines for performing the music, giving the performer greater opportunity to engage with the music. As such, the performer is not only part of the performance, but also contributes to the

⁸ Extended flute techniques are described by many in different ways; some refer to them as contemporary or modern techniques, extended techniques and avant-garde techniques. Meylan refers to the new sounds of the twentieth century as 'auxiliary' sounds. Raymond Meylan (translated from German by Alfred Clayton), *The flute*. London: B.T. Batsford, 1988, p. 126.

⁹ David D. Boyden, *An introduction to music*. London: Faber and Faber, 1971, p. 63.

¹⁰ Jane Gottlieb, 'Reviewed Work: Quodlibetudes for Solo Flute (1988); Thirteen Fantasias and a Coda Designed to Introduce the Player – Young or Old, Student or Professional – To the expanded technical and conceptual worlds of the new flute of the late twentieth century by Harvey Sollberger'. *Notes*, 2nd Ser. Vol. 49, No. 3, 1993, p. 1264.

¹¹ Bruno Bartolozzi (translated and edited by Reginald Smith Brindle), *New sounds for woodwind*. London: New York: Oxford University Press, 1967, acknowledgement section.

¹² Bartolozzi, pp. 77-82.

¹³ Bartolozzi, pp. 4-5.

¹⁴ Gottlieb, pp. 1263-1264.

compositional process. In order for the performer to make sense of the music, it must first be understood in a way that it can be conveyed convincingly to an audience. It is a composition with which the performer can and should experiment and should be open to more than one interpretation.¹⁵

Bruno Bartolozzi's *New sounds for woodwind* (1967) was embraced by flute players and composers alike – including flute player Aurèle Nicolet and Japanese composer Toru Takemitsu. Nicolet had commissioned *Voice* from Takemitsu, who composed a piece that employed many of these 'new' extended techniques described in Bartolozzi's book. The book revealed many new capabilities of the flute that would influence timbral sounds and compositional techniques from that time onwards.¹⁶ Artaud and Kingma, amongst others, stress that the contemporary flute has much to offer, contrary to some people's mistaken assumption that the flute has only one basic tone quality and that its ability to vary that quality is severely limited. Some individuals not only think that the flute can produce only one note at a time, but also believe that the mechanical construction of the Boehm flute allows for the production of only a few microtones.¹⁷

The use of innovative styles and techniques was not only explored and confined to serious modern music,¹⁸ more commonly referred to as 'contemporary classical music' or 'art music',¹⁹ but also to jazz and popular music. Bartolozzi's aim was to

¹⁵ Aralee Dorough, 'Performing Berio's *Sequenza*'. *Flute talk*. Vol. 19, No. 7, 2000, pp. 11-13.

¹⁶ Christina Jennings, 'Exploring Takemitsu's voice'. *Flute talk*. Vol. 19, No. 8, 2000, p. 11.

¹⁷ Robert Dick, *The other flute: a performance manual of contemporary techniques* (second edition). Santa Barbara: Multiple Breath Music, 1989, p. v.

¹⁸ The term 'serious modern' refers to contemporary classical music. Stokes also uses the term 'serious contemporary composers' in his book *Special effects for flute*. Culver city: Trio Associates, 1970, p. 1. Hendrik Hofmeyr defines classical music as art music. He says that it's a problematic term and is used as a general term that refers to serious music. He also points out that 'art music' is not always serious. Hendrik Hofmeyr, Personal interview. South African College of Music, Cape Town, 21 November 2003.

¹⁹ 'Term used to describe music that is written down and that takes a more or less established form to transmit some sort of artistic expression. The term is often used in contradistinction to folk and popular music, as well as some forms of liturgical music (esp. plainchant) and dance music, but particularly since the twentieth century, the distinctions have become blurred'. Jane Bellingham, *The Oxford companion to music*. New York: Oxford University Press, 2002, p. 66. Michael Levy refers to serious music and art music as synonyms of each other. Michael S Levy, 'African and Western music: Shall the twain ever meet?' *South African journal of musicology*. Vol. 6, No. 1, 1986, p. 111. The online 'Hyperdictionary' lists serious music as a synonym for classical music. *Serious Music*. <<http://www.hyperdictionary.com>> Retrieved 25 August 2010.

'emancipate tone by using these new ways of playing woodwind instruments to obliterate absolute distinctions between beautiful and ugly sounds'.²⁰

3.2 Extended techniques

Composers' techniques have evolved and matured through the years and so have listeners' ears and performers' repertoire. Robert Dick's name is almost synonymous with extended flute techniques. He is mentioned in many articles and discussions as one of the leading experimentalists with regards to the expansion of the flute's vocabulary. Jane Gottlieb also mentions Harvey Sollberger (b. 1938), flute player, teacher and conductor, as 'something of a grassroots missionary for the modern flute movement'.²¹ Like Robert Dick, Harvey Sollberger is also a promoter of contemporary and extended flute techniques and repertoire.

It was with the publication of Robert Dick's book, *Tone development through extended techniques* (1986) that Dean Stallard found the inspiration to adopt extended techniques as part of his teaching programme with beginners as young as five years. With young beginners he introduced the Yamaha fife and found that it kept their interest for a much longer period. Stallard classifies three stages of flute playing, namely primary, secondary and advanced. The primary phase refers to learning the basic skills, the secondary phase refers to the skills needed to perform traditional serious music, and the advanced phase refers to the skills needed in order to perform contemporary pieces, many of which employ extended techniques. He states that there was always a clear border separating the different stages, but after introducing extended techniques as part of his teaching style, the line between the last two phases became blurred and he now only identifies two phases, namely primary and secondary. He defines the primary techniques to be 'breath control and support, embouchure control and adjustment of tube length; i.e. finger dexterity. Together these three elements will determine the pitch, volume and timbre of a note'.²²

²⁰ Bartolozzi, pp. 4-5.

²¹ Gottlieb, p. 1263.

²² Dean N. Stallard, *Extended Flute Techniques for New Beginners*.
<<http://www.fullpitcher.co.uk/Dean.htm>> Retrieved 6 January 2008.

Many similar extended playing techniques are known by different names by composers and performers alike. Where possible, the alternative name is mentioned along with the definition. The extended techniques discussed here are identified and defined from a Western point of view. All flute techniques considered to be extended techniques will be discussed in the following pages, in alphabetical order and not grouped according to category. Certain extended techniques have been found to be more commonly used in compositions and these will be explained in greater detail. The pieces listed as examples under the various headings are all available on commercial CD recordings, unless otherwise indicated.

3.2.1 Circular breathing

Circular breathing is a technique whereby musical phrases can be played with no audible break in the flow of the music. The notes are sustained through cheek pressure and not standard diaphragm support. At the start of the process air is taken in through the mouth and partly held within the mouth which causes the cheeks to inflate. As air is pushed out of the mouth by the cheeks, at the same time a breath is taken through the nose. To make this process as fluid as possible the shift between cheek and diaphragm pressure needs to be as smooth as possible.²³

It would appear that even though the current Boehm flute displays a good dynamic range and gives the player the ability to vary sound colours in a creative and interesting way, it requires a lot more air when playing than its 19th century forerunner. When playing 19th century flute pieces on the Boehm flute, long phrases almost seem unmanageable. The same phrases are perfectly manageable on a flute built prior to the Boehm model. Dick suggests a remedy for this type of musical dilemma. He provides circular breathing as the solution for phrases that are slightly too long to manage on a Boehm flute.²⁴

Robert Dick is an enthusiastic exponent of circular breathing and commends especially concert flute players who incorporate circular breathing as part of their performance practice. He indicates that concert audiences have already become accustomed to the flawless renditions of pieces offered on CD recordings and Dick

²³ Dick, 1989, p. 144.

²⁴ Dick, 1987, p. 6.

considers the technique a technical advantage that aids in the musical delivery of pieces on the concert stage.²⁵ John Hinch states that the 'music must breathe,' but also considers circular breathing as a useful technique.²⁶ On this point Dick agrees with Hinch's statement by indicating that even though it is a very useful technique, it does not mean that all music should be played with circular breathing, because music needs to breathe and should be allowed to breathe, as in J.S Bach's *Allemande* from the *Partita in a minor*. He says it is 'about making musical choices'.²⁷

Long musical phrases, and also slow and fast technical passages, present challenges in breathing for flute players of all chosen fields of performance i.e. solo, orchestral or ensemble performance. For example, in Hindemith's *Symphonic metamorphoses* there is a flute solo which is quite fast and presents breathing problems. John Krell suggests in his book *20th century orchestra studies*,²⁸ that the second flute player covers short sections of the solo, while the first flute player breathes. Of course, the alternative solution is circular breathing. Other two well-known orchestral flute solos that could benefit from circular breathing come from Ravel's *Daphnis et Chloé suite No. 2* (rehearsal numbers 176-179)²⁹ and Debussy's *L'Après-midi d'un Faune* (the opening flute solo, bars 1-4).³⁰

In his book, *Circular breathing for flute players*, Dick mentions that circular breathing for flute players has been around for many centuries, but it is regarded as a fairly novel technique in classical music. Circular breathing is common amongst brass players and some sections of the woodwinds, such as the oboe. He mentions it as a technique used in the avant-garde, jazz and ethnic music.³¹

Learning and mastering circular breathing may take up to two years. The two years would include a daily practice of ten to fifteen minutes. It may be a simple technique

²⁵ Dick, 1987, p. 6.

²⁶ John deCourteille Hinch (John.Hinch@up.ac.za), Private e-mail correspondence, received on 30 October 2007.

²⁷ Dick, 1987, p. 35.

²⁸ John Krell, *20th century orchestra studies*. New York: G Schirmer, 1973.

²⁹ Maurice Ravel, *Daphnis et Chloé Suite no. 2*. Paris: Durand, 1913, pp. 77-82.

³⁰ Claude Debussy, *Prelude a "L'Après-midi d'un Faune"/Trois Noctures*. New York: Dover Publications, 1999, p. 1.

³¹ Dick, 1987, p. 5.

to execute, but it takes a while for the embouchure to get settled to apply the technique freely and artistically in performance.³²

Pieces in which circular breathing would be a useful technique include *Flames must not encircle sides* by Robert Dick, *Sgothan* by James Dillon and *Great train race* by Ian Clarke, which contains an optional section for circular breathing.³³

3.2.2 Extended register

Extended register refers to an extension of the standard flute's normal playing range. This can be an upward or downward extension of pitches beyond the normal playing range of the flute. Although Theobald Boehm was responsible for extensive developments to the flute, with the phenomenal development of 20th century techniques it was inevitable that the total range of the flute would become limited. Range extensions are achieved in various ways, for example, extension of the flute tube, the addition of extra keys and the proficiency of the performer.³⁴ And in some cases, in order to play continuously in either a very high or very low register that would be uncomfortable on the flute of choice, the best option might be to opt for one of the other members of the flute family such as, for example, the piccolo or alto flute. For a long time the flute family consisted only of the piccolo and the flute, but recently many other flutes have been added, as discussed in the previous chapter.

Gardner suggests that for many years the flute has been able to sound B just below middle C by means of an extra key, as well as pitches above D⁴. This register was considered the uppermost limit of the flute. By means of embouchure manipulation and diaphragm control certain flute players have recently been able to extend this limit to F⁴ or F-sharp⁴, though the quality of sound is rough and breathy.³⁵

Dick indicates that the range of regularly produced pitches is from B-natural³ to F-sharp⁷. Finger charts for the first three octaves are found in an abundance of tutoring books and text materials. There are many flute players who have become more

³² Dick, 1987, p. 9.

³³ Helen Bledsoe, *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. < <http://www.helenbledsoe.com/erep.html> > Retrieved 18 August 2010.

³⁴ Read Gardner, *Compendium of modern instrumental techniques*. Westport: Greenwood Press, 1993, p. 5.

³⁵ Gardner, p. 8.

accustomed to playing in the fourth-octave register as more composers have begun to include notes from this octave in their compositions.³⁶ A flexible embouchure and strong diaphragm are often the key to producing notes in the extreme registers of the flute.³⁷ The diaphragm, as mentioned before, plays quite an important role, not only for breath support, but also for tone support and to assist in the playing of high-register notes.³⁸ In the fourth register it is not only the pitching of the note that becomes progressively more difficult, but greater technical dexterity is also required. Not only does the use of many tricky cross-fingerings make these notes possible to pitch, even if not in the most practical way, but also the type of flute used, which can make some notes more playable than others.³⁹ As for dynamics, Dick suggests that pitches from C⁴ to D⁷ can be played with the full dynamic range, i.e. *p-ffff*, and from D-sharp⁷ to F-sharp⁷ only two dynamic levels, i.e. *ff-ffff* when a regularly produced tone is used, but when whisper tones are used *ppp-mp* should be indicated as dynamics. He suggests using the piccolo in this range for dynamic fluidity.⁴⁰

Wye suggests regular practise of these high register notes until the lips become stronger.⁴¹ Dick indicates that practising in the fourth octave should be approached with caution as pitching in this register requires a great deal of embouchure strength and should be limited to only short periods daily if it is to sound good.⁴² However, regular practice is recommended in this register in order to strengthen the lips.⁴³ Turning the flute outwards also aids in the production of the notes in this register.⁴⁴

Unfortunately the extended register may also bring about tuning problems. There are various ways of improving intonation, but it has to be done consistently and attentively through continuous practice. A short warm-up session is useful for preparing the flute so it may be ready for a tune up. The importance of warming up that the flute becomes more reliable to tune when it has been warmed up to room

³⁶ Dick, 1989, p. 5.

³⁷ Trevor Wye, *Practice book for the flute: Volume 6, advanced practice*. London: Novello, 1987, p. 31.

³⁸ Gardner, p. 1.

³⁹ Wye, 1987, p. 31.

⁴⁰ Dick, 1989, p. 5.

⁴¹ Wye, 1987, p. 31.

⁴² Dick, 1989, p. 5.

⁴³ Wye, 1987, p. 31.

⁴⁴ Dick, 1989, p. 5.

temperature and it also avoids the flute from being overly sharp. The most stable A to tune is the second A above middle C as it produces a more steady tone. It is also useful to play scales and long tones with a tuner. This is meant to help players recognise discrepancies in pitch and does not call for players to be less attentive to pitch when performing as soloists, or when playing in a group. Rehearsing with a piano can also improve intonation as the flute player is forced to listen to the chords of the piano and to be in tune with it. Another advantage is that the player hears the music as the composer intended it to be. Awareness of changes in pitch creates a more sensitive and overall flexible player.⁴⁵ Wye says that 'nothing is usable unless it can be played in tune'.⁴⁶

Examples of solo flute pieces containing low B include *Zoom tube* and *The great train race* (B foot and C foot versions are available) by Ian Clarke, *Hungarian Pastorale Fantasie* by Franz Doppler and *Voice* by Toru Takemitsu.

3.2.3 Flutter tonguing

Flutter tonguing is 'a broken sound produced by tongue vibration as in thrree, or guttural Frrrench (rolled)'.⁴⁷ Basically the tip of the tongue is rolled on the letter r. It is listed as a type of tonguing requested by many 20th century composers. Even though the technique is also possible on other wind instruments, it is particularly effective on the flute.⁴⁸ Flutter tonguing may be thought of as the wind equivalent of a tremolo on string instruments and shouldn't be used as a technique to intensify the sound.⁴⁹ There are two types of flutter tonguing, one produced by rolling the tip of the tongue (also referred to as dental flutter)⁵⁰ and the other by vibrating the throat (also known as uvular flutter).⁵¹ In notation flutter tonguing is indicated either through the use of three slashes through the stem of the affected note or through the use of the word *flatterzunge*⁵² (or *flatt.*). Composers may elect to indicate 'rrrr' for the throat version.⁵³

⁴⁵ Robin Fellows, 'Improving intonation'. *Flute talk*. Vol. 19, No. 5, January 2000, p. 24.

⁴⁶ Wye, 1987, p. 6.

⁴⁷ Gareth Morris, *Flute technique*. New York: Oxford University Press, 1991p. 67.

⁴⁸ Jeremy Montagu (edited by Stanley Sadie), 'Flute'. *New Grove dictionary of music and musicians*. Vol. 6, 1980, p. 682.

⁴⁹ Thomas Howell, *The avant-garde flute-a handbook for composers and flutists*. Los Angeles: University of California Press, 1974, p. 25.

⁵⁰ Howell, pp. 25-26.

⁵¹ Howell, pp. 25-26.

⁵² German word for flutter tonguing, Howell, p. 25.

The gargling sound, as an alternative to rolling the tongue, produces a harsh sound, as opposed to the gentle sound that should be heard. When rolling the tongue, the pitch tends to be sharp and the lower notes tend to be harder to produce with this technique. A good balance would be to roll the tongue in the upper octaves and use the throat sound for the lower notes.⁵⁴ The advantage of using the uvula to flutter is that the speed of the flutter can be varied without affecting the dynamic level. It also frees up the tip of the tongue and thus makes it available for normal tonguing.⁵⁵ The break from normal tonguing to flutter tonguing can be made quite effortlessly by a skilled player and no preparation is necessary for this.⁵⁶

Figure 3.1 Flutter tonguing notation⁵⁷



Pieces employing flutter tonguing passages include *Six tunes for the instruction of singing birds* by Richard Rodney Bennett, *Sequenza I* by Luciano Berio and *Itinerant* by Toru Takemitsu.⁵⁸

⁵³ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.html>> Retrieved 13 January 2008

⁵⁴ Cherry, p. 32.

⁵⁵ Robin Mason, *Horne, Extended techniques resource page*. <<http://www.larrykrantz.com/et/et.htm>> Retrieved 14 August 2010.

⁵⁶ Howe, pp. 25-26.

⁵⁷ Kyungmi Lee, *Extended techniques for flute*. <<http://pcm.peabody.jhu.edu/~klee/semi/>> Retrieved 31 January 2007

⁵⁸ Helen Bledsoe, *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. <<http://www.helenbledsoe.com/erep.html>> Retrieved 18 August 2010.

3.2.4 Glissandi

Glissandi are a smooth changing of pitch, ascending or descending and are produced by sliding the fingers off and/or onto the holes of an open-hole flute.⁵⁹ A distinction is made between two types of glissandi, namely: fingered glissandi and lip glissandi. The lip glissandi produce more versatile notes even though the pitch sliding range is smaller. The notes of the first two octaves are easier to bend than those of the third octave. Fingered glissandi, on the other hand, are only possible on certain notes on an open-hole flute, because when the closed holes are reached an obstacle occurs. For this reason it is useful for a composer to consult with a performer about including this technique. Upward glissandi are easier to produce than downward glissandi.⁶⁰

Lifting the keys produces inconsistent steps, inhibiting a smooth flow of notes. Producing fingered glissandi on the traditional closed-hole Boehm flute is impossible. Genres such as jazz and blues that have tried to incorporate this technique on the flute have not been very successful. It requires a new conception of touch on the flute player's part and also a lot of discipline and continuous practise. A method pioneered and cultivated by a jazz flute player, Steve Kujala, by which the hole is gradually opened along with the finger action being modified produces a very fluid sound. This technique requires a flattening in the usual curve of the fingers. Before the rings are lifted, the balls of the fingers are smoothly lifted off the open holes. By using this method and with considerable practise, a very smooth glissando can be produced both as an ascending and descending passage in four ranges.⁶¹

Figure 3.2 Glissando notation⁶²



⁵⁹ Robin Mason Horne, *Extended techniques resource page*. <<http://www.larrykrantz.com/et/et.htm>> Retrieved 14 August 2010.

⁶⁰ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.html>> Retrieved 13 January 2008.

⁶¹ Dick, 1989, p. 76.

⁶² Dick, 1989, p. 76.

Dick's glissandi method, which appears to be similar to Kujala's method, is inspired by the finger technique of Indian flute player Hariprashad Chaurasia. The fingers are slid off the open holes, whilst keeping the keys depressed and, when required, the rings are lifted. With this finger action it is possible to produce a continuous glissando from low B³ to high A-sharp^{6 63}.

An alternative method (lip glissandi) for producing glissandi requires that the flute be turned in or out on the lip and that the embouchure remains flexible. Stokes mentions a half-tone glissando and according to his description it appears that the method is possible on both open- and closed-hole flutes:

If you cover a substantial portion of the embouchure hole, play a note, and then withdraw the lower lip, the tone rises in pitch to the note fingered, producing a half-tone glissando upward. If you play the note then move your lower lip out over the hole, you produce a half-tone glissando downward.⁶⁴

Cherry refers to this technique described by Stokes as lip sliding/note bending. She indicates a similar method to the one described by Stokes, adding that the mouth position and angle of the headjoint is changed. Turning the headjoint inwards and blowing down into the embouchure hole lowers the pitch and turning the headjoint out and blowing upwards and outwards raises the pitch.⁶⁵

A glissando fills up the distance between two intervals by using quartertones, semitones or larger intervals, depending on the distance between the first and last notes of the interval as well as the tempo. The spindle on which the keys are mounted is bent so the holes are not covered properly. Mats Möller indicates that this technique is possible on a flute with pads, on condition that the pads are in bad condition and the keys are opened and closed slowly.⁶⁶ Many flute players and teachers alike would be horrified at this suggestion.

⁶³ Dick, 1989, p. 76.

⁶⁴ S.W. Stokes, *Special effects for flute*. Culver City, California: Trio Associates, 1970, p. 9.

⁶⁵ Cherry, pp. 32, 34.

⁶⁶ Matts Moller, *New sounds for flute - on flute techniques from the twentieth century*. <www.sforzando.se/flutetech> Retrieved 25 August 2010.

'A *glissando* is notated as a straight line from the note head, up or down depending on its direction⁶⁷ or by using the word *portamento*.⁶⁸ Cherry points out that there is a difference between a *glissando* and a *portamento*:

Glissando means to play a scale-like passage by sliding along the keys; portamento, a description more suited to the voice, string instruments or trombone, means to carry the tone smoothly from one note to another.⁶⁹

A *glissando* teaches a player to relax the hands and fingers and to control the notes by use of finger action.⁷⁰ Another benefit of this technique is that it teaches flexibility of the embouchure and lip control.⁷¹

Compositions employing this technique include *Cinq incantations 2 for solo flutes* by Andre Jolivet, *Quodlibetudes* by Harvey Sollberger and *Maniera op. 14* by Yoshio Hachimura.⁷²

3.2.5 Harmonics

Harmonics are a series of notes, usually higher in pitch, produced from a single fundamental note. The notes of the harmonic series are obtained by varying the air speed and embouchure position. Different fundamentals will have a different harmonic series. The timbre and texture of the written note are altered when a harmonic series is based on the fingering of one fundamental note. Harmonics on the flute are produced in a similar way to that of brass instruments.⁷³

Cherry lists the technique of producing harmonics as easier to execute than whistle tones (see 3.2.15). She points out that the whole system of fingering on the flute is based on the harmonic series. The fingering of the second octave on the flute is the same and is therefore based on the harmonic of the octave and the third octave is

⁶⁷ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.html>> Retrieved 13 January 2008.

⁶⁸ Cherry, p. 34.

⁶⁹ Cherry, p. 34.

⁷⁰ Cherry, pp. 32, 34.

⁷¹ Dean N Stallard, *Extended flute techniques for new beginners*. <<http://www.fullpitcher.co.uk/Dean.htm>> Retrieved 6 January 2008.

⁷² Helen Bledsoe, *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. <<http://www.helenbledsoe.com/erep.html>> Retrieved 9 February 2010.

⁷³ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.html>> Retrieved 13 January 2008.

based on the harmonic of the 12th with a few depressions of the extra keys intended to add strength and security to the notes.⁷⁴

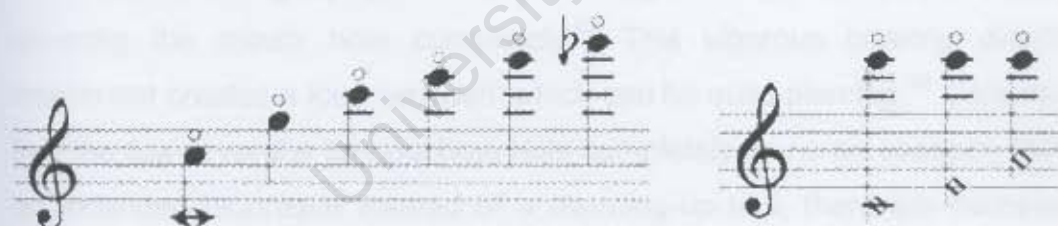
Morris indicates that harmonics are usually called upon when an alternative sound is required. He suggests using 'natural harmonic fingering (fundamental) or corrected fingering (fundamental and vent⁷⁵)'.⁷⁶

Robert Dick suggests one of the simplest ways of varying the tone quality of the flute is through natural harmonics.⁷⁷ Natural harmonics can be defined as notes:

- Produced by over-blowing a regular fingering from low B³ to D-sharp⁵ (above the harmonic D-sharp² all natural harmonics are fingered more than an octave below the pitch sounded);
- That follow the overtone series for pipes open at both ends.⁷⁸

Harmonics may be used for echo effects or extremely soft fade outs on high notes. The sound effect of the harmonic is bright and distant.⁷⁹ Harmonics can also be incorporated into warming-up exercises and are also beneficial for improving intonation and assisting in the subtle movement between registers.⁸⁰

Figure 3.3 Notation indicating the use of harmonics⁸¹



⁷⁴ Cherry, p. 32

⁷⁵ Venting is a technique used whereby the holes on the flute are partially or fully uncovered by the fingers. 'In venting, you open a hole somewhere along the vibrating portion of the tube, thereby removing the constriction at that point and introducing a "weak spot" into the air-spring. This forcibly divides the air-spring, guaranteeing that the lower harmonic will have to drop out. (In the higher octaves, more than a single note hole has to be opened to completely cut off the air-spring at that distance from the mouth hole.) Venting also improves the tuning on some notes' Mark Shepard, *How the flute works: an intro to flute acoustics*. <<http://www.markshep.com/flute/Acoustics.htm>> Retrieved 14 May 2011.

⁷⁶ Morris, p. 65.

⁷⁷ Dick, 1989, p. 9.

⁷⁸ Dick, 1989, p. 9.

⁷⁹ Dick, 1989, p. 9.

⁸⁰ Feiwels, p. 24.

⁸¹ Kyungmi Lee. *Extended techniques for flute*. <<http://pcm.peabody.jhu.edu/~klee/sem/>> Retrieved 31 January 2007.

Compositions employing harmonics include *Flying Lessons* by Robert Dick, *Rapid fire* by Jennifer Higdon, *Revamper* by Anne La Berge.⁸²

3.2.6 Hollow tones or Alternate fingerings

These tones are referred to as diffuse tones by Dick.⁸³ Hollow tones are notes with decreased reverberation and are produced through unconventional special fingering which causes the notes to sound empty.⁸⁴ They are best used when playing at a low dynamic level, in sustained passages and in the first octave of the flute.⁸⁵

A change in tone colour is inevitable when using alternate fingerings. Mats Möller suggests using the same alternate fingerings as one would for microtones, but then playing at correct pitch as this will create a new tone colour. He calls this 'bisbigliando'.⁸⁶

Pieces containing hollow tones include *Itinerant* by Toru Takemitsu⁸⁷ and *Tous les matins* (for alto flute) by Daniel Kessner.⁸⁸

3.2.7 Jet whistle

A jet whistle is an air sound that sounds similar to the sound created that flute players use when warming up the flute by blowing harshly into the tube of the flute by covering the mouth hole completely.⁸⁹ This vigorous blowing directly into the instrument creates a loud 'whoosh' which can be quite piercing.⁹⁰ Care must be taken that the lips cover the embouchure hole completely so no air escapes. When used as an extended technique instead of a warming-up tool, there are numerous ways in

⁸² Helen Bledsoe, *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. <<http://www.helenbledsoe.com/erep.html>> Retrieved 9 February 2010.

⁸³ Robert Dick, *Tone development through extended techniques*. New York: Multiple Breath Music Company, 1986, p. 28.

⁸⁴ Stokes, p. 7.

⁸⁵ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.html>> Retrieved 13 January 2008.

⁸⁶ Mats Möller, *New sounds for flute-on flute techniques from the twentieth century*. <www.sforzando.se/flutetech> Retrieved 25 August 2010.

⁸⁷ Phyllis Avidan Louke, *Extended techniques*. <<http://palouke.home.comcast.net/~palouke/RepExtendedTechniques.htm>> Retrieved 9 February 2010.

⁸⁸ Helen Bledsoe, *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. <<http://www.helenbledsoe.com/erep.html>> Retrieved 9 February 2010.

⁸⁹ Morris, p. 67.

⁹⁰ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.html>> Retrieved 13 January 2008.

which to vary the type of effect. Articulation can be used in the regular way or adapted to tongue rams (discussed further on). The volume, pitch and timbre of the jet whistle can be influenced by various factors such as the 'angle of the embouchure hole between the lips, the vowel shape of the mouth, fingering and breath pressure'.⁹¹

When the flute is turned outward the pitch of the jet whistle rises and when turned inwards the pitch is lowered dramatically. When changing the vowel shape of the mouth from 'i' (pronounced 'ai') to 'u' (pronounced 'you') there is a significant drop in the pitch of at least an octave. Fingering has an effect on pitch and timbre. The partials for fingering in the third and fourth octaves are a lot more intense than those in the first two octaves.⁹²

Figure 3.4 Jet whistle notation⁹³



Pieces containing jet whistles include *Entzeichnung* by Bernfried Pröve, *Afterlight* by Robert Dick and *Solo for prepared flute* by Jos Zwannenburg.⁹⁴

3.2.8 Key clicks, Key slaps or Finger taps

This technique produces a percussive sound and is created when one or more fingers are used for a note attack. Because of the force with which the keys are slapped down, it is a technique that should be used economically and cautiously as overuse may cause damage to the pads and keys.⁹⁵ Key clicks can also be executed without blowing and/or in combination with regular blowing notes. In this instance a particular pitch is fingered and the player slaps down the keys. This is indicated by

⁹¹ Dick, 1989, p. 142

⁹² Dick, 1989, p. 142

⁹³ Kyungmi Lee *Extended techniques for flute* <<http://ipcm.peabody.jhu.edu/~klee/sem/>> Retrieved 31 January 2007.

⁹⁴ Helen Bledsoe *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. <<http://www.helenbledsoe.com/erep.htm>> Retrieved 9 February 2010.

⁹⁵ Morris, p. 68.

marking the note head with an x.⁹⁶ It can also be notated as an ordinary note with a + sign above the note(s) affected.

Ann Cherry suggests this technique as one of the easier techniques to learn. The fingers should be slapped on the keys 'as hard as possible'⁹⁷ And this action is what produces a percussive sound.

Peter-Lukas Graf considers this a technique that is particularly harmful to the flute as it can damage the keys and should be restricted only for use on an already damaged instrument.⁹⁸ Ann Cherry shares this opinion and advises her students not to practise this technique once they know how to do it.⁹⁹

Unfortunately in ordinary playing, because of the difficulty of sometimes producing a very audible lower register, players sometimes resort to slamming the keys shut for the lower notes in order to produce a sound.¹⁰⁰ Using key slaps/key clicks, in order to produce and sound an octave lower, the mouth hole can be covered:¹⁰¹

Vigorously slapping the g-key with the left hand 4th finger while at the same time covering the blowhole with the tongue or the chin and fingering any one of the pitches from b to a sharp² with the right hand, results in a percussive tone a major seventh below the fingered note.¹⁰²

This effect was used successfully by C. Polin in *The death of Procris*.¹⁰³

Figure 3.5 Key click notation¹⁰⁴



⁹⁶ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/E1/index.html>> Retrieved 13 January 2008.

⁹⁷ Cherry, p. 32.

⁹⁸ Peter-Lukas Graf (Fax No. 0041-613027459). Private e-mail correspondence, received on 25 February 2004.

⁹⁹ Cherry, p. 32.

¹⁰⁰ Howell, p. 21.

¹⁰¹ Cherry, p. 32.

¹⁰² Gardner, p. 2.

¹⁰³ Gardner, p. 107.

¹⁰⁴ Kyungmi Lee, *Extended techniques for flute*. <<http://pcm.peabody.jhu.edu/~klee/sem/>> Retrieved 31 January 2007.

Repertoire employing key clicks include *Varesiana* by Rafal Augustyn, *Plainsong* by Robert Aitken and *Cassandra's dream song* by Brian Ferneyhough.¹⁰⁵

3.2.9 Key vibrato, Timbral trill, Timbral tremolo, Quartertone trill or Tone colour trill

Key vibrato is a miniscule change in the pitch of a note brought on by swift alternation between conventional and unconventional fingering. For example, 'if we play the standard fingering for the C in the staff and then rapidly press and release the A and G keys simultaneously (2nd and 3rd finger, left hand)'. Quartertone trills imply that the difference in alternations is as much as a quarter of a tone.¹⁰⁶

Key vibrato is referred to as 'timbral modulation' by Izak Grove. The effect is also conventionally known as timbral trill or timbral tremolo. As pointed out by John Hinch, this type of effect is requested by Stefans Grove in the bassoon part of *Vir 'n winterdag*, where he 'requests the performer to alternate two different fingerings of the same pitch'.¹⁰⁷

The number of possibilities for producing either a quartertone trill or key vibrato increases as one ascends the flute register. The quartertone trill can move both up and down with regards to the reference pitch. Any deviations in pitch that exceed that of a quartertone are considered as conventional trills and will be fingered in the normal way.¹⁰⁸

Pieces containing key vibrato include *Trillium* by Elizabeth Brown, *Requiem* by Kazuo Fukushima and *Voice* by Toru Takemitsu,¹⁰⁹ both of these works are available as recordings in the public domain. *Trillium* can be listened to on Elizabeth Brown's homepage <<http://home.earthlink.net/~elibrooklyn/music.html>>.

¹⁰⁵ Helen Bledsoe, *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. <<http://www.helenbledsoe.com/erep.html>> Retrieved 9 February 2010.

¹⁰⁶ Stokes, p. 2.

¹⁰⁷ John Hinch, 'Stefans Grove: winds of change'. *Journal of the musical arts in Africa*. Vol. 1, No. 2004, p. 27.

¹⁰⁸ Stokes, p. 2.

¹⁰⁹ Helen Bledsoe, *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. <<http://www.helenbledsoe.com/erep.html>> Retrieved 9 February 2010.

3.2.10 Multiphonics

Stokes regards multiphonics as a standard playing technique and refers to it as double and triple tones.¹¹⁰ Simply put, it is the ability to produce more than one note at a time. Multiphonics is a technique used to create polyphony on the flute, i.e. sounding two or more notes at once. Multiphonics are produced by 'fingering a pitch and venting a foreign pitch in order to set up two or more simultaneous harmonic series in the tube'.¹¹¹ It can also be produced by relaxing the embouchure in order to create two upper harmonics at the same time. It is created most successfully when played very quietly. Cherry suggests that it is a technique that should be reserved for the practice room and she does not recommend it for use on the concert stage.¹¹²

It is therefore true to state that the flute is monophonic as well as multiphonic. The single tone consists of a fundamental or principal tone and various partials that give each tone its specific tone colour. The principle tone is here referred to as the single tone, so as not to be confused with a multitone in which multiple sounds are heard simultaneously. But why, one might ask, has it taken so long for this plurality to be discovered? One issue to consider might be the fact the musical requirements of the past did not require such techniques to be used and also the fact that the structural evolution and development of the flute may have been inspired by experimental methods that were often related to improving overall tone quality and sound instead of trying to discover extended ways of playing.

This technique requires confident embouchure control and well memorised unconventional fingering. However, there are some limitations, as pointed out by McMurtery. The choice of instrument also plays a role. Not all the combinations of notes are possible and many only sound at specified dynamic levels. He suggests that composers work with flute players when including multiphonics in their compositions, as this technique is so specialised. Even more helpful is if the fingering

¹¹⁰ Stokes, p. 10.

¹¹¹ Morris, p. 66.

¹¹² Cherry, p. 34.

for the multiphonics is supplied by the composer.¹¹³ Some multiphonics may only work on open-holed flutes, while others might not work on every flute.¹¹⁴

Dick points to Varèse's ingenious way of highlighting the special timbral qualities and dynamic level extremities of every single pitch used in *Density 21.5*, by blending all the notes with each other, but at the same time not neglecting to display their individual qualities. Dick refers to multiphonics as sometimes being the extension of tone colour.¹¹⁵ Multiphonics is also described as a sound 'in which a chord-like effect is heard'.¹¹⁶ In the past flute makers and performers have aimed to keep the timbre of all registers consistent. The one thing that changes the timbre is a change in volume.¹¹⁷

For some of these notes precise intonation is not possible, but the difference is minimal.¹¹⁸ As this technique is unfamiliar to some players, it takes a bit of practice as well as trial and error to get the desired effect. Because of the flexibility required by the embouchure, learning this technique will not interfere with the embouchure required for normal flute playing, but rather have a positive effect, because of the strength required from the lips. The best place to start is by blowing at the lowest possible frequency and then by pushing out the overtone. This sound may be very weak at first, but by increasing the wind pressure it can be made to sound brighter. In preparation for executing a multiphonic, much time is needed in order for the player to adjust his/her embouchure.¹¹⁹

Dick indicates that the biggest pitfall for anyone trying to play multiphonics is 'blowing less for the low note in the multiphonic, blowing more for the high note, and prayerfully trying to catch the notes in the middle'.¹²⁰ He suggests that players experiment and explore the dynamic range of each note by playing it separately and

¹¹³ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.html>> Retrieved 13 January 2008.

¹¹⁴ Cherry, p. 34.

¹¹⁵ Victoria Jicha, '25 Years of Flute talk'. *Flute talk*. Vol. 26, No. 1, September 2006, p. 13.

¹¹⁶ Neville H. Fletcher, John Smith, John Tann and Joe Wolfe, 'Acoustic impedances of Classical and Modern flutes'. *Journal of sound and vibration*. Vol. 243, No. 1, 2001, p. 127.

¹¹⁷ Bartolozzi, p. 4.

¹¹⁸ Stokes, p. 10.

¹¹⁹ Howell, p. 31.

¹²⁰ Jicha, p. 12.

discovering which notes are dynamically superior to other notes. He adds that 'a multiphonic can only exist in the dynamic range where both pitches are successful. Once you know what that range is, you choose that dynamic'.¹²¹

Experimenting with multiphonics improves dexterity.¹²² Cherry commends Dick and Artaud for their research and publications on the myriad of extended techniques available. They have created manuals on possible multiphonics that have their own fingering, even indicating the angle of the mouthpiece and dynamic level most suited to each multiphonic.¹²³ There are over 2000 multiphonic sounds available.¹²⁴

It is suggested that the first multiphonic ever written for flute was in Berio's *Sequenza* and even in this piece it takes a lot of experimenting with different ways of producing the key clicks, harmonics and multiphonics.¹²⁵ Kazuo Fukushima's *Shun San* (1969) was the first Japanese piece to use multiphonics.¹²⁶

Figure 3.6 Multiphonic notation¹²⁷



Works employing this technique include *Or* by Robert Dick, *Seven pieces for solo flute* by Jos Zwannenburgh and *Flute fantasy* by Cynthia Folio.¹²⁸

¹²¹ Jicha, p. 13.

¹²² Dean N Stallard, *Extended flute techniques for new beginners*. <<http://www.fullpitcher.co.uk/Dean.htm>> Retrieved 6 January 2008.

¹²³ Cherry, p. 34.

¹²⁴ Morris, p. 66.

¹²⁵ Dorough pp 12-13

¹²⁶ Elca Tate, *Music of Japan today tradition and innovation*. <<http://home.sprintmail.com/~emrichards/etate1.html>> Retrieved 13 October 2007

¹²⁷ Kyungmi Lee, *Extended techniques for flute*. <<http://pcm.peabody.jhu.edu/~klee/sem/>> Retrieved 31 January 2007

¹²⁸ Helen Bledsoe, *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. <<http://www.heienbledsoe.com/erep.html>> Retrieved 9 February 2010.

3.2.11 Quartertones

Microtones that are tones smaller than a semitone and quartertones belong to this category. Quartertones can be produced either by using different fingering or by use of embouchure manipulation, i.e. bending a note up or down. Boehm's flute of 1847 was not manufactured with an idea in mind to produce synthetic fingering, and as a result these fingerings produce different timbral variations compared to the other surrounding pitches.¹²⁹

On ring-keyed flutes microtones can be produced either by alternate fingering or by opening the holes only partially. Alternate fingering will also bring about a change in timbre. On flutes without ring keys, alternate fingering may be used. Turning the flute inwards and outwards on the lip also produces microtones, even though this is not very precise, but it does not influence the timbre as much as using new fingering would.¹³⁰

The notation generally involves an arrow pointing in the direction of the note to be changed. For example, an arrow pointing up before an F would mean F quarter sharp.¹³¹ Microtones are usually indicated in the following way, even though composers realise that contemporary notation is not always standardised and therefore sometimes include a page of instructions on what the symbols mean.

¹²⁹ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.html>> Retrieved 13 January 2008.

¹³⁰ Mats Möller, *New sounds for flute-on flute techniques from the twentieth century*. <www.sforzando.se/flutetech> Retrieved 25 August 2010.

¹³¹ Cherry, p. 34.

Figure 3.7 Notational symbols indicating the use of quartertones¹³²

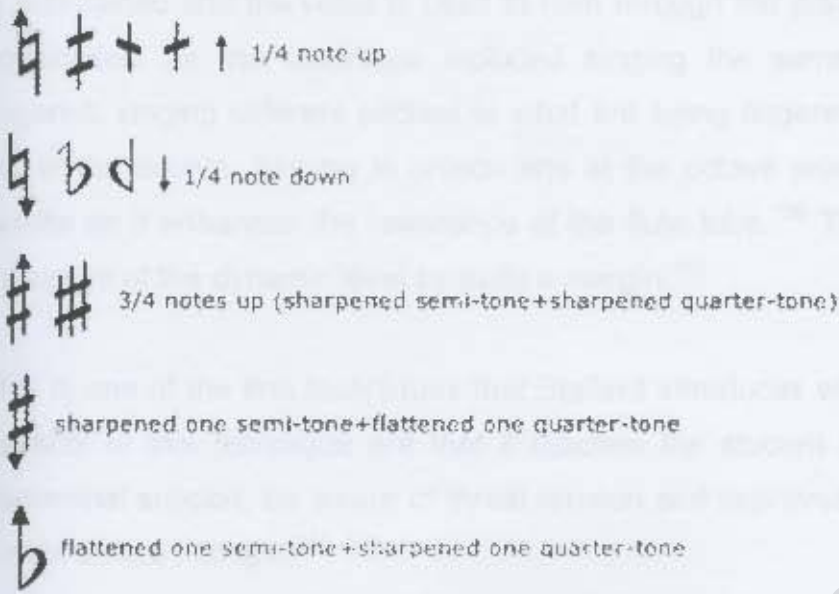


Figure 3.8 Descending and ascending quartertone scale¹³³



Pieces employing quartertones include *Carceri d'Invenzione IIb* by Brian Ferneyhough,¹³⁴ *T(aire)c* by Heinz Holliger and *Zoom tube* by Ian Clarke.¹³⁵

3.2.12 Singing, humming and playing

This another technique regarded by Stokes as a standard playing technique.¹³⁶ Howell and McMurtery suggest that this technique was introduced by jazz musician

¹³² Kyungmi Lee, *Extended techniques for flute* <<http://pcm.peabody.jhu.edu/~klee/semi/>> Retrieved 31 January 2007.

¹³³ Mats Moller, *Changes of pitch. Glissandi*. <<http://www.sfz.se/flutetech/01.htm#gliss>> Retrieved 23 May 2011.

¹³⁴ John McMurtery, *Extended techniques. microtones ex 2*. <<http://www.johnmcmurtery.com/index.php/extended-techniques/4-alternate-sonorities/20-microtones-ex-2>> Retrieved 19 August 2010.

¹³⁵ Helen Bledsoe, *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. <<http://www.helenbledsoe.com/erep.html>> Retrieved 9 February 2010.

Herbie Mann¹³⁷ and was further developed by composers seeking to employ the flute as a polyphonic instrument.¹³⁸ This is a technique where a normal flute embouchure is maintained and the voice is used to hum through the playing simultaneously. The possibilities for the technique included singing the same pitches as are being fingered, singing different pitches to what are being fingered and singing in unison, but at the octave. Singing in unison and at the octave produce the most desirable results as it enhances the resonance of the flute tube.¹³⁹ This technique decreases the range of the dynamic level by quite a margin.¹⁴⁰

This is one of the first techniques that Stallard introduces with younger players. The benefits of this technique are that it teaches the student to focus on and control abdominal support, be aware of throat tension and improves aural skills, i.e. hearing a note before hitting it.¹⁴¹

When this technique is used on the flute the two distinct sounds of the voice and flute tone are quite discernable and this may be due to the fact the embouchure formation is external.¹⁴² These multiple sonorities can sound quite busy and noisy.¹⁴³ To prevent the vocal sound from interfering with the airstream, a comfortable range for female players is in the soprano or alto singing range, while for males using a falsetto voice best suits this technique.¹⁴⁴

Nicholas Bannan hypothesises about singing being a 'universal human capacity'.¹⁴⁵ It is a great technique for acquiring a richer tone and cultivating the ability to play with an open throat. As it takes practice to keep the pitch really focused, care should be taken not to strain the vocal chords through too much intense practice.¹⁴⁶

¹³⁶ Stokes, p. 9.

¹³⁷ Howell, p. 30.

¹³⁸ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.html>> Retrieved 13 January 2008.

¹³⁹ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.html>> Retrieved 13 January 2008.

¹⁴⁰ Dick, 1989, p. 143.

¹⁴¹ Dean N Stallard, *Extended flute techniques for new beginners*. <<http://www.fullpitcher.co.uk/Dean.htm>> Retrieved 6 January 2008.

¹⁴² Howell, p. 30.

¹⁴³ Dick, 1989, p. 143.

¹⁴⁴ Howell, p. 30.

¹⁴⁵ Nicholas Bannan, 'Out of Africa: The evolution of the human capacity for music'. *International Journal of music education*. Vol. 33, No. 1, 1999, p. 3.

Figure 3.9 Notation indicating singing and playing¹⁴⁷ by Maggi Payne. *Lookout* by Robert Dick. *Homage* by Theo Verbey¹⁴⁸ and George Crumb's *Vox Balanae*.¹⁴⁹



Compositions using this technique include *Lookout* by Robert Dick, *Homage* by Theo Verbey¹⁴⁸ and George Crumb's *Vox Balanae*.¹⁴⁹

3.2.13 Tongue rams

A tongue ram is created by covering the embouchure hole with the lips and dynamically plugging the hole with the tongue. This action creates a pizzicato type of effect. Tongue rams are very effective in the first octave of the flute and sound almost an octave lower than the fingered note. Rapid successions of tongue rams are not advisable as the player needs some time to prepare the lips and tongue to create the desired effect. It is also not advisable to try and play tongue rams in the middle of a virtuosic finger passage.¹⁵⁰ The flute needs to be turned in on the lip so that an accidental jet whistle is not produced before the air is stopped with the tongue.¹⁵¹

Figure 3.10 Tongue ram notation¹⁵²



¹⁴⁶ Cherry, p. 34.

¹⁴⁷ Kyungmi Lee. *Extended techniques for flute*. <<http://pcm.peabody.jhu.edu/~klee/semi/>> Retrieved 31 January 2007.

¹⁴⁸ Helen Bledsoe. *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. <<http://www.helenbledsoe.com/erep.html>> Retrieved 9 February 2010.

¹⁴⁹ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/CTft.html>> Retrieved 20 January 2008.

¹⁵⁰ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.htm>> Retrieved 13 January 2008.

¹⁵¹ Dick 1989, p. 139.

¹⁵² Kyungmi Lee. *Extended techniques for flute*. <<http://pcm.peabody.jhu.edu/~klee/semi/>> Retrieved 31 January 2007.

Pieces including this technique include *Reflections* by Maggi Payne (available from the composer), *Aura* by Emmanuel Nunes and *Entre Funerailles* by Mark Applebaum.¹⁵³

3.2.14 Tremolo

Tremolo is a 'rapid alternation of two fingerings of closely similar pitch'.¹⁵⁴ Stokes has not included any mention of this in his book *Special effects for flute*, as he considers this effect as one of the more conventional techniques for the flute.¹⁵⁵ Stokes regards the trill and tremolo as conventional techniques and does not discuss them under the same heading as extended flute techniques.¹⁵⁶ Morris discusses style in general in his list of extended techniques, which are defined under the term avant-garde. He considers the tremolo to be an avant-garde technique and not quite as conventional as Stokes thinks.¹⁵⁷

Marietjie Pauw indicates that she does not think of tremolo as an extended technique. Lindsey James is uncertain about her views about tremolo being an extended technique. Perhaps because of the fluctuation in pitch, even though it is through rapid movement between two notes, usually an interval of a 3rd or greater, it may be considered as unusual technique. Hendrik Hofmeyr's *Incantesimo* is an example of a work that includes tremolo as an extended technique. It is available as a CD recording from the University of Pretoria Music Department.

3.2.15 Whistle tones or Whisper tones

Whistle tones are quite high pitched and faint tones that are produced with an 'o' shaped embouchure.¹⁵⁸ The embouchure needs to be fairly relaxed and the opening in the lips very fluid.¹⁵⁹ To produce a soft whistle tone, middle C can be fingered and played with the sound fading to nothing. The air stream should be slow and stable and should then be aimed slightly higher. Holding one of these tones for as long as

¹⁵³ Helen Bledsoe, *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. <<http://www.helenbledsoe.com/erep.html>> Retrieved 9 February 2010.

¹⁵⁴ Morris, p. 67.

¹⁵⁵ Stokes, p. 1.

¹⁵⁶ Stokes, p. 1.

¹⁵⁷ Morris, p. 67.

¹⁵⁸ Morris, p. 67.

¹⁵⁹ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.html>> Retrieved 13 January 2008.

possible will produce a further challenge.¹⁶⁰ The best sounding whistle tones are produced when the flute is held slightly against the lip with a dropped jaw. The direction of the airstream should be aimed straight across the embouchure hole.¹⁶¹

The whistle tone was initially developed for didactic purposes, but was later accepted in the literature. This technique was developed and used by William Kincaid as a warm-up exercise for his students in order for them to learn to relax the embouchure as well as keep it steady. The player blows across the flute as is normally done, but with a very relaxed embouchure. A thin but pure tone should emanate from the flute. The pitch register is not controlled with the lips, but by lifting and lowering the tongue. Because of the dependence on the tongue for the successful production of a whistle tone, articulation of any sort is virtually impossible.¹⁶² As part of a daily practice routine whistle tones can be practised by playing up and down on the harmonic series. One tone can be selected and sustained for ten seconds and tunes can be played on third octave fingerings.¹⁶³

As whistle tones are based on the overtone series, they can virtually be played on any note. Whistle tones teach flute players to develop good control of the airstream if they incorporate it into their warm-up.

Whistle tones are said to have a good effect on learning to relax the embouchure, visualise a pitch before it is played and help control the flow of the airstream.¹⁶⁴

Sandy Schwoebel incorporates whistle tones in her warm up and teaches this technique to students regardless of their age or proficiency level. She points out that it demonstrates the mutual dependence and relationship of embouchure strength and control and airstream flow.¹⁶⁵

¹⁶⁰ Cherry, p. 32.

¹⁶¹ Sandy Schwoebel, 'Warming up with whistle tones'. *Flute talk*. Vol. 20, No. 6, 2001, p. 16.

¹⁶² Howell, pp. 26-27.

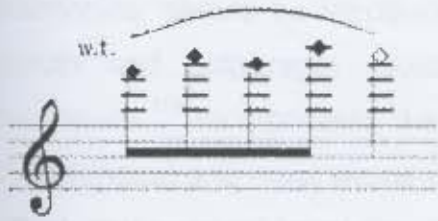
¹⁶³ Krell, p. 76.

¹⁶⁴ Jicha, p. 30.

¹⁶⁵ Schwoebel, p. 16.

McMurtery refers to Robert Dick's resourceful compositional techniques in creating brilliant effects with whistle tones, despite the fact they are not very reliable to produce.¹⁵⁸

Figure 3.11 Whistle tone notation¹⁵⁷



Pieces incorporating whistle tones include *Domain* by Joji Yuasa, *Meditation, Invocation and Allegro* by Michael Ellison and *Laconisme de L'aile* by Kaija Saariaho.¹⁵⁸

3.3 Benefits of extended techniques

Trevor Wye cautions students to not be resistant to change; the same can be said about audiences of contemporary music.¹⁵⁹ Helen Bledsoe indicates that learning pieces with unconventional notation, sounds and expressions facilitates in broadening 'expression and dramatic impact'.¹⁶⁰ Dean Stallard, flute player and teacher, started using extended techniques to remedy specific problems faced by young flute players. Apart from this reason, he also found that children enjoy being able to produce a whole range of different sounds that would normally be considered unconventional. It adds an element of fun and broadens their musical experience, while encouraging them to discover more about the different flute sounds. Some of the techniques used by Stallard with beginners ranging from age 5 to postgraduate level include singing while playing: tone bending, tongue rams, frullato and

¹⁵⁸ John McMurtery, *Extended techniques for flute*. <<http://www.johnmcmurtery.com/ET/index.html>> Retrieved 13 January 2008.

¹⁵⁷ Kyungmi Lee *Extended techniques for flute* <<http://pcm.peabody.jhu.edu/~klee/sem/>> Retrieved 31 January 2007.

¹⁵⁹ Helen Bledsoe, *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. <<http://www.helenbledsoe.com/erep.html>> Retrieved 9 February 2010.

¹⁶⁰ Jicha, p. 25.

¹⁶¹ Helen Bledsoe, *Tips for the preparation of contemporary music*. <<http://helenbledsoe.com/index.html>> Retrieved 25 August 2010

multiphonics.¹⁷¹ Robert Dick confirms that learning multiphonics is a brilliant exercise for developing the embouchure. He points out that many professional players, with no special affinity for the repertoire containing extended techniques, have discovered the benefits of including extended techniques in their practice sessions.¹⁷² Ann Cherry also recommends that at least one of the extended techniques, namely harmonics, should be introduced at a fairly early stage. Besides strengthening the mouth and diaphragm muscles, this also develops the ear and enhances resonance.¹⁷³ Incorporating the use of extended techniques in the instruction of even the youngest and most elementary of players seemingly does not have a detrimental effect on the overall tonal development of the player.

Helen Vosloo says that she finds using extended techniques in teaching practice is very useful. She has used note bending, singing and playing, whistle tones, multiphonics and harmonics in her teaching.

Wendy Hymes describes the use of various extended techniques, such as 'microtonal fingerings, flutter tonguing, simultaneous singing and playing, harmonics pitch bends and key clicks to simulate the spirit of Kigandan *endere* music'.¹⁷⁴

Stallard asks why extended techniques should be reserved only for more advanced players. He suggests that learning anything new, at the appropriate technical level, for any beginner flute player is just as challenging as learning many of the basic skills of flute playing. He states that as the new flute techniques were being exposed and experimented with, composers too were inspired to write compositions in which they would employ such techniques.¹⁷⁵

¹⁷¹ Dean N Stallard, *Extended flute techniques for new beginners*.
<<http://www.fullpitcher.co.uk/Dean.htm>> Retrieved 6 January 2008.

¹⁷² Jicha, p. 13.

¹⁷³ Cherry, p. 32.

¹⁷⁴ Wendy Hymes, *Justinian Tamusuza: Okwanjula Kw'Endere* (Track 16).
<<http://wendyhymes.com/>> Retrieved 26 February 2010.

¹⁷⁵ Dean N. Stallard, *Extended flute techniques for new beginners*.
<<http://www.fullpitcher.co.uk/Dean.htm>> Retrieved 6 January 2008.

Table 3.1 Benefits of extended techniques

| Benefits of extended techniques | |
|---------------------------------|---|
| Circular breathing | For developing the embouchure flexibility and improving the flow of musical passages |
| Extended register | For improving transition between registers whilst consistently maintaining good tone, sonority and depth of notes |
| Flutter tonguing | For improving control of airstream and air pressure and also for improving support |
| Glissandi | For teaching awareness of tone colours, flexibility in embouchure and lip control* |
| Harmonics | For strengthening the mouth and diaphragm muscles and enhances aural ability‡ |
| Hollow tones | For teaching alternative ways to vary tone colour |
| Jet whistle | For improving embouchure flexibility |
| Key clicks | Not beneficial to general playing technique but useful when variety is needed |
| Key vibrato | For improving finger dexterity |
| Multiphonics | For improving embouchure control, control of the air column, aural skills and dexterity* |
| Quartertunes | For improving aural skills and jaw and lip flexibility and useful when playing with an out of tune instrument |
| Singing and playing | For improving aural skills and abdominal support. For placing focus on lip tension.*For developing an open throat and richer tone.‡ |
| Tongue rams | For improving co-ordination between the tongue and abdomen* |
| Tremolo | For improving finger dexterity |
| Whistle tones | For controlling the aperture and very slow airstream (Bledsoe) |

*Dean N Stallard, *Extended flute techniques for new beginners*.

<<http://www.fullpitcher.co.uk/Dean.htm>> Retrieved 6 January 2008.

‡ Ann Cherry, 'Woodwind: having a flutter'. *Music Teacher*. Vol. 78, No. 10, 1999, p. 32.

3.4 Flute players' views on, and experiences of, extended techniques

There are different views of the actual techniques which fall into the category 'extended techniques'. John Hinch doesn't think of *Incantesimo* as a piece that uses extended techniques. *Incantesimo* is referred to by Daniella Heunis as a composition employing avant-garde techniques which bring to mind really radical techniques. In the *Compendium of modern instrumental techniques* Read Gardner says that not all composers are fully aware of the new developments on instruments as far as effects go. He adds that some instrumental techniques are only dimly understood. Many so-called new instrumental devices have developed from well-established techniques; they are extensions, or refinements, of procedures long considered part of a composer's repertoire of expressive devices. The newness, then, is not one of kind but of degree, a further and more extensive development of basic effects found in scores from the late 19th century to the present day. Muting, glissandi, harmonics are instrumental techniques common to the late romantics (Mahler, in particular), the

Impressionists (primarily Debussy and to a lesser extent Ravel) the Expressionists (beginning with Schoenberg, Berg and Webern) and most certainly the Neo-Romantics (Prokofiev, Bartok, Britten). More patently new, in conception and in method of individual production, are the techniques of microtones and of sound amplification, the latter applied to conventional instruments in live performance rather than referring to electronic composition.¹⁷⁶

Helen Vosloo states that extended techniques such as whistle tones, multiphonics, harmonics, singing and playing, and note bending can be useful in practice and teaching.¹⁷⁷

Liesl Stoltz shares memories about her first real exposure to a contemporary piece employing extended techniques and how challenging it was trying to grasp the whole concept of the novel sounds and then learning to execute it on the flute, without any prior knowledge or experience:

I think when I was here (South Africa) before going overseas, contemporary music was not so important. I think maybe people were afraid of doing it. We didn't know about it. For a very long time we wouldn't get CD's or performers who would play these things in South Africa. We didn't have that contact. And when I went overseas, but before I went I played 'Chant de Linois' which was my main exposure, I heard all these strange pieces. For the exams we'd always have a piece like specially written for the exam and everybody must play it. That piece was Berio's *Sequenza*. I had no recordings and only a few lessons. I didn't know where to start. I don't know if you've ever seen the score. It has no bar lines. Only time lines. There is no time signature. Then I ordered a recording by Peter Lukas-Graf and I listened to this thing thousands of times and it really helped me, but these contemporary pieces never sound the same. You first have to learn it really strict but it helps to listen because it gives you an idea. Otherwise you have no idea what it's like. Because it's a lot of hard work. It takes hours to figure out one bar. If you learn it for the first time it takes long... It's not strange difficult techniques. You've got some key claps and multiphonics. I played my first multiphonics in that piece.¹⁷⁸

John Hinch recalls that his London-based flute teacher gave him pieces such as Varèse's *Density 21.5*, Berio's *Sequenza* and Fukushima's *Mei* to practise, but not with the intention to perform it on the concert stage, even though he did not have any real interest in extended techniques. John Hinch's own students, he indicates, are not very keen to perform pieces that include extended techniques. Generally, he

¹⁷⁶ Gardner, p. 56.

¹⁷⁷ Helen Vosloo, Skype interview, 2 March 2010.

¹⁷⁸ Liesl Stoltz, Personal interview. The Baxter Theatre, Rondebosch, Cape Town, 27 November 2003.

challenges the more advanced players with such pieces and those who show particular interest in performing such pieces.¹⁷⁹

Ann Cherry, who is currently Senior Lecturer in flute at Trinity College of Music and is Co-ordinator of Wind, Brass and Percussion at Trinity College of Music Junior Department,¹⁸⁰ introduced Marietjie Pauw to Robert Dick's pieces and methods in London in 1991. Pauw says that Dick's methods are superb for enlarging tone. It was also during this time that she first experimented with multiphonics. In 1998 she had master classes with Patricia Spencer and this experience, coupled with her own keen interest, has spurred her on to maintain her interest in extended techniques and making such pieces part of her repertoire. Her experimentation and appreciation of such techniques derive from the fact that she enjoys the different sound possibilities and the extension they bring to normal flute playing. She includes in her repertoire the following pieces *Density 21.5* (Varèse), *Gabriel's Wing* (Shatin), *Incantesimo* (Hofmeyr), *Mei* (Fukushima), *Tenderness of Crane* and *The great train race* (Clarke). She indicates that she has studied Berio's *Sequenza*, but at the time of the interview had not yet performed it in public.¹⁸¹

French flute player, Patrick Gallois, mentions that in the early 1980s he rejected contemporary music as part of his repertoire for no other reason than simply not understanding it. He stuck with the 'safer' repertoire of Reinecke and Saint Saëns, amongst others, for a very long time before experimenting and including pieces with extended techniques in his repertoire.¹⁸²

Marietjie Pauw studied with Eva Tamassy and says of her: 'She has incredible insight into weaknesses and remedies for the flute', but views extended techniques as a dead end and even harmful to tone production.¹⁸³

¹⁷⁹ Hinch, 30 October 2007.

¹⁸⁰ Ann Cherry, *Flautist*. <<http://www.anncherry.demon.co.uk/>>. Retrieved 17 April 2010.

¹⁸¹ Marietjie Pauw (emcemp@iafrica.com), Private e-mail correspondence, received on 16 November 2007.

¹⁸² Jara Kern, 'In search of sound - an interview with Patrick Gallois'. *Flute talk*. Vol. 19, No. 2, 1999, p. 9.

¹⁸³ Pauw, 16 November 2007.

Flute player Patrick Gallois believes that a new way of experiencing new sounds is not only created through new techniques and extensions of the instrument and capabilities of the player, but also through ambience. He believes that the flute is truly free as a solo instrument, and is somewhat inhibited in terms of sound when playing in ensemble with one or more instruments. He relays his experience of playing Telemann's 12 fantasies for solo flute in a church in Beirut during Israeli bombing. As everyone was fearful as to whether the church might be a target, he decided to use candles. The candlelight added a 'dramatic dimension' to the performance and he has continued to use candles ever since.¹⁸⁴

3.5 Conclusion

As the main objective for flute makers and performers in the past was to obtain a pure even sound, the limits of the flute remained unexplored until the mid-1900s. But these standards set by players such as Quantz, Nicholson, Hotteterre and others do not match the demands of contemporary music. There were even two different thoughts about tone. Whereas Quantz believed that 'the notes in the low octave must be played more strongly than those in the high octave',¹⁸⁵ Hotteterre believed that one 'must blow only gently in doing the low notes'.¹⁸⁶ Another factor to consider is that many flute players and authors on the subject of extended flute techniques do not always consider the same techniques to be extended techniques, but rather standard techniques.

Even with the development in the physical structure of the flute and the discovery of how to create extended sounds on the flute, the difficulty in performing these sounds on the flute at times may point to personal preference, gender and often it may just not be possible to execute certain movements, because of the range or dynamic level during a certain passage. This has led to some editions being edited by players themselves, or substituting a particular technique for another, only because the required one might be impossible to reproduce.¹⁸⁷

¹⁸⁴ Kern, p. 9.

¹⁸⁵ Johann Joachim Quantz, *On playing the flute* (Translated by Edward R. Reilly). London: Faber and Faber, [1752], 1966, p. 57.

¹⁸⁶ Jacques Hotteterre, (translated and edited by David Lasocki), *Principles of the flute, recorder & oboe*. London: Barrie & Rockliff, [1707], 1968, p. 43.

¹⁸⁷ Jennings, p. 13.

One area of flute playing should never be allowed to advance at the expense of another. Sometimes extended techniques are regarded as frivolous and some think that they hinder proper technical execution of certain passages or even interfere with musicality. Technique is definitely an important factor for every flute player, but it appears that other techniques such as intonation, as constantly pointed out by Trevor Wye, and even phrasing and musicianship, as pointed out by Joseph Mariano,¹⁸⁸ are neglected today.

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¹⁸⁸ Jicha, p. 20.

Chapter Four

Extended flute techniques in three culturally different flute compositions

4.1 Introduction

A comparative study of three different compositions by three composers from different cultural and socio-economic backgrounds highlights not only the differences, but also reveals many similarities, between the playing techniques of the instruments used. This chapter presents discussions of the following three compositions: *Incantesimo* (Hendrik Hofmeyr, South African), *Four Flute Tunes* (Katsuba Mwangolo, Central Africa) and *Mei* (Kazuo Fukushima, Japanese).

Each composition is discussed in terms of the composer's geographical location and background, particularly focusing on elements such as external influences, societal influences, and the function and importance of music and musical traditions within the particular society. Each composition features elements that are uniquely characteristic of its country of origin. Whatever external factors and limitations might have contributed to the final product, each composer produced a unique work, which is discussed as such.

While this chapter does not provide a detailed discussion of the specific characteristics of Western, African and Asian cultural and music traditions in their entirety, it focuses on the specific pieces chosen, highlighting the ways in which they reflect the roots and experiences and intentions of the composers in relation to their environments and cultural and educational backgrounds as relayed to the instrument. The intentions of the composer may in some cases influence the interpretation of the performer, an aspect which is briefly touched upon.

This chapter introduces the societal role of music, music analytical procedures with specific reference to texture and tone colour, tempo, meter and rhythm, articulation, pitch and tonality, mood and also range. A detailed analytical discussion of the three compositions follows, with particular reference to the use of extended flute techniques outlined in the previous chapters.

4.2 The societal role of music

According to Meyer, '[w]e are all products of a special and limited time and space, our behaviour and beliefs are invariably influenced by the cultural and personal circumstances in which we find ourselves'.¹ Hofmeyr emphasises the importance of communication:

To me, music has always been about communication and atmosphere; whether it means you could express it with your heart is a different matter. I can't conceive of just filling time with notes and say now I've written a piece of music. I hear a lot of music that sounds like that but to me it is meaningless.²

John Blacking, after years of immersing himself in the everyday life and traditions of the Venda, came to the conclusion that music can never be a thing in itself, and that all music is folk music in the sense that music cannot be transmitted or have meaning without associations between people.³ He relates his experience as a Western educated person who went through the norms of studying music history and learnt to play the standard prescribed repertoire. He learnt about harmony and counterpoint in their structured and prescribed ways. He is a product of his social and cultural environment and that was reflected in his knowledge, delivery and understanding of music ethnically different from what he had been surrounded with for the most part of his life.⁴

The same also holds true for the music of other non-Western cultures. Japanese music culture bears out the truth of Blacking's statement. Instruments like the *shakuhachi* are used for religious purposes. Gagaku and Noh theatre performances are reflective of everyday Japanese life and beliefs. Jay Keister believes that there are various mental and physical challenges facing anyone who pursues the musical traditions and practices of Japanese music. According to him:

My own subsequent experiences studying *nagauta*, *gagaku*, *minyo* and *shakuhachi honkyoku* in both the United States and Japan have made me aware of the mental and physical challenges faced by all Westerners who embark on any serious pursuit of Japanese music and how we must rely on our own individual strategies to overcome extreme cultural, linguistics and geographical barriers. Nowhere are these barriers more

¹ Leonard B. Meyer, 'A universe of universals'. *The journal of musicology*. Vol. 16, No. 1, 1998, p. 3.

² Hendrik Hofmeyr, Personal interview. South African College of Music, Cape Town, 21 November 2003.

³ John Blacking, *How musical is man?* Seattle: University of Washington Press, [1973], 2000, p. x Preface.

⁴ Blacking, [1973], 2000, p. x.

apparent than in the cultures of socialized learning that is central to the experience of Japanese traditional music.⁵

Each culture conveys part of its traditions through the use of music, showing evidence of ways in which music is used to enhance certain events or daily life; this is evident in the West, the East and Africa. Kubik speaks of 'musical traditions' in Africa instead of 'traditional music', as this makes African music appear less generic than it has sometimes been thought to be by some cultural outsiders. The way the musical traditions are seen today in the twenty-first century may be the result of ever-changing historical circumstances, including cultural, political, social and ecological factors.⁶

While indigenous African music has an oral tradition, several scholarly attempts have been made to transcribe the music in Western staff notation. Kubik attributes the first formal attempt to transcribe African music to Thomas Edward Bowdich with his *Asante and Fante* song transcriptions in Ghana in 1819, Carl Mauch's notations of music for the *mbira dza vadzimu* in Zimbabwe (1869-1872) and Capello and Ivens' *Sketches in inner Angola* (1881).⁷ Kubik comments on these transcriptions as follows:

Clearly, this notation by travellers, commercial agents, missionaries and administrators with some training in the European music of their time does not match the complexities of African music. Rhythmic patterns were simplified and misunderstood, scalar and melodic patterns reinterpreted via the auditory habits of the transcriber's home culture. In addition there is the filter inherent in the Western notational system itself. However, some of the 19th Century notations can be interpreted today and it is not impossible that one or another musical piece could be reconstructed.⁸

Shakuhachi notation is quite unique to the instrument and consists of a combination of tablature, oral instruction and graphic symbols that vary from school to school. Most traditional shakuhachi music is taught and learnt by rote as these systems of instruction are very precise. Attempts have been made by composers such as Toru Takemitsu and Minoru Miki to notate music for the *shakuhachi* using standard Western notation. These composers may be commended for their efforts, but it was found the outcome of the pieces varied greatly when performed by different players.

⁵ Jay Keister, 'The *shakuhachi* as a spiritual tool: a Japanese Buddhist instrument in the West'. *Asian music*. Vol. 35, No. 2, 2004, p. 101.

⁶ Gerhard Kubik, *Theory of African music*. Wilhelmshaven: F. Noetzel, 1994, p. 21.

⁷ Kubik, p. 30.

⁸ Kubik, p. 30.

Transcriptions of *shakuhachi* music proves to be quite problematic because of the techniques associated with shakuhachi playing, which is in large measure a visual learning process whereby the student copies the teacher. Body movements such as head and finger movements play an important part in the correct presentation of a particular sound.⁹

Kazuo Fukushima (Japanese) and Hendrik Hofmeyr (South African)¹⁰ were both schooled in the Western musical tradition; they grew up in countries distant from each other, but each with its own special musical flavouring and each composer has distinct life and musical experiences of his own. Katsuba Mwangolo, on the other hand, had no formal Western-based music education and relied on the oral tradition that is customary in many indigenous African societies to create sounds on his instrument, similar to what was being produced in many Western countries around the globe. The chances are that he might not have been influenced by Western flute-playing styles and techniques.

As shown in Chapter Two, indigenous African and Asian societies differ very much in the way their instruments are made, as well as in their performance practices, tonal systems, and melodic and rhythmic patterns. While it is dangerous to make generalised statements about the role of music in different societies, there are some characteristics that most cultures share. For example, in all parts of the world music, dance, religion and drama are very closely linked.

Music forms part of the everyday life of many cultures as it forms an integral part of religious ceremonies and magic rites; it also serves as a form of entertainment and is also used to convey certain messages and to relate the traditions of certain peoples. In Japanese culture Noh theatre and Zen Buddhist meditation are examples of the use of Asian musical traditions. In Western societies wedding ceremonies, graduations, inaugural services, funerals and birthday celebrations are all events where music is almost central to the event. In African societies music forms part of rituals and, weddings ceremonies, amongst other things.

⁹ Jeffrey Lependorf, 'Contemporary notation for the shakuhachi: A primer for composers'. *Perspectives of new music*. Vol. 27, No. 2, 1989, pp. 232-233.

¹⁰ In defining African music and Africanism, a person cannot assume that all Africans are black, live on the African continent or originate from there.

One of the major differences between Western and indigenous African civilisations lies in the fact that Western communities often see music as a form of entertainment, without active participation in the performance itself, the listener being a kind of 'external participator'. At times an entire day could pass without a person being surrounded with or immersed in music. In indigenous African traditions music is an integral part of daily existence and the two cannot be separated; the art of music making is vital to the functioning of many individuals. The use of music in its many forms plays a really vital role in many normal events in any person's life, birth, adolescence and puberty, adulthood, marriage and death as well as in religious and other festivals, It is often a communal social activity, but this does not prevent solo individuals and performers from practising their craft privately, or displaying their skills as part of an ensemble.¹¹ In indigenous African musical traditions compositions are created on a daily basis, as can be seen through the playing of Mwangolo. His compositions were not commissioned, but personal musical extensions of his creativity. In Western societies composing may be a way of personal self-expression, or a source of income or a professional career. The product belongs to the individual composer, whereas in African communities it becomes communal property.

Much 'African' music listened to, studied and performed in South Africa today is no longer purely indigenous or traditional, but rather hybrids of these qualities, partly because of Western influences. For example, gumboot dancers wear gumboots doing African dances and singing African melodies, but gumboots are not indigenously African.¹² Africa and its music are complex, because the continent encompasses various and diverse countries, cities, towns, villages, ethnic groups, communities and cultures. Indigenous African music could be seen theoretically as music that has not been tarnished by any other forms, whether Western, Asian or Arabic,¹³ but it would be difficult to investigate any kind of music in the world as an entity that has not been influence by outside forces. Mwangolo's music from the

¹¹ Fred and Lee Warren, *The music of Africa: an introduction*. London: Prentice-Hall, 1970, p. 3.

¹² Carol Muller, *South African music: a century of traditions and transforming*. California: ABC-CLIO, 2004, p. 6.

¹³ Kofi Agawu (edited by Anri Herbst, Meki Nzewi and Kofi Agawu), 'Defining and interpreting African music'. *Musical arts in Africa: theory, practice and education*. Pretoria: University of South Africa, 2003, p. 3.

Congo appears to be quite uninfluenced by Western music and therefore represents an example of indigenous flute music in Central Africa.

4.3 Meeting composers' intentions

Understanding the intentions of the composer and linking this understanding to the interpretation and performance of the piece go hand in hand. The flute performer strives to convey mood, texture, timbre and style as portrayed in the composition and they may not have readily available access to composer. Even if the composer is at hand, the instrumentalist may interpret a work differently from the composer's intentions, as Peter Gallois indicated:

Sometimes it's difficult to figure out what a composer wants. When Pierre Boulez explains what he writes for flute, it is clear, but many composers are unclear. Only if we understand the music can we play it. Some composers think that they don't need to explain things to the performer. The first time I played the concerto for Penderecki, I organized some points harmonically, but he said it was not what he wrote. I asked him to just follow me as I played it. He said that it was great, but it was not what he wrote. However, my interpretation was what I understood in his music. I find this to be the interesting aspect of interpretation.¹⁴

Hendrik Hofmeyr indicated that Helen Vosloo's first rendition of *Incantesimo* captured the mood very well, following his telephonic conversations with her. Many other players have since performed *Incantesimo* and have also endeavoured to capture the mood of the title, interpreting the work within the musical style of Hofmeyr, paying attention to 20th-century musical traditions. They could often not have personal input from the composer and had to rely on their own musical abilities and sensitivity to tone to create an effect of sound that was as close as possible to what the composer had in mind. Monard did not have input from Hofmeyr during her study of *Incantesimo*, but she did have a lesson with Vosloo.¹⁵

In Chapter One the question was posed whether it might be possible to perform the *Four Flute Tunes* on the Western transverse flute. South African flute player Lindsey James agreed to offer a rendition of the piece on the Western transverse flute. She

¹⁴ Jara Kern, 'In search of sound - an interview with Patrick Gallois'. *Flute talk*. Vol. 19, No. 2, 1999, p. 9.

¹⁵ Merryl Monard (merryl@ananzi.co.za), Private e-mail correspondence, received on 2 and 15 March 2010.

relied mainly on Nzewi's transcription but also consulted the International Library of African Music (ILAM) CD recording.¹⁶

Mwongolo was the composer and performer of his composition and played it exactly the way he had intended. James performed Mwongolo's *Four flute Tunes* and tried to copy his playing style on the transverse flute as closely as possible. Even though there was great disparity between the two flutes used, she was still able to manipulate her own playing styles to accommodate the novel effects that she was not used to creating on the standard Western transverse flute.

Flute players strive for producing a 'pure' tone and 'flawless' technique; this constant endeavour towards unblemished playing is what drove the development of the different schools of flute playing. Adherents of any particular school would follow the 'rules' and standards set by the school to achieve the most highly desired tone. Certain playing techniques are adopted that reflect the playing styles of a particular school. James, possibly a product of one of these schools of flute playing, had been playing the flute for many years in a certain way that produced the best tone. Trying to imitate Mwongolo's playing caused her to step away from her usual way of playing and explore a new way of creating sounds. She indicated that this exploration led to using techniques that go against all that she had come to learn about flute playing in the Western flute world.¹⁷

Fukushima intended the traditions of the Noh theatre and the sounds of the *Noh-kan* to be reflected through *Mei*, but essentially the composition is steeped in Japanese musical tradition. This musical tradition does not include only one type of instrument, but all aspects of musical tradition in Japan.

¹⁶ Lindsey James (lindseyjames@webmail.co.za), Private e-mail communication, received on 7 August 2009. Lindsey James is a South African flute player who graduated from the University of Cape Town (UCT) and has a BMus (Honours) degree from UCT and a performer's licentiate in flute from the University of South Africa (UNISA). She has won numerous South African prizes, as well as a scholarship to complete her MMus at the Royal Northern College of Music, Manchester, United Kingdom.

¹⁷ James, 7 August 2009.

The same composition will never sound the same played by different performers. A whole range of factors play a role in the interpretation of the performer: the background of the player, embouchure technique and technical ability.

4.4 Analyses of the use of extended techniques

The main focus of this chapter is on the three compositions' sonic worlds, techniques and performance styles as they relate to extended flute techniques. The purpose of this section is not to provide a harmonic analysis, but mainly an analysis of the use and effect of extended techniques in the different compositions.

After the first in-depth listening to the three compositions without the score, certain impressions and observations were recorded, followed by more detailed information gained from repeated listening, assisted by reading and analysing the score, a practice which Pierre Boulez describes as 'the serious study of the scores themselves'.¹⁸ Before beginning to analyse the pieces of music, the basic features of the analytical approach adopted in this study need to be outlined.

4.4.1 Texture and tone colour

Texture refers to the interaction of separate parts that sound with one another. Texture is the result of the number and relative prominence of the individual parts, spacing, rhythm, and timbre (tone colour).¹⁹

Texture in this instance should not be thought of as different layering of different instrumental sounds, but rather how the texture of the flute sound is able to change, depending on which technique is applied. It is necessary to make a clear distinction between monophonic, homophonic and polyphonic textures. Even though the study deals with solo flute compositions, it is evident from the use of extended techniques (discussed in the previous chapter) that at least one the compositions is not entirely monophonic in texture. Homophony appears in two forms:

True homophony (wherein all voices move with essentially identical rhythms) and melody and accompaniment (characterized by a rhythmically independent melody set against other homophonic voices).²⁰

¹⁸ Jonathan Dunsby and Arnold Whittal, *Music analysis in theory and practice*. London: Faber and Faber, 1988, p. 3.

¹⁹ Joel Lester, *Analytic approaches to twentieth century music*. New York: W.W. Norton, 1989, p. 53.

The most common synonym for tone colour is timbre. It refers to the blending of various instrumental groups. All instruments have different timbral effects, for example, *pizzicato* and *col legno* on strings, muting on brass instruments, and high and low registers on various instruments.²¹ Galway points out that one of the most important techniques a flute player can possess is the ability to control the tone of the flute and to create varied nuances that stem from this ability. Simply by altering one's mouth position a change in tonal effect is created. For example, 'bright colours are made by the more closed-up vowels said at the front of the mouth, dark colours by the open vowels said at the back'.²²

4.4.2 Tempo, meter and rhythm

Karpinsky states that 'rhythm refers to all aspects of music that deal with time. There are: Patterns of duration, accentuation (including meter), and continuity. Meter is the organization of pulses into groupings of strong and weak'.²³ Blacking includes time, metre, accent, period and tempo as important facets of rhythm and states: 'Rhythm, which basically means "flow", is the overall, personal combination of these aspects of music'.²⁴

According to Karpinsky, with reference to 20th-century music, a clear rhythmic outline is essential to recognise a stable pulse. The overall structure is reliant on rhythmic motives.²⁵

4.4.3 Articulation

Articulation refers to how a single note is executed. Woodwind playing identifies a number of different tongue attacks. The tongue can be used in a single or multiple attack. The intensity of the attack will release a tone or tones, which are either forceful and strained, or soft and gentle. In a softer articulation only a portion of the

²⁰ Gary S Karpinsky, *Aural skills acquisition: the development of listening, reading, performing skills in college level musicians*. Oxford: Oxford University Press, 2000, p. 12.

²¹ Lester, p. 54.

²² James Galway, *Flute*. London: Kahn and Averill, 1982, pp. 97-98.

²³ Karpinsky, p. 31.

²⁴ John Blacking, 'Eight flute tunes from Butembo, East Belgian Congo: an analysis in two parts, musical and physical'. *African Music*. Vol. 1, No. 2, 1955, p. 27.

²⁵ Karpinsky, p. 31.

tongue is used. For staccato tonguing, a quick tongue is used in saying 'tut' very fast.²⁶ Multiple tonguing refers to double and triple tonguing.²⁷

4.4.4 Pitch and tonality

Humankind functions within structures. Composers write music because of their own understanding of their musical background and traditions, and they may or may not draw on elements stemming from other cultures and traditions. However, this does not mean that they are confined to that particular style. According to Nketia, a Western composer working with non-Western different musical and traditional background 'works on the materials within the framework of Western composition',²⁸ and vice versa. According to him, 'it is one thing to borrow materials from a musical culture and another to think in the musical language of that culture'.²⁹

Tonality is one such structure in which pitch is organised. Pitch refers to the frequency of a tone and can also be generally defined as high, middle or low. Pitch is organised in terms of tension and resolution. When referring to Western tonal music, 'thinking in a key' is important because Western musicians' ears have become trained to the dominant-tonic relationship (V-I), or the leading note wanting to resolve to the tonic. Chromaticism and dissonance 'confuse' the ear and listeners are constantly seeking for reaffirmation of a tonic, or the key of the piece. In a similar way as humankind are confined by the metrical structure of music and 'playing in time', so to 'playing in tune' is something people are constantly aware of and sensitive to as flute players, especially where the flute is used as part of an ensemble.

Functional harmonies are a principal factor creating a sense of motion and shaping the gestures of tonal pieces. Intervals and pitches are identified by their location in a major and minor scale. For non-tonal music there needs to be new pitch and interval names that don't depend on a diatonic basis.³⁰

At the beginning of the nineteenth century the following factors contributed to the decline of tonality:

²⁶ Edwin Putnik, *The art of flute playing*. Miami: Summy-Birchard, 1970, p. 39.

²⁷ Putnik, p. 41.

²⁸ J. H. Kwabena Nketia, *Ethnomusicology and African music: modes of inquiry and interpretation. Collected papers volume one*. Accra: Afram Publications (Ghana), 2005, pp. 352-353.

²⁹ Nketia, (2005), p. 352.

³⁰ Lester, p. 13.

Increased chromaticism, increased levels of dissonance, increasingly distant harmonic relationships, use of modal and non-diatonic scales, avoidance of functional progressions, and the increased importance of motives as determinants of melody and harmony.³¹

It is important to note that different structures of tonal organisations exist in different cultures, as will become evident in the discussions of the individual pieces.

4.5 South African composition: *Incantesimo* by Hendrik Hofmeyr

When Hendrik Hofmeyr was in Italy, he was the pianist of a piano and flute duo. During this time he was introduced to the special qualities and capabilities of the flute. He played the clarinet as a student but, as he indicates, he somehow developed a reputation as a flute composer. He recalls how, at the time, Helen Vosloo, principal flute player of the National Symphony Orchestra, had heard one of his compositions for choir and asked him to compose a work for the flute; this work, *Incantation* (later changed to *Incantesimo*), was his first composition for flute.³² Following *Incantesimo*, Vosloo asked him to write a concerto for flute and orchestra. From then on, more compositions featuring the flute followed. These works requested by Helen Vosloo were not commissions as such, but Hofmeyr dedicated *Incantesimo* and the *Concerto for flute and orchestra* to her.

Hofmeyr has written quite a number of ensemble pieces which feature the flute, more so than for any other instrument. His solo flute compositions include *Incantesimo* (1996) and *Marimba* (2000). *Notturmo elegiaco* (1996) was originally written for harp, but in 1998 versions for the cello, piano and flute also appeared. Hofmeyr has written extensively for the recorder family, but reluctantly gave up on writing for the alto or bass flute, because finding performers in South Africa to play these flutes is quite challenging and rare. He has, however, indicated that he likes the timbre of the alto flute.

The original name of the composition was *Incantation*, but was later changed to *Incantesimo*. Hofmeyr decided on *Incantesimo* simply because it is an international Italian term and for no other reason. The musical terms contained in the piece are all

³¹ Lester, p. 13.

³² Refer to Appendix A for a copy of the score *Incantesimo*.

in Italian and so for the sake of uniformity the English title also became Italian. The title change had no effect on the meaning of Hofmeyr's intentions for the piece:

The idea is that the flute is a kind of experimental instrument one of the first woodwinds used in rituals. It's used to call up the apparition. This happens in the central section, which is more lively and appears and then evaporates again at the end. It's an evocation of the magic qualities of the flute and its sound.³³

Hofmeyr's intention with *Incantesimo* was not to 'show off' the full potential of the flute, but aim to exploit certain characteristics of the instrument and to portray the sound effects he wanted. Hofmeyr says about the flute:

The flute for me is very interesting. Along with the clarinet it is the most versatile of the woodwinds. I particularly like the timbres and colours and techniques like flutter tonguing, tremolo and harmonics they give.³⁴

During the period that Hofmeyr worked on the piece, there was no collaboration between him and Vosloo. She received a handwritten score of the piece and liked it from the start. He did, however, make one change to the score. He removed a multiphonic and replaced it with a harmonic instead, based on Vosloo's recommendation. Hofmeyr mentions that he was not fully aware of the time it takes to prepare to perform a multiphonic.³⁵

The first performance of *Incantesimo* took place just after its completion; it was performed at the SABC (South African Broadcasting Corporation) studio (Cape Town) in 1996, performed by Helen Vosloo.

The recording that was used in the analysis of the use of extended techniques is a performance by Meryll Monard.³⁶ The reason for using this CD is that it was the only available recording at the time of the study. At the time the composer, Hendrik Hofmeyr had in his possession only a copy on cassette tape of Helen Vosloo performing it.³⁷

Liesl Stoltz describes *Incantesimo*:

³³ Hofmeyr, 21 November 2003.

³⁴ Hofmeyr, 21 November 2003.

³⁵ Hofmeyr, 21 November 2003.

³⁶ Hendrik Hofmeyr, *Incantesimo*. CD, University of Pretoria, Music Department, 2001.

³⁷ Hofmeyr, 21 November 2003.

In *Incantesimo* the composer makes use of ¼ tones, harmonics and flutter tonguing. Here again, the flute is used to create an eerie, magical atmosphere. It is more than just a beautiful melody. To me, personally, this piece is almost like a chant... being 'sung' by someone in a trance. The opening is calm and then little by little one gets worked up and then, it dies away into nothing.³⁸

The mood should reflect transcendental qualities and musical charm. Doing research on the title and musical terms is a useful way of discovering and conveying the intentions of the composer.³⁹

This brief but technically demanding work explores the capacity of the flute to evoke an atmosphere of tremulous impalpability, suggestive of an other-worldly apparition. The work opens with an incantatory passage, based on the microtonal inflections of a low monotone, that summons forth the apparition and into which it subsides after its evanescent appearance.⁴⁰

Marietjie Pauw says of *Incantesimo*: 'The Hofmeyr piece is miraculous. Casts a spell over me when I play it. (And grips audiences alike)'⁴¹

The dictionary meaning of incantation is:

1. Ritual recitation of charms or spells to produce a magic effect. 2a. A formula used in ritual recitation' a charm or spell. b. A conventionalized utterance repeated without thought or aptness.⁴²

1. The chanting or uttering of words purporting to have magical power. 2. The formula employed; a spell or charm. 3. Magical ceremonies. 4. Magic; sorcery.⁴³

Creating the proper atmosphere is the most important characteristic of the piece.

Hofmeyr elaborates on this:

Atmosphere is important. It transcends technique. The piece is very much about the stillness, about the magician's trick. How the whole thing evolves must not even sound like a study. Technique is there to paint picture, to give the tone colours and the atmosphere of the piece.⁴⁴

³⁸ Liesl Stoltz, Personal interview. The Baxter Theatre, Rondebosch, Cape Town, 27 November 2003.

³⁹ Helen Vosloo, Skype interview. 2 March 2010.

⁴⁰ No author, *New music indaba 2008. Composers and performers: Hendrik Hofmeyr*. <<http://www.newmusicza.org.za/indaba2008.html>> Retrieved 12 March 2010.

⁴¹ Marietjie Pauw (emcemp@iafrica.com), Private e-mail communication, received on 16 November 2007.

⁴² Margery S. Berube *et al.*, 'Incantation'. *The American Heritage college dictionary* (fourth edition), New York: Houghton Mifflin, 2002, p. 700.

⁴³ No author, *Infoplease. Incantation*. <<http://dictionary.infoplease.com/incantation>> Retrieved 10 March 2010.

⁴⁴ Hofmeyr, 21 November 2003.

Hofmeyr describes the overall mood of the piece as 'fantastical, incantatory, evocative'.⁴⁵

The opening quartertone phrase presents the material on which the rest of the piece is based. The evocation grows into a fantastical display of intangible or elusive musical ideas that expand throughout the piece and contract again at the very end.

The marking at bar 5, which is also the bar in which the harmonics occur, is *etereo*, aim to create an ethereal effect like something taking place above ground, in the air. The use of harmonics in this bar contributes to the sense of an 'airy' feeling.

There is an interplay of different moods. The opening mood creates a sleepy atmosphere. This mood is enhanced by the expansion and contraction of dynamics in the first five bars.

4.5.1 Texture and tone colour

The use of the quartertone phrases at the opening of the piece creates a trance-like effect. It creates uncertainty and hovers around the pitch E. The pitch-bending effect creates a smooth flow from one note to the next. It is like the ebb and flow of the waves or ripples on a pond, almost in a teasing fashion. The quartertones also create feelings of fluidity and languidness.

When the quartertone figure appears again at bar 22, it is a fifth higher than the opening phrase. The last time the quartertone figure appears in bar 49 it contracts into nothingness. The pitch bends in the opposite direction from the opening phrase. The bending range for producing the quartertone is larger downwards than upwards.

Hofmeyr specifically requests that the quartertones not be played through changing the fingering. The player therefore has to rely on a flexible embouchure and smooth and controlled movements of the jaw and airstream. Vosloo candidly shares how she tried to sneak in alternate quartertone fingerings during a performance rehearsal with Hendrik Hofmeyr present hours before the first recording was due to take place.

⁴⁵ Hendrik Hofmeyr (colaas@iafrica.com), Private e-mail communication, received on 29 November 2003.

Since quartertone fingerings and the use of jaw manipulation have different effects on the tone colour, Hofmeyr was quick to pick up on this subtle change and pointed it out to her. His stipulation about not using alternate fingering needs to be adhered to in order to create the expected atmosphere of the piece.

Vosloo advocates proper playing technique when producing quartertones through the use of embouchure, jaw and airstream manipulation. Rolling the flute inwards and outwards on the lip is certainly not the prescribed and desired way of producing quartertones, if alternate fingerings are not an option. A flexible jaw and responsive lips are crucial to producing quartertones in the proper way and is completely possible without having to move the flute around on the lip.⁴⁶ Hofmeyr was clear about his specifications on which technique to use to create the quartertones as finger and lip quartertones produce different shades of colour.⁴⁷

There may be a debate as to whether tremolo is an extended technique or not, since it was already in use in the nineteenth century. In the Hofmeyr work the tremolo figure creates the illusion of polyphonic texture. This ties in with the title of the piece, which is all about illusions and apparitions. There are very many short tremolo-like figures with notes inserted in between that create a melody. The tremolo section starts at bar 9 and lasts until the end of bar 21. The large note heads, which represent the leading melody, are to be accented and slightly 'leaned' upon, to give the effect of an agogic accent. The start of the passage is marked *marcato il canto*. A quasi tremolo figure appears in bar 5, along with the harmonics, and bar 6.

The tremolo figure from bar 42 onwards is an upward and downward contraction into the note D, D sharp and finishes with the quartertone figure. And then it recontracts into stillness, like evaporation.⁴⁸

Hofmeyr admits that he took a risk composing the tremolo figure for the flute and says the following about composing idiomatically for instruments of any kind:

⁴⁶ Vosloo, 2 March 2010.

⁴⁷ Hofmeyr, 21 November 2003.

⁴⁸ Hofmeyr, 21 November 2003.

I like the sound of the tremolo on the flute. It was exactly the kind of effect I wanted which was a kind of two-part writing. Sometimes you write for an instrument you don't know and it doesn't come off. You realise you haven't written idiomatically for the instrument. Although those tremolos are quite tricky to execute and take practice, but the end result is worth it.⁴⁹

The two-part effect created through the use of the tremolo passages makes the flute sound less like a monophonic instrument. That illusion is created.

Vosloo indicates that she used alternate fingerings in some of the tremolo sections, but only to facilitate ease of movement between certain notes. No alternate fingerings need to be used for any other sections in the piece. Even though Vosloo, like other flute players, does not regard the tremolo as an extended technique, Hofmeyr used it as one of his favourite flute playing techniques, Tremolo is also mentioned as an extended technique in Chapter Three and therefore it is discussed as such here.

The tremolo passages are an extension of the melody, evoking the transcendental properties of the flute.

Harmonics are used in bar 5 to create a different effect of shading for the same passage that follows in the next bar. Hofmeyr indicates that he had originally used a multiphonic, but omitted it and decided on the use of harmonics instead, for reasons explained above. The use of the harmonics in this instance is not for structural purposes, but rather an exploration of tone colour. The first section of the piece is very loose in structure.

The *frullato* passages also create interesting effects in their fleeting appearances throughout the piece. The first time it appears is at bar 24. Again as in the tremolo section, the large note head needs to be emphasised. *Frullato* also creates the illusion of polyphonic texture. The tongue is rolled in the mouth, as if to say 'trr', and the notes are played in the shape of an arch, ascending from Dⁿ to Dⁿ⁺ and back down again. The first *frullato* passage at bar 24 is marked *svolazzante* and *marcato il canto*. *Svolazzante* means 'to flutter' or 'to hover', creating an image of being in a

⁴⁹ Hofmeyr, 21 November 2003.

tremulous state of excitement. 'Hover' means to 'linger near to someone or something in an uncertain manner'.⁵⁰

There is an unexpected *frullato* passage that concludes the piece and is marked *niente*, which means fading away into nothing. The dynamic marking is *mp* with a *decrescendo* into *niente*. The passage ascends into the upper register of the flute, ending on e'. Vosloo indicates that good air support is crucial as well as a responsive embouchure. Hofmeyr describes the *frullato* passage at the end of the piece as a phantom. It appears out of the stillness of the preceding quartertone passage and evaporates into nothing on a *diminuendo* ascent.

Even though *vibrato* is used throughout the piece, it is not used to create a particular effect or in any unusual way.

4.5.2 Tempo, meter and rhythm

The tempo indication *Ammaliante*, which means charming or bewitching, is reflective of the mood of the piece, which ties in with the title. The opening statement is meant to sound hypnotic or create a sense of drowsiness and this is indicated through the use of the term *sonnolente*. The quartertone phrase helps to create this type of effect. The piece starts out rather cautiously, an effect created by the quartertone figure, but gains momentum from bar 9. Besides bringing textural and timbral variations to the piece, the tremolo section also creates a feeling of 'fluttering' and gives momentum to the section.

The entire section from bars 9-21 is an expansion of the opening idea, but doesn't reach a point of climax again until it is met with the quartertone figure, that seems to bring uncertainty again and a pull back in tempo, but it doesn't really happen. Just another illusory effect though the use of the quartertones.

The tempo indication also states *rubato* should be used. There are several *rallentandi* and *a tempo* indications in the piece, but the use of quartertones, *frullato* and tremolo automatically seems to create the illusion of affecting the tempo at that

⁵⁰ Tony Smith, *Concise Oxford English dictionary* (eleventh edition). Software. Oxford University Press, 2004.

particular time. The tremolo sections create a feeling of urgency, whereas the quartertone phrases create a sense of unhurriedness. The *frullato* passage is a very rapid succession of notes fitted into the beats of the bar, without altering the speed.

The constant change indicated between duple and triple meter gives the sense of a free improvisatory exploration of a single idea.

The harmonics and tremoli used do not appear to have an effect on rhythm as these techniques are both used in rhythmic passages that require swift fingering changes as well as slight variations in the embouchure and air pressure. The quartertones, however, cannot be used in quick succession, because of the lip and jaw preparations necessary, and therefore can't be placed in a fast and rhythmically challenging passage.

4.5.3 Articulation

Throughout the piece articulation is generally straightforward. The *frullato* passages are under a slur and easily produced. As mentioned before, the *frullato* passages create a multi-sonorous effect. The melody is played over the rolling 'trr' sound produced by the tongue. The large note heads of the passage should be emphasised.

Tremolo sections where the melody needs to be marked make use of agogic accents and should be leaned upon through the use of breath intensity.

4.5.4 Pitch and tonality

An extended or modified flute is not required in order to perform the piece as it is written within the normal compass of a standard flute in C. The melody plays around in the bottom register and then leaps to the third register. The piece grows out of stillness and uncertainty into a very frenzied middle section and then returns to its initial state again towards the end of the piece. Even though the middle and top registers are exploited, the full range of the flute is covered.

The third time the *frullato* passage appears, it is an exact copy of the first, and the second and third time the *frullato* passage appears both are in descending order,

with the highest note in the passage being B-flat” and the lowest note being D. Almost the entire range of the flute is covered in just these passages alone. Helen Vosloo points out that it is fairly characteristic for solo flute compositions to exploit the entire range of the instruments, so as to maintain interest.

The beginning of the piece creates a feeling of uncertainty because of the hovering around a particular single pitch through the quartertone phrase, i.e. the pitch is not clearly established.

The piece has various changing tonal centres. It makes use of various accidentals, which prevents the establishment of a specific tonal centre that may be applied to the whole piece. The structure of the piece is free and is supported by an unspecified key.

The quartertone figure always centres on one specified note, i.e. the contraction and expansion around a single pitch. Just as the tremolo section is an expansion on the opening quartertone figure, so the section from the 2nd beat of bars 23-39 is an expansion on the *frullato* passage in bar 24. The group of notes making up the first beat in bar 25 is almost an exact replica of the *frullato* passage. The last *frullato* passage vanishes into nothing, but establishes a tonal centre on E (the piece begins on E and ends on E).

The tonality is not clearly established, but is reflective of tonality movement between minor and major.

4.5.5 Conclusion

Whilst the use of extended techniques adds to the technical difficulty of the piece, it also successfully assists in conveying the desired atmosphere. The extended techniques add to the overall sound effect in the following way:

- The tremolo passages create a fluttering effect and create illusions of polyphony;
- The quartertone passages assist in conveying a hypnotic mood;
- The use of harmonics creates an ethereal effect;
- *Frullato* passages create bursts of polyphonic texture.

Hofmeyr indicates that the sound effects are usually at a secondary level, yet vital in his composition. The techniques producing the sound effects form an integral part of the composition because of the various tone colours they create. The piece is structured around the various tone colours, but capturing the right mood is at the centre of the piece. In Hofmeyr's words: 'You craft your music around what is possible'.⁵¹

Vosloo indicates that *Marimba* is far more technically challenging. She says about the extended techniques in *Incantesimo* that they enhance the character of the music, rather than add to its difficulty. When asked whether she thinks that any of the techniques used may be substituted by others, she said that altering any parts of the score would take away from what the composer originally had in mind.

Even though atmosphere takes precedence over the extended techniques incorporated in the piece, these techniques are crucial to the overall sound structure of the piece.⁵²

The techniques are vital in the sense that I wanted it to be an apparition, like something fluttering in the air, but not quite palpable. If you have a single melodic line it becomes solidity. When you have effects like tremolo or rapid arpeggio like configuration it dissolves the tactile feeling of the music into a kind of special thing. Like a kind of effervescence. It's something not quite of this world. This idea comes from Liszt, the transcendental technique where one forgets about the technical limitations of the instrument.⁵³

Vosloo says that she handled the challenging parts during practice session 'bit by bit', similar to the way that one would approach any piece that has demanding sections. Technique is secondary to the mood of the piece, so once the technical challenges are overcome, the focus should be on conveying the intended mood.

There is no difficulty in moving between passages where extended techniques are called for. The techniques have been included and can be carried out within the expected capabilities of any competent flute player.

⁵¹ Hofmeyr, 21 November 2003.

⁵² Hofmeyr, 21 November 2003.

⁵³ Hofmeyr, 21 November 2003.

The opening part of the piece is not to be considered as thematic. 'This is introductory. The piece is conceived as something developing out of nothing. And this starts with a single note with fluctuations. It indicates the beginning of life and from that comes the material of the piece'.⁵⁴

The introductory idea is expanded upon and developed through various ways of using extended techniques. The opening idea returns towards the end of the piece. The expansion of the theme makes it almost unrecognisable until it's brought back in its original appearance.

Vosloo imparts the following advice when learning *Incantesimo*:

Challenging ourselves to play with a full palette of colours by experimenting with gentle and relaxed embouchure should be constant. Doing research on the different musical terms used in the piece as well as the meaning of the title is a very useful guide. The entire mood of the piece is contained in the name of the piece.⁵⁵

4.6 Congolese composition: *Four Flute Tunes* by Katsuba Mwangolo

Because of the pluralist nature of music on the African continent, with its various cultures, ethnic groups and the geographical position of different countries in relation to each other, it is difficult to prepare a list of music characteristics that would do justice to all music on the continent. While it is possible, from a 'singularist' perspective, to list some general characteristics shared by different communities and ethnic groups on the continent, the diversity of African countries and cultures makes a simplistic account impossible. Merriam mentions the emphasis on rhythm and percussive elements as two of the most palpable elements associated with African music.⁵⁶ Joy Lo-Bamijoko discusses one of the differences between African and Western music, which lies, according to him, in the relationship between melody and rhythm:

Melody in African music is based on the choice and arrangement of tones derived from the sound of the spoken word. Unlike the Western tempered diatonic sound, which is a standardized sound and does not derive from western languages, the African sound is strictly

⁵⁴ Hofmeyr, 21 November 2003.

⁵⁵ Vosloo, 2 March 2010.

⁵⁶ Alan P. Merriam, 'Characteristics of African music'. *Journal of the international folk music council*. Vol. 11, 1959, p. 13.

... tied to the various African languages. Musicians from each language group arrange the sounds derived from their language to reflect musically the moods of the language group.⁵⁷

Kubik points out that African music as a generic term refers to the musical traditions and practices of peoples of Sub-Saharan Africa and does not normally include Arab-speaking cultures of North Africa or European settler communities of Southern Africa. He similarly agrees with Lo-Bamijoko that African music encompasses dance, oral literature and language as well. Because these aspects are so intertwined, creating a cultural complexity, it is very difficult to discuss the one without taking the other into account.⁵⁸

John Blacking indicated that 'musical form is much influenced by the properties of the instruments for which it was written'. He suggested that this statement would hold more true for African music than for Western music, because indigenous music is 'not written down and [...] muscular memory must surely play an important part'.⁵⁹

Western music sets certain musical boundaries, which may at times prevent the musician from venturing beyond its borders. There is a myriad of musical creativity outside the norms of Western tonal music, as music from other cultures makes abundantly evident.⁶⁰

Nzewi committed himself 'to a sound factual foundation as well as intellectual direction for the posterity of African musical scholarship and practice'.⁶¹ He goes on to say that:

Ethnomusicology started as a Euro-American concept and definition of musical scholarship. Ethnomusicology has developed into a specialised discipline, which has relevance for the meaningful modern music studies in any society that has no written music tradition. This includes African societies.⁶²

Nketia points to the fact that it is important for contemporary musicians and composers to visit traditional peoples in their communities and gather a repertoire of

⁵⁷ Leslie R. Saunders and Joy Nwosu Lo-Bamijoko, 'Conversations on African music'. *Music educators journal*. Vol. 71, No. 9, 1985, p. 57.

⁵⁸ Kubik, p. 9.

⁵⁹ Blacking, 1955, p. 52.

⁶⁰ Nketia, 2005, pp. 345-346.

⁶¹ Meki Nzewi, *A contemporary study of musical arts-Informed by African indigenous knowledge systems. Vol. 4: Illuminations, reflections and explorations*. Pretoria: CIIMDA, 2007, p. 6.

⁶² Nzewi, 2007, p. 10.

some of their musical traditions, whether it be songs, poetry or other music forms.⁶³ He defines a piece of music as traditional 'if the African to whom that music belongs can identify with it'.⁶⁴

The recording of Mwongolo's performance by Hugh Tracey is entitled *Four Flute Tunes*. Hugh Tracey recorded eight flute tunes, of which only the last four will be discussed in this study, performed by Mwongolo on 24th July 1952 at Butembo,⁶⁵ North East Belgian Congo.⁶⁶ These four tunes appear in chronological order on an audio CD recording released by ILAM entitled, *On the edge of the Ituri forest, Northern Belgian Congo 1952*.

Nzewi, using the digitally re-mastered copy of Hugh Tracey's work,⁶⁷ transcribed the *Four Flute Tunes*, but renamed them as *Flute Poem 1, 2, 3 and 4*. Nzewi states that there is no need for indigenous cultures to give titles to their compositions, as ownership of their musical creations is not individual as it might be in the Western world, but rather communal. Music is recognised and identified by style and/or type.⁶⁸

Every piece of music is recognised by its significant sound (melodic, harmonic, textural identity) and formal model (presentational format). But the outcome of every performance must transact contingent human, contextual and environmental variables.⁶⁹

John Blacking also transcribed the *Four Flute Tunes*, including four other flute tunes that precede these four. Only the last four will be discussed in this study as they have been transcribed by Blacking and Nzewi, enabling a comparative study. Blacking had at his disposal a recording of all eight tunes played by Mwongolo and recorded by Hugh Tracy. He gives only Roman numeral numbers as titles of identification for the collective eight tunes (I, II, III, etc.), in the order in which they were originally recorded. The titles on Hugh Tracey's recording may be used for identification,

⁶³ Nketia, 2005, p. 349.

⁶⁴ Saunders and Lo-Bamijoko, p. 57.

⁶⁵ Blacking, 1955, p. 24.

⁶⁶ Zaire (1971-1997) was the former name and even prior to that it was known as the Belgian Congo (1908-1960). Presently it is known as the Democratic Republic of Congo. No author, 'The story of Africa-Independence'.

<http://www.bbc.co.uk/worldservice/africa/features/stroyofafrica/index_section14.shtml>

Retrieved 25 August 2010.

⁶⁷ Nzewi, 2007, p. 1.

⁶⁸ Meki Nzewi (meki.nzewi@up.ac.za), Private e-mail communication, received on 20 October 2007.

⁶⁹ Nzewi, 2007, p. 3.

classification and differentiation purposes only and not the actual titles given by Katsuba Mwangolo, for reasons as explained by Nzewi.

The recording of the *Four Flute Tunes* used for this study, which focuses on extended flute techniques, was made by Lindsey James on a transverse flute, as discussed earlier. The purpose of the recording was to investigate to what extent Mwangolo's version could be imitated on the Western transverse flute. As part of the investigation James was asked to document her process of meeting Mwangolo's sound ideals on the transverse flute. Nzewi's transcription and Tracey's recording were the resources used in assisting her in the preparation for the recording.

For purposes of transcription and analysis, the pieces are identified as *Flute Poems 1, 2, 3 and 4* according to Nzewi's terms given to his transcription of the *Four Flute Tunes*.⁷⁰ Where comparisons are drawn between Blacking and Nzewi's transcriptions, this will be clearly stated. Where Roman numerals are used, they will refer to Blacking's transcriptions.

Katsuba Mwangolo was a simple *Nande* herdsman and used to spend many hours in the hills on the Eastern border of the Congo, herding his cattle. He was not only a herdsman, but a musician too. He was known for having developed a unique style of flute playing and used to serenade his goats all day long.⁷¹ The unique style that he developed included a technique whereby he would hum while playing. The instrument he used was an end-blown notched flute that had four holes.⁷² Notched flutes appear to be a popular instrument of choice for many indigenous players.⁷³

Blacking expresses his fascination with, and admiration of, Mwangolo's dexterity on such a modest flute, referring to the fact that it only has four holes and is of fairly simple construction, but is able to produce tones that might sound as if they come from an instrument with possibly a few more holes. He says that it might not have

⁷⁰ Nzewi, 2007, p. 6.

⁷¹ Blacking, 1955, p. 24.

⁷² Hugh Tracey, *On the edge of the Ituri forest. 1952, Congo: Budu, Mbuti, Mangbele, Nande, Bira*. Utrecht, The Netherlands: Stichting Sharp Wood Productions, SWP 009/ILAM.

03. Grahamstown: International Library of African Music, 1998.

⁷³ Margaret Trowell and K. P. Wachsmann. *Tribal crafts of Uganda*. London: Oxford University Press, 1953, p. 340.

been as impressive had it been performed on a flute with more finger holes.⁷⁴ The flute that John Blacking discusses in his analysis entitled *Eight flute tunes from Butembo, East Belgian Congo* is not the exact flute that Mwongolo himself played, but a version similar to it, featuring similar construction properties and playing techniques. As there is a *nyamulera* flute of approximately the same design in the International Library of African Music (ILAM), Blacking was able to handle and experiment with the instrument himself. But since he was not able to handle Mwongolo's instrument, his analysis is based on his findings in his experiments with the similar model.⁷⁵

As mentioned before, transcriptions of some or all of the eight flute tunes recorded by Tracey have been made by John Blacking (I-VIII) and Meki Nzewi (V-VIII, i.e. *Flute Poems 1-4*). Numbers V-VII were made by Paul Collaer (as indicated by Blacking). Blacking noted a few discrepancies between his transcriptions and those of Collaer. Blacking had the original tape and Collaer had the record and this, he says, would explain the higher pitch attributed by Collaer to No. V. He attributed this inconsistency to the fact that they did not have the same recording available.⁷⁶ It may also be that Collaer shared similar views to those of Nzewi, as will be discussed below.

Studying Nzewi's transcription and comparing Tracey's audio recording highlighted what at first appeared to be discrepancies between the pitch on the recording and the pitch notated in the transcription. No articulation markings appear in Nzewi's transcription and there are no directives as to how to go about producing some of the sounds Mwongolo uses. Being aware that African music is largely an aural/oral-based tradition, an investigation started whereby Meki Nzewi and several other parties were contacted to illuminate the few seeming discrepancies. The only other information available about the music, the player and his flute was obtained from field notes and the CD recording sleeve notes, made by Hugh Tracey and also information provided by Andrew Tracey, Christian Carver and Elijah Madiba from ILAM.

⁷⁴ Blacking, 1955, p. 46.

⁷⁵ Blacking, 1955, p. 46.

⁷⁶ Blacking, 1955, p. 26.

Comparing Nzewi and Blacking's transcriptions,⁷⁷ several differences have been detected. For one, Blacking's transcription is handwritten and accompanied with a theoretical analysis. Nzewi's transcription is in printed form and analysis. The starting pitches of the two transcriptions as well as time signatures and key signatures also vary. It is important to note that Blacking and Nzewi's intentions behind the transcriptions are vastly different.

Table 4.1 Discrepancies between Nzewi and Blacking's transcriptions in terms of pitch

| | Blacking | Nzewi |
|---------------------|--|--|
| Flute Poem 1 (V) | Key: C Starting note: C Time signature: 2/2 | Key: F Starting note: F Time signature: 2/2 |
| Flute Poem 2 (VI) | Key: C Starting note: A Time signature: Free | Key: F Starting note: A Time signature: 12/8 |
| Flute Poem 3 (VII) | Key: C Starting note: E Time signature: 2/4 | Key: F Starting note: B-flat Time signature: None. The notes are grouped together in no particular metrical grouping, even though there are bar lines for reading purposes |
| Flute Poem 4 (VIII) | Key: G Starting note: E Time signature: 3/4 | Key: F Starting note: A Time signature: None in bar 1. 12/8 from bar 2 onwards |

Nzewi has selected the key of F arbitrarily for convenience sake and for representing the transcription on the Western style stave. According to him, any flute of the same species could be used even if they are differently pitched, as long 'as the cultural scale and the range of notes are not compromised'.⁷⁸ He explains further:

The principle of relativity underlines performance as well as instrument technology in African music. It derives from the African philosophy and rationalization of life. Obsession with precision generates stress. The lesson of relativity is that no two naturally created beings of the same species are exactly the same in quality and appearance. The African philosophy of relativity invalidates the pursuit of the precision zone in the manifestations of African musical arts thought and practices, it is as such misleading in African music scholarship to focus unnecessary probe on precision timing or tempo, precision starting pitch, precision rhythm and other jargons of precision mentality and technology'.⁷⁹

⁷⁷ These transcriptions are included in Appendices B and C.

⁷⁸ Nzewi, 2007, p. 6.

⁷⁹ Nzewi, 2007, p. 2.

When comparing these two transcriptions and listening to the recording, as a Western-trained flute player, the lack of interpretive markings, directives and absence of articulation becomes apparent. Western flute players are accustomed to play from a written score that includes performance notes, interpretation, articulation, tempo and dynamics indications as provided by the composer or editor. Breathing markings may be inserted at the discretion of the performer and are dependent on the shape of the phrases. In the transcriptions by Blacking and Nzewi there are no such markings, but yet the recording suggests otherwise. Exploring the reasons behind this finding makes for an interesting study and questions such as the following arise:

- Is it possible transfer Mwongolo's playing techniques to the Western transverse flute?
- What might the reasons be for not indicating musical markings in the music?
- What influences and affects Mwongolo's playing?
- What type of flute is being used?

Intention and meaning are central to the interpretation, understanding and appreciation of Mwongolo's flute tunes. Abstract thoughts or experiences may affect or stimulate composition. Nzewi says: 'Cognitive musicological study of African music must then reckon with creative intention and contextual meaning, which inform structural-formal formulations'.⁸⁰

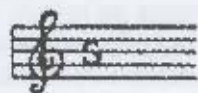
Even though it is implied that the piece was composed almost in impromptu manner, it still has structure. As Roderic Knight points out, for many musicians it is still necessary to find alternate sources, such as literary and possibly visual sources, to make a better sense of the unfamiliar and to understand exactly what the music is supposed to sound like.⁸¹ The composition structure is also embedded in a specific ethnic group's musical culture and consequently its macro- and micro-musical structures, to which Mwongolo had access.

⁸⁰ Nzewi, 2007, p. 2.

⁸¹ Roderic Knight, 'Performance practice: ethnomusicological perspectives', edited by Gerard Behague. *Music in Africa: the Manding contexts*. London: Greenwood Press, 1984, p. 53.

Blacking gives a breakdown of his transcriptions and performance notes, which have been summarised as follows:⁶²

- Slurs indicate notes played without separate tongue;
- If groups of three or five notes are played in one or half a beat with separate tonguing, they are bracketed with a straight line. E.g. Tune V, bar. 23;
- Note values remain constant despite time signature changes;
- *Rallentandi* and rests have almost all been written out in full;
- Bar lines were inserted merely for clarity and convenience and as far as possible follow the underlying shape of phrases and rhythm of the music;
- The following sign was used where it was not possible for the music to remain metrically rigid; for example, in Tune VI at the beginning of the piece. At bar 4 the transcription changes to 3/4;



- Constant changes in time signature are not to be misunderstood as rhythmic intricacy.⁶³

Blacking attempted to transcribe exactly what he heard on the recording and put that into Western notation. He has given tempi, tonality, form, phrasing and overall structure to these transcriptions. Blacking indicates that in essence the nature of the piece is improvisatory.⁶⁴

Nzewi does not offer transcription or performance notes, but focuses on a visual analytical process. Nzewi uses 'the fishbone principle of textural and formal unity'⁶⁵ in his analysis of the *Four Flute Tunes*. The 'visual-graphic representation' used by Nzewi as an analytical model for the *Four Flute Tunes* will not be discussed in this study and neither will the fishbone principle.

The purpose of transcribing the *Four Flute Tunes* differed for Blacking and Nzewi. Blacking sought to produce an almost exact replica of what he heard on the

⁶² The summary of Blacking's transcription notes pertain to the *Four Flute Tunes* to be scrutinised. Transcription notes that do not apply to this study have been omitted. Blacking gives detailed notes on the full transcriptions of all eight flute tunes; these may be found in Blacking's article entitled *Eight Flute tunes from Butembo, East Belgian Congo*.

⁶³ Blacking, 1955, p. 26

⁶⁴ Blacking, 1955, p. 27.

⁶⁵ Nzewi 2007, p. 2.

recording he used. He copied everything from pitch, key, tempo, meter, articulation, etc. Nzewi transcribed the tunes in standard Western notation, but adhered to the principles of relativity through not transcribing the tunes at pitch, choosing a standard key for all *Four Flute Tunes*, not including any dynamic or other music markings. Blacking also states that even though he tried to produce an almost exact replica of what Mwongolo played on the recording, he could, however, not make allowances for sections where Mwongolo had to pause for breath and hence 'fell out of time' or where Mwongolo's sensitivity to the growing agitation of the music in certain parts caused him to enter a bar 'prematurely', before the previous bar had been counted in full. Blacking also says:

It cannot be emphasized too much that the tempi and phrasing which I have marked, the analyses of tonality and form which I have made, are the product of ears and a mind trained in European musical traditions. Katsuba Mwongolo, if he were able to read, might regard these analyses and transcriptions as complete nonsense; it is just possible that when we think of melodic line he may be thinking in terms of pleasant sensations which he derives from moving his fingers on and off the holes of the flute according to certain rhythmic patterns.⁸⁶

In many black African languages there does not appear to be a word for 'music'. However, that does not imply that the concept does not exist as understood in Western terms.⁸⁷ Transcriptions of the *Four Flute Tunes* contain Western-labelled musical terms, but they are not identified or interpreted as such in African terms. Playing techniques of these transcriptions, even though not indicated in the score, resemble similar playing techniques that are referred to as extended playing techniques in the Western world.

Flute Poem 1 has a character similar to that of a wake-up call. It exhibits a pulsating vibrant, buzzing resolution.⁸⁸ The mood of *Flute Poem 2* has a sense of urgency and intensity. *Flute Poem 3* has a very lyrical atmosphere. The nature of this piece is trance like and has the qualities of a daydream.⁸⁹ The mood of *Flute Poem 4* is almost dance-like, supported by the clear triple-beat feel.

⁸⁶ Blacking, 1955, p. 27.

⁸⁷ Agawu, 2003, p. 2.

⁸⁸ Nzewi, 2007, p. 7.

⁸⁹ Nzewi, 2007, p. 9.

4.6.1 Texture and tone colour

The features and characteristics of the most popular instruments performed in a particular area may be said to have an effect on vocal intervals. In a similar way instrumental music may be influenced by vocal music as may be witnessed in the antiphony of most of Mwangolo's music.⁹⁰ In Justinian Tamusuza's composition *Okwanjula Kw'Endere* 'the microtones and pitch slides portray characteristic amateur traditional singers who join in the communal singing, but now and then go out of tune' and the 'vocal music where there is usually an inflectional rise on the final pitch or just before'.⁹¹

John Blacking indicates that most African music is characterised by the call-and-response method, whereby the phrases of a soloist are constantly repeated by a chorus and even in an overlapping style. A fascinating new sound results when the soloist enters with a new idea or phrase before the chorus finishes the previous one. Vocal music is often accompanied by percussion and has very short repetitive phrases.⁹² Joy Lo-Bamijoko also refers to call and response as a prevalent style in vocal music. When this technique is transferred to instruments it plays a similar role. In ensemble playing each instrument is responsible for a particular role. In solo performance the player introduces a basic theme and bases improvisations on this theme, but always refers back to it.⁹³ Creating textural variety in solo instrumental performance may be harder to create, but an example of a way of varying the call-and-response sonorities might be through the use of extended techniques or dynamic variation. In Mwangolo's performance there is no difference in texture between the call-and-response phrases.

In his analysis Blacking describes two forms of call and response:

- 'Statement and response (S + R)': A short motive is stated and is answered by a response of similar length. The content of the response could be different and may also be a direct repetition or echo of the statement;

⁹⁰ Blacking, 1955, p. 52.

⁹¹ Wendy Hymes, *Justinian Tamusuza: Okwanjula Kw'Endere (Track 16)* <<http://wendyhymes.com/>> Retrieved 26 February 2010.

⁹² John Blacking says that 'the words "call and response" are often used to describe the structure of African music of an antiphonal nature. I do not find these terms sufficiently exact to cover all aspects of this typically African musical form'. Blacking, 1955, p. 29.

⁹³ Saunders *et al.*, p. 58.

- 'Statement and refrain (S + RF)': Influenced by vocal music where two performing parts are identified as the chorus and soloist. Once the statement has been established, it appears in varied form for each following statement. The refrain appears and retains its original structure with little change; it is noticeably shorter than the statement.⁹⁴

Flute Poem 1 is a series of straightforward variations on the initial statement and response. The phrase in bar 1 is the call, followed by the response in bar 2. This exact pattern of call and response is found throughout the piece. The unifying motive is found in bar 4, also called by Nzewi the fishbone motive.

Textural variations are brought about through switching between different registers, octaves and over-blowing the fundamental register. There is not a very large dynamic spectrum and it is unclear whether this is because of limitations of the instrument or personal choice of the player.

At certain points a 'buzz' can be heard such as on the c in bar 22 and the f and g in bar 36. This particular sound may be attributed to the fact that Mwongolo's larynx closed slightly, producing a closed throat sound. This effect, whether intended or not, produces a short-lived timbral effect.

The 1st f in bar 7 does not match Mwongolo's playing and the note may be considered a fluffed note during the recording or it may be intentional. The fact is that as it appears in the score, it matches the other phrases of a similar kind. Lindsey James has indicated this note to be fingered as a harmonic as well as to be accentuated.

Flute Poem 2 employs singing and playing and multiphonics. 'Singing and playing' is a very distinct style that characterises Mwongolo's playing. He uses this technique very sparingly, though. In *Flute Poem 2* he uses singing and playing at the start of the piece and in bar 10, which Nzewi has marked as Cadenza 1, as well as in Cadenza 2, bar 47. Because he uses harsh tonguing, possibly from the back of his throat, along with singing and playing, the sound is a lot harsher than with just normal singing.

⁹⁴ Blacking, 1955, p. 29.

Nzewi describes *Flute Poem 2* as follows:

In this piece Mwongolo constitutes himself into a community ensemble, synthesizing solo and chorus roles in a monophonic voice. It is multi-thematic. As much as the piece derives from abstract creative stimulation it compels choreographic interpretation. A majestic dance even is evoked by the alternation of triple-duple eurhythmic phrasing. The African mood-form, the hot/tense balance by the cool/calm is effectively programmed.⁹⁵

Lindsey James highlights the fact that she used over-blowing techniques quite extensively in *Flute Poem 2* to achieve the nuances in pitch. She used her embouchure to angle the air down or up as needed and at the end of No. 2 and 4 rolled the mouth piece out to achieve a greater difference in pitch. At the end of bar 21 she uses harmonic fingering.

In bar 9, along with the technique of singing and playing, Mwongolo also uses multiphonics. In bar 36 he uses a type of throat tonguing that creates a very harsh sound. The opening ostinato type of figure turns the flute into a polyphonic sounding instrument. The tremolo is centred on the note A.

Flute Poem 3 also starts off with the technique of singing and playing, but this technique lasts for only one bar. In *Flute Poem 4* Mwongolo uses a lot of throat and guttural noises that are quite audible throughout most parts of the piece. Whether this is intentional or not is not known, but it adds to the overall texture of the piece.

4.6.2 Tempo, meter and rhythm

In an interview Joy Lo-Bamijoko indicates that one of the fundamental differences between sub-Saharan African and Western music is in the way melody and rhythm function. Because of the special relationship between spoken language and melody, there are certain 'restrictions' placed upon the African musician. So the next fundamental musical element to exploit is rhythm, as it is not tied to spoken language in the same way that melody is, i.e. there are no limits in terms of creativity.⁹⁶

Nketia says that the patterns of stress and intonation used in African languages have a direct effect on particular types of rhythmic categorisation developed and used in African societies. Part of the identity of African music lies in this feature. There is a

⁹⁵ Nzewi 2007, p. 8.

⁹⁶ Saunders *et al.*, p. 57.

close bond between 'speech rhythms' and 'musical rhythms'. The only difference is that speech rhythms do not have the rules and structures of a time signature imposed upon them.⁹⁷

The relativity principle may be applied to the opening pitch as well as the metronome marking of any type of music. But such elements can only be relative in African music transcription and analysis. These adaptable elements purely assist in the performance of the piece and acts as a guide. 'The relativity principle guides tuning and tempo in instrumental music performance'.⁹⁸

Blacking points out that the tempo increases from the start of the first piece to the end of the last piece.⁹⁹ Nzewi's transcriptions have different metrical markings:

Flute Poem 1: crotchet = 168 bpm

Flute Poem 2: dotted crotchet = 152 bpm

Flute Poem 3: Tempo rubatic

Flute Poem 4: crotchet = 138 bpm

Syncopation appears in most of the flute tunes discussed here. As Blacking noted:

It should be emphasized that the cases of syncopation quoted below are judged according to Western musical traditions. Mwongolo himself might not interpret them as syncopation; there is evidence from certain parts of Africa which suggests that what seems syncopated to the Western ear may be the result of a different, physical concept of rhythm, and therefore not a case of syncopation to the African performer.¹⁰⁰

Blacking mentions the fact that he uses a 'free' time signature where it was not possible to notate the performer's moments where he did not exactly adhere to a steady beat as Blacking's Western ears were trained to do. These variations in the pulse were brought on by the need to breathe before another phrase and by not anticipating the start of the next note long enough, in order to keep in time.¹⁰¹ Joy Lo-Bamijoko points out that the most appropriate time signature to use when

⁹⁷ Nketia, 2005, p. 350.

⁹⁸ Nzewi, 2007, p. 3.

⁹⁹ Blacking, 1955, p. 45.

¹⁰⁰ Blacking, 1955, p. 44.

¹⁰¹ Blacking, 1955, p. 26.

transcribing African music is 6/8. It is simpler to denote Western rhythmic values within a structured metrical frame, and complicated African rhythms in 6/8.¹⁰²

The basic meter of *Flute Poem 1* is steady duple time, with the exception of the coda, which is marked *rubato*. Rhythmic variety and interest are achieved through syncopation. The phrases in bars 18-21 and bars 32-34 Nzewi refers to as 'inhaled shock rhythm'. This is 'a high, elliptical, off-beat attack with exhaled descent. Shock rhythm, in common or compound time configuration, is a subtle therapeutic structure in African musical arts science, often given tonal or pitch accent. It generates psychophysical affect. The repetitive motive in bars 28-31, creates a feeling of closure, but avoids the cadence technique of fading which 'is a common technique for ending a piece in African music'.¹⁰³

The fermata at the start of bar 44 may or may not be observed by the player. Mwongolo does not observe a fermata, but plays the f as a staccato and immediately moves on to the cadenza. The cadenza is almost in improvisatory style. Motivically it is totally unrelated to the rest of the piece.

In *Flute Poem 2* there are a number of off-beat accents such as in bar 10. The opening ostinato figure creates a sense of agitation, growing with intensity. It starts off at a moderate dynamic level, growing gradually louder as it nears the cadenza at bar 10. The tempo indication for *Flute Poem 4* by both Blacking and Nzewi is 'Senza tempo' and 'Tempo=rubatic'.

This flute poem features constant change of tempo and mood. There is a certain amount of syncopation and numerous instances of motivic variation.¹⁰⁴ Throughout the piece Mwongolo uses a lot of rubatic movements and long pauses, not always in time with the beat. There is a lot of rhythmic variation with different groupings of rhythmic phrasing. *Flute Poem 4* also contains a lot of repetitive ostinato movement.

¹⁰² Saunders *et al.*, p. 58.

¹⁰³ Nzewi, 2007, p. 7.

¹⁰⁴ Blacking, 1955, p. 40.

4.6.3 Articulation

Lindsey James tried to imitate Mwongolo's articulation as much as possible, but found the following:

It was difficult to imitate the articulation, as I found I had to consciously avoid using traditional classical articulation which is very clear and pointed. I also tried consciously to avoid producing the classical ideal of a pure, centred tone; I tried to play with a loose embouchure, to allow for more overtones and 'buzz' in the sound.¹⁰⁵

There are no articulation markings in *Flute Poem 1* of Nzewi's transcription, which Lindsey James used. It is up to the performer to insert articulation based on their music artistry. Mwongolo's articulation is not very pronounced, except in the cadenza where tonguing is quite robust. It may be noted that, on certain notes under a slur, Mwongolo sometimes using throat tonguing, very subtly.

There are a few notes, such as the first F in bar 5, the first F in bar 7, that may be accented in a more pronounced way according to how it is played by Mwongolo. These accented notes produce a strong sense of beat.

The articulation is not consistent for the same passages. This may be a result of the impromptu nature of the piece or a technique of variation. Bar 10 of *Flute Poem 2* has very marked accents on the Es, held under a fermata. The entire ostinato figure until bar 9 is played with a single tongue attack on the first note only. In bar 36 Mwongolo uses a type of throat tonguing.

Lindsey James commented on *Flute Poem 3* as follows:

I originally thought that Mwongolo was using some form of flutter tonguing, but that didn't sound right. So I flapped my whole tongue around loosely in my mouth for the opening phrase, and that for me came the closest to Mwongolo's effect. For some of the faster phrases (e.g. Bar 7) I articulated with my tongue between my lips, because the traditional 't' behind the front teeth sounded too 'clean'. For bar 5, I tried to use the sound 'doh' to articulate.¹⁰⁶

A technique referred to as flute drumming by Nzewi is evident in bars 5, 11 and 13. The percussive effect at D creates a feeling of change in pace in the music, even though this is not really happening. At the first bar at D double tonguing is used.

¹⁰⁵ James, 7 August 2009.

¹⁰⁶ James, 7 August 2009.

For the start of *Flute Poem 4*, Lindsey James indicates the use of 'ghost tongue'. The first note in bar 9 she over-blows and she indicates glissando in bar 17, a breathy tongue at bar 13; bar 60 consists of singing and playing.¹⁰⁷ In bar 35 the rapid repetition of the G creates a kind of tremolo effect.

4.6.4 Pitch and tonality

Blacking observed a one-octave compass for the flute tunes (not the actual range of the flute) from D²-D³, with the exception of a few notes which occur outside this compass. To distinguish between the two octaves, he uses the following system: D E F G A B C for the first octave and D E G A for the second octave. He divided the analysis into two parts namely, 'rhythm (which includes all aspects of time) and melody' and 'tonality and form'.¹⁰⁸

The range of the flute is not very wide. It merely consists of a few tones, just beyond the range of an octave.¹⁰⁹ The two-holed Mulizi flute described by Merriam can technically produce four tones, but through manipulation of the airstream direction and intensity, three octaves can be obtained through the use of overtones. As whistle tones are based on the overtone series, it may be fair to say that the Mulizi flute is capable of producing whistle tones, for whistle tones can be produced on any note. He also refers to:

The ability to produce a larynx tone coterminously with the flute tone. This tone, while akin to humming, is considerably more forceful and much rougher than the normal humming sound. Not all musicians are capable of producing it, and those who cannot are relegated to secondary status. It will be seen that the production of the two melodic lines, each of which has recognizable and changing pitch, is not a simple matter, since the lips must be kept relatively relaxed in order to produce the flute tone, while the larynx and diaphragm must be taut in order to produce the forceful throat tone. It is a real criterion of musicianship among the Bashi Mulizi players and lay public, and a difficult method of performance by any standards.¹¹⁰

¹⁰⁷ James, 7 August 2009.

¹⁰⁸ Blacking, 1955, p. 27.

¹⁰⁹ Blacking, 1955, p. 45.

¹¹⁰ Alan P. Merriam, 'The Bashi Mulizi and its music: an end-blown flute from the Belgian Congo'. *The Journal of American folklore*. Vol. 70, No. 276, 1957, p. 144.

Table 4.2 The range of the *Four Flute Tunes* according to Blacking and Nzewi's transcriptions

| | <i>Flute Poem 1</i> | <i>Flute Poem 2</i> | <i>Flute Poem 3</i> | <i>Flute Poem 4</i> |
|----------|---------------------|---------------------|---------------------|---------------------|
| Nzewi | g-g1 | d-g1 | f-g1 | g-g1 |
| Blacking | d-d1 | d-f1 | d-d1 | d-f1 |

Blacking indicates that 'certain tones are rarely used and more often than not they're as a result of a fluff'.¹¹¹ An example of this is the first note of bar 7 in *Flute Poem 1* in Nzewi's transcription.

Blacking points out that it is difficult to know whether there is a real feel for dominant-tonic relationship (tonality) on the part of Mwongolo or whether it is 'merely the rise and fall of one tone that matters to the player'.¹¹² 'Because of the tight bond between the spoken word and melody in African music, what in Western music can be termed as modulation based on "voice leading" compares favourably with a change of theme in African music based on "word leading"'.¹¹³

In Blacking's transcription Mwongolo uses the tones in the fundamental register only a limited number of times. In this register he frequents the tones D', E', F', G' and A'. The F-sharp is never played in any of these passages and Blacking indicates that the non-appearance of this particular note is noteworthy, because it is the exact same note that he (Blacking) found difficult to produce in fast passages on the flute studied by him. The operational scale of all the flute poems run from D'' to D'''. The notes in the octave and 12th registers are fairly easy to obtain, compared to the notes in the fundamental register.¹¹⁴

The basic melody in *Flute Poem 1* revolves around call-and-response motives. The focus of the piece is centred on the upper part of the register and the only time the lower end of the register is visited is in bars 28-31 and in the cadenza (Nzewi's transcription).

¹¹¹ Blacking, 1955, p. 27.

¹¹² Blacking, 1955, p. 46.

¹¹³ Saunders *et al.*, p. 58.

¹¹⁴ Blacking, 1955, p. 49.

The *Flute Poem 2* exploits the notes from the fundamental register, which Blacking notes are the hardest notes to produce, from his own experiments with a similar flute.¹¹⁵ The main part of the piece is performed in the medium and upper register.¹¹⁶

A strong impression of flute drumming is created at bar 36, where the interplay between the 'thematic fragments produces tense and earthy melorhythmic interplay'.¹¹⁷ There are off-beat accents in bars 2-4 and bar 42.¹¹⁸

The opening ostinato figure, which centres on the note A, is inverted in bars 17-21. Mwongolo is able to hold his breath for quite a long time, 8 bars in total (bars 1-9). The pitch of 'A' appears to be the focus around which the other pitches revolve. A downward pattern of the notes 'A, G and F' can clearly be heard in the passage from the start of the piece until bar 9. This creates the effect of almost two different melodies.

The melody in *Flute Poem 3* is more languid and lucid than those of the other flute poems. There is more frequent interplay between the different registers.

Flute Poem 4 offers certain sections where pitch patterns are fairly repetitive, such as in bars 4-8. The upper range of the flute is exploited at bars 9-12.

The range of the *Flute Poems* consists of 11 notes altogether (D-G¹). These notes are from the diatonic scale of F, with the lowest note being the sixth degree of the scale. Nzewi comments on cultural scales in the following way:

A cultural scale cannot be prescribed as pentatonic or hexatonic on the basis of an isolated type/piece of music or range of notes on an instrument. A corpus of different types of music in the culture must be studied to determine a cultural scale system.¹¹⁹

4.6.5 Conclusion

Lindsey James says that she battled to achieve the guttural sounds that Mwongolo uses. As a flute player one is always taught to play with an open throat. 'It sounded to

¹¹⁵ Blacking, 1955, p. 49.

¹¹⁶ Nzewi, 2007, p. 8.

¹¹⁷ Nzewi, 2007, p. 9.

¹¹⁸ Blacking, 1955, p. 39.

¹¹⁹ Nzewi, 2007, p. 102.

me as if he was using tension in his throat. I've always been taught to keep my throat and larynx open when playing, so I couldn't quite integrate the throat noises into my playing, although I'm sure it is possible. Where I could hear the throat noises in the music, I sometimes sang and played simultaneously, and I sometimes used a gargling sound similar to flutter tonguing in the back of the throat, but it didn't achieve the same effect'.¹²⁰

Flute Poem 1 does not contain any extended techniques as such. There are a few places where a 'buzz' is heard, but this may be unintentional as it does not last for a significant period of time (bar 15, 4th beat, bar 22 minim C, bar 36 1st beat). For the fluffed note at bar 7, Lindsey James used harmonic fingering on the transverse flute to obtain the note as is heard on the recording.¹²¹

Nzewi says of the *Four Flute Tunes*:

The pieces communicate poetic elegance in terms of terseness of compositional grammar, sonic imagery and intonation, structural craftsmanship, brevity of thematic idioms, formal symmetry, cathartic cadencing and overall expressive intonation. Yet each piece has a distinct structural character, and sonic imagery.¹²²

Because of the limited range of the flute, there are many areas of commonality between the tunes, in terms of motivic display and recurrence. There are similarities between the motive of *Flute Poem 1* and the motive in *Flute Poem 4*, starting at A, even though it appears here with rhythmic variation. Both melodies start at the top of the flute's compass. The cadenza in *Flute Poem 1* and 3 also resemble each other.

The flute's fundamental range has been extended through the techniques of overblowing. Through his experimentation with the flute from Bukuku, Blacking found it difficult to produce F-sharp during fast passages. This is interesting because Mwangolo never plays F-sharp either. So perhaps it is safe to assume that this is generally a troublesome note to produce.

¹²⁰ James, 7 August 2009.

¹²¹ James, 7 August 2009.

¹²² Nzewi, 2007, p. 6.

At times there is not much resonance and the notes have an 'empty' quality, simply because of the nature of the instruments and not a fault of Mwongolo's. Producing this type of sound on a Western flute would take some practising in hollow tones.

4.7 Japanese composition: *Mei* by Kazuo Fukushima

Mei and Toru Takemitsu's *Voice* (1971) are mentioned as two compositions that employ traditional Japanese sounds and bring them together in a Western compositional style. *Voice* resonates with many of the techniques described in Bartolozzi's book *New sounds for woodwinds* and the way the use of *shakuhachi* techniques are complimented.¹²³ *Mei*, the piece to be discussed, is one of Fukushima's most successful pieces and it explores various possibilities of sonorities and rhythms characteristic of traditional Japanese music. For example, such devices as glissandos and over-blowing, as well as the use of free rhythm are evidently suggested and influenced by the performing techniques employed with the *fue* and *shakuhachi*. Through *Mei* the sounds of the Japanese traditional *shakuhachi* and *noh-kan* flutes are very beautifully transferred onto the modern transverse flute. There are many other different Japanese flutes besides the *shakuhachi* and *noh-kan*, such as *shinobue* and *ryuteki*.¹²⁴ The Japanese believe that flutes bring gods to the human world.¹²⁵ These flutes are all made of bamboo, but only the *shakuhachi* and *noh-kan* are referred to as flute sounds being imitated.

Kazuo Fukushima is a Japanese composer born in Tokyo in 1930. He was a self-taught composer until he joined an experimental workshop group organised by Toru Takemitsu. Blake suggests that Toru Takemitsu, Jo Kondo and others are the best-known Japanese composers in the West. He adds:

Not to say that there aren't talented people writing music in Japan, but theirs is not music which travels very well, much of it stuck in the European 'avant-garde' mould of the mid-twentieth century (a condition not so different from our own and something that South African composers should perhaps be addressing at the forums that are available in this country.)¹²⁶

¹²³ Christina Jennings, 'Exploring Takemitsu's voice'. *Flute talk*. Vol. 19, No. 8, 2000, p. 11.

¹²⁴ No author, *Japanese Flutes*. <<http://www.asahi-net.or.jp/~DL1S-YMGC/index-e.htm>> Retrieved 22 March 2010.

¹²⁵ No author, *Kobe Club*. <<http://www.kobeclub.org/modules/extcal/event.php?event=368>> Retrieved 7 March 2010.

¹²⁶ Michael Blake, 'ISCM world music days in Yokohama'. *South African journal of musicology*. Vol. 21, 2001, p. 92.

It is not clear whether the others being referred to here include Fukushima. Nevertheless, his talents as a composer were recognised when he won a prize at the contemporary music festival at Karuizawa in 1958. His music was described as:

Expressionistic, rhapsodic, extremely intense and a virtuosic display of avant-garde idioms. He has special interests in *gagaku* (Japanese court music) and *noh* music, in both of which flute-like instruments are important; similarly, in his own work the flute has a prominent part, and he has had occasion to work closely with such leading flute players as Hayashi and Gazzelloni.¹²⁷

Mei was written for Severino Gazzelloni.¹²⁸ The piece was always intended to be for solo flute, even though it originally appeared as part of the second movement of a piece called *Hi-Kyo*, for flute, strings and percussion. The piece makes use of extended techniques such as 'quartertones, flutter tonguing, key clicks, very wide-ranging dynamics and note bending both using the lip and open hole glissandos'.¹²⁹

The Japanese have always related music to the sounds of nature. They believe that sounds of nature and artificial sounds produced by humans, especially music, do not come into conflict with each other, but rather form a complete blend.¹³⁰ Helen Bledsoe mentions that, in oriental Japanese culture, the flute is the one instrument that is able to connect the living with the dead.¹³¹

'The *shakuhachi* produces intense, breathy sounds, expressive grace notes, and eerie pitch bends'.¹³² When watching a *shakuhachi* player, it is quite evident that head motion produces changes in timbre and fluctuation in pitch. Even *vibrato* can be achieved by nodding the head. Elda Tate says she is greatly inspired by the tone colours in *Mei*.¹³³

¹²⁷ Kanazawa, p. 23.

¹²⁸ Ann Cherry, 'Woodwind: having a flutter'. *Music teacher*. Vol. 78, No. 10, 1999, p. 34.

¹²⁹ Kate Walsh. *Invocation* sleeve notes.

<<http://www.creightonscollection.co.uk/index.html?Pages/Albums/A0026-CD.htm~mainFrame>>
Retrieved 8 March 2010.

¹³⁰ Shimosako Mar, 'Philosophy and aesthetics'. *The Garland encyclopaedia of world music: East Asia-China, Japan and Korea*. Vol. 7, 2002, New York: Routledge, p. 550.

¹³¹ Helen Bledsoe, *Tips for the preparation of contemporary music*.

<<http://helenbledsoe.com/index.html>> Retrieved 14 August 2010.

¹³² Jan Vinci, 'Using extended techniques in Fukushima's *Mei*'. *Flute talk*. Vol. 18, No. 3, November 1998, p. 14.

¹³³ Elda Tate (etate@nmu.edu), Private e-mail communication, received on 30 October 2007.

In the article *The essence of Mei*, Watanabe explores Fukushima's intentions based on interviews with the composer in 1994 and 2004. Watanabe indicates that the *shakuhachi* was not his inspiration behind *Mei*.¹³⁴ She further indicates that the sounds of the *shakuhachi* were also not intended to be employed. Fukushima's main inspiration behind *Mei* is the traditional Japanese *Noh* theatre and the sounds of the *Noh* flute, also known as *noh-kan*.¹³⁵

Elda Tate¹³⁶ confirms that Fukushima's basic concept is the *Noh* flute and not the *shakuhachi*. She also indicates that the flute solo, *Shun-San*, by Fukushima is more reflective of the sounds of the *shakuhachi* than those produced in *Mei*.¹³⁷

Referring to certain works by Fukushima such as *Mei*, *Shun-San* and *Requiem*, Helen Bledsoe says:

To understand the aesthetic of his works, one should be familiar with the sounds of traditional Japanese *Noh* Theatre, its flutes, drums and chorus, and the experimental style of Western music of the sixties with its early forays into the use of extended techniques and graphic notation.¹³⁸

It is interesting to note that the *shakuhachi* is not at all referred to in Bledsoe's comment. Certain questions arise as to how the notion for the sounds of *Mei* emulating those of the *shakuhachi* came into being and how this belief has been sustained:

- Is it possible for the interpretation of a piece to be based on sound alone?
- Fukushima has not indicated a particular liking of the *shakuhachi*, but rather the opposite. If the sounds of *Shun-San* are more reflective of the sound of the *shakuhachi*, as indicated by Tate, it could be that the sounds in *Shun-San* inadvertently match those of the *shakuhachi* and do not reflect the actual intentions of the composer, considering his feelings towards the *shakuhachi*?
- Can the interpretation of a sound concept be subjective and determined by a player's personal feelings?

¹³⁴ Mihoko Watanabe, 'The essence of Mei'. *The flutist quarterly*. Vol. 33, No. 3, 2008, p. 16.

¹³⁵ Watanabe, p. 19.

¹³⁶ Elda Tate is Professor of Music at Northern Michigan University and one of her specialties includes research and performance practices of Japanese flutes such as the *shakuhachi* and *ryuteki*. No author, *Northern Michigan University. Music – Faculty and Staff: Elda Tate* <<http://webb.nmu.edu/Departments/Music/SiteSections/FacultyAndStaff/ProfileTate.shtml>> Retrieved 23 March 2010.

¹³⁷ Elda Tate (etate@nmu.edu), Private communication, received on 30 October 2007.

¹³⁸ Helen Bledsoe, *Interpretation of contemporary music: finding the composer's voice*. Kazuo Fukushima. <<http://bledsoe22.blogspot.com/2010/01/interpretation-of-contemporary-music.html>> Retrieved 27 March 2010.

One important fact to consider may be that generally pieces are passed on from teacher to student. This automatic transmission of knowledge and experience is taken for granted and so a cycle may be set in motion, without any further research on a work being attempted.

Jan Vinci indicates that *Mei* was introduced to her during her young college days by Judith Bentley and Harvey Sollberger. Vinci has gone on to write her own performance article on performance techniques in *Mei* and indicates that it is one of her favourite solo pieces for flute.¹³⁹

Also, the reliance on sound recordings can be somewhat limiting in conveying the true essence of a piece. Listening to an audio recording and then trying to capture the mood and style is not an uncommon approach for many musicians, who are inclined to listen to recordings to gain an understanding of performance style and techniques, and then to try and incorporate some of what was gathered aurally into their own playing. Performance is linked to sound. Sounds can be altered through textural variation and are used to create atmosphere. Dynamics are used to enhance this, producing sounds through different types of playing techniques.

With the vast number of audio recordings available and access to media sites such as YouTube, flute players are influenced to a large extent by what they hear. References in sleeve notes, programme notes or footnotes in articles may allude to the *shakuhachi* and *noh-kan*, and one is able, without great difficulty, to access the sounds of these flutes on YouTube and other online sites that allow listening samples and excerpts to be played.

Previous research, such as for example Jan Vinci's article, has focused on particular performance techniques and proper communication of mood, and the emphasis is placed on sound qualities rather than the structural outline and function. Correlations between *Mei* and a piece such as *November steps* and *Shun-San* may be drawn because of similar sound textures and qualities.

¹³⁹ Jan Vinci (jan@janvinci.com), Private e-mail correspondence, received on 27 March 2010.

The *shakuhachi* has transcended the gap between East and West in more ways than one. Many Western musicians have learnt to play the *shakuhachi* and become proficient at it. New designs have been constructed in which the body of the Western transverse flute has been merged with a headjoint similar to that of the *shakuhachi*.¹⁴⁰ Western composers such as John Neptune have composed music for the *shakuhachi*. Thus, in terms of general acceptance and interest, it would appear that the *shakuhachi* has captured the interest in the West quite intensely. Whether the *shakuhachi* is the favoured Japanese flute in the West over other Japanese flutes is a question that goes beyond the scope of this study.

However, this interest in the *shakuhachi* does not imply that musicians have not explored Western genres of music using some of the other Japanese flutes, such as the *noh-kan*. The Japanese flute player Yukihiro Isso, for instance, has experimented with the *noh-kan* and *shinobue*, and with other Japanese transverse flutes in genres such as rock, jazz and in the classical baroque style. He confirms that the *Noh* flute is traditionally played with the *Noh* ensemble consisting of the *Noh* flute and three different types of drums. The *Noh* flute is untempered and it cannot tune to the same scale as many ensemble instruments of different pitch can. Being part of the *Noh* ensemble of three percussion instruments does not pose much of a problem. However, trying to play the *Noh* flute together with other types of melodic instruments proves a lot more challenging. Traditional *Noh* flute-playing technique also does not allow for this. This problem regarding the correlation with pitches of other instruments led him (Isso) to invent his own scale:

I decided that I should create my own scale. I found that by changing the way I put the lips to the flute and, taking a hint from recorder technique, I could adjust the way I used to the fingers enough to enable me to control the pitch sufficiently.¹⁴¹

The *Noh* flute is used as part of an ensemble in traditional *Noh* theatre. Its functional role as a solo instrument is not very common, whereas the *shakuhachi* enjoys popularity in its role both as a solo and ensemble instrument. *Mei* may be said to be reflective of *shakuhachi*'s function in society, in the sense that it is a solo composition

¹⁴⁰ Refer to Chapter Two.

¹⁴¹ Kazumi Narabe, *Artist Interview. From the Noh stage to the contemporary music scene. Talking to innovator Yukihiro Isso*. <http://www.performingarts.jp/E/art_interview/0512/1.html> Retrieved 7 March 2010.

for an instrument that features as such in traditional Japanese culture. Another point of consideration is the fact that the *Noh* flute is not tuned to any particular scale, but *Mei* is fairly tonal and within a tonal structure.

Peter Gallois says:

There are many times that a composer's ideas are limited by pencil, paper, and five ledger lines. As we interpret the notation, we make it into something else. We are also limited by our instrument. On the other hand, the public has nothing to read and just receive whatever music they hear. There is misunderstanding everywhere, but it is a challenge for us every day [...] If you approach every piece of music from the composer's viewpoint, you will become more independent because we don't play the flute the same way for Mozart as for Stockhausen [...] If we change things in the music for the ease of playing it on the flute, it may deviate too far from the original.¹⁴²

Because the sounds of *Mei* were intended to imitate the aesthetics of Japanese music tradition and traditional *noh-kan* flute, it is slightly problematic to have many research materials suggest that *Mei* was intended to imitate the sound of the *shakuhachi*. But the composer has indicated that it was never his intention to copy the sounds of the *shakuhachi*. The question that arises is why flute players generally tend to assume that *Mei* was composed for the *shakuhachi*.

The composer's intentions have remained elusive for a long time as articles have been published and information passed on about the sounds in *Mei*, indicating that it intended to copy the sounds of the *shakuhachi*. The playing techniques of the *shakuhachi* and *noh-kan* are similar in many ways and, although there are slight timbral differences, these techniques are interchangeable.

Japanese composers are immersed in a tradition of flute playing where instrumental extended playing techniques are used liberally and may have no problem using these in their composition, because they have been exposed to it throughout their lives. There are compositions by these composers that do not include extended techniques, but that is by choice. The characteristic sounds of the *noh-kan* and *shakuhachi* happen to use sounds categorised as extended techniques and are therefore notated as such in Western notation.

¹⁴² Kern, p. 9.

Mei is composed in traditional Western staff notation and intended to be played on the Western transverse flute.¹⁴³ The specific purpose of the extended techniques in this piece is related to emulating the sounds of another instrument and the sounds of this instrument need to be investigated and explored to uncover the way in which they are achieved and their function.

In *Mei* the music is very emotive and requires the player to experiment with *vibrato* and sound. Attacks and releasing of notes at just the right time is quite important. The silences add to the dramatic content of the piece.

In section B (bars 16-51) the silence at the end of the first section should capture the mood quite vividly without losing intensity. Before the start of section B, there should be a strong silence. The silence at the end of bar 15 is very important and should be in sharp contrast with the very gregarious start of the next bar. It is very noticeable that there are two fermatas.¹⁴⁴

According to Vinci, 'the explosive sound and energy of the second section depicts the contrasting emotions of pain and ecstasy, anger and love, and life and death. The sudden outbursts reflect the Japanese *shakuhachi* tradition'.¹⁴⁵ Vinci suggests using alternate fingering in this section to vary the tone colour and intensity. She furthermore suggests that the accented articulation can be varied by varying the force of the tongue and airstream. At bars 22 and 23 the D after the grace note may be fingered as a harmonic of low D, but no *vibrato* to be used. The same fingering may continue to be used for the next D, but *vibrato* may now be introduced and maintained for the next D. The third D may be fingered as a harmonic of low G. This technique produces purity and strength. Return to regular fingering is suggested for the last two Ds, but with a more intensified *vibrato*.¹⁴⁶

The structure of all the phrases needs to be understood by the performer in order to convey the composer's intentions. The energy increases to a climax in bar 11 and then winds down into silence at bar 15, indicated by a rest. Jan Vinci suggests that

¹⁴³ Refer to Appendix C for a copy of the score *Mei*.

¹⁴⁴ Vinci, p. 14.

¹⁴⁵ Vinci, p. 14.

¹⁴⁶ Vinci, p. 14.

no attack on the note works best to convey this mood. The best way of producing this would be by using a breathy sound. The increase and decrease of the dynamic level allow the note to bulge and then dissolve again. The note at the start of bar 12 should be played with no attack, but the use of *vibrato* could enhance it.¹⁴⁷

4.7.1 Texture and tone colour

Timbre has long since been considered by Japanese musicians as an important element that influences the aesthetics of music. They are able to enjoy a single sound by listening to the attack and echo that follows, but they also appreciate differences in timbre. The instruments to be used on the traditional Noh stage and those that are used to perform particular types of genres are crafted accordingly. The Noh stage requires three different drums: a small hand drum, a large hand drum and a large standing drum. All three create subtle differences in timbre. Even the way they are played affects the timbral effect.¹⁴⁸

Vocalisation in songs and narrations in Noh was very important, but the main focus was on the overall timbral effect. Vocalisation varies greatly for all types of Japanese musical genres. These differences may be put down to the fact that the timbral effects were passed on by the individuals who started different genres and were different so as to distinguish themselves, but also to show each genre's uniqueness in quality and style. For example, *Syamisen* music consists of a few genres such as *gagaku*, *syômyô* and *Noh*, to name but a few. The vocalisations for these genres are never the same, even though they all form part of *Syamisen* music. But even within a genre, different types of vocalisations are used.¹⁴⁹

The entrances of notes of varied lengths at different points occurs with a different tone colour each time. Jan Vinci refers to the 'power of one note and the power of silence'.¹⁵⁰ Even in *Noh* performances silences between the drum beats create dramatic expectations and tension and are not mere empty rests.¹⁵¹

¹⁴⁷ Vinci, p. 14.

¹⁴⁸ Mar, p. 551.

¹⁴⁹ Mar, p. 551.

¹⁵⁰ Vinci, p. 14.

¹⁵¹ Tatsuo Minagawa, 'Japanese 'Noh' music'. *Journal of the American musicological society*. Vol. 10, No. 3, 1957, p. 198.

Fukushima does not give any specifications as to how to produce the quartertone and this aspect is left to the discretion of the performer. For example, quartertone fingering may be used or it can be done by moving the jaw. Ann Cherry points out that even though more of a bend is possible on an open-holed flute, Gazzelloni played on a closed-hole flute. Fukushima might not have been aware of the larger bends available by covering and uncovering the keys of an open-holed flute. Cherry further points out that it is also possible to raise the pitch by using trill keys, particularly for E and F and F-sharp. These are also the notes used by Fukushima on which to create pitch bends and these might very well have been to accommodate Gazzelloni's closed-hole flute.¹⁵²

Vibrato may be used very expressively and should be used to enhance the fortes and diminuendos. The opening note on E flat uses very little *vibrato* as it swells into a crescendo after which the note eases into a breathy sound. The E in bar 3 also uses no *vibrato* and the note is tapered with the lips. From bar 5 onwards the intensity of the *vibrato* increases towards the climax in bar 11. *Vibrato* is used to enhance the dynamics and the dynamics in turn develop phrases and ideas. The *vibrato* is more intense in the middle section (bars 16-51).¹⁵³

There is no *vibrato* on the E in bar 25. The eeriness of the *shakuhachi* tone is copied very well on the transverse flute, especially in the lower register and the slow and low pitch which hovers around one note. No *vibrato* is used on the F-sharp in bar 26. Vinci suggests playing this F with a tongueless attack and slur into a soft and eerie F sharp. She also suggests trying to over-blow the F-sharp to the point of turning it into a multiphonic but just stopping short of that, for added emotion.

The piece is monophonic in texture throughout except for the short-lived harmonic in bar 25. The percussive sounds in bar 36 may be the only other place where a polyphonic texture may be observed. Different timbral effects and intensity are achieved through the use of alternative fingering, contrasting dynamics and *vibrato* interplay. The key clicks in bars 36 are played by slapping the keys with the fingers

¹⁵² Cherry, p. 34.

¹⁵³ Vinci, p. 14.

and without blowing, but fiercely tonguing the notes. The flutter tonguing in b 35 may either be executed by rolling the tongue or by vibrating the throat.¹⁵⁴

Dynamics play an integral part of the piece. The use of different timbres and *vibrato* lengths will also affect the dynamics. A suggestion for the B-flat in bar 12 is to use a rapid *vibrato* that increases to agitation, followed by a sudden stop just before producing a soft and short A. The colour of this A can be changed by alternating between a large and small aperture.¹⁵⁵ Fukushima has included numerous dynamic markings, which might imply that he had a particular sound effect in mind and did not want to leave it to the discretion of the performer to make that musical decision. The dynamic indications generally grow from nothing, reach a climax and then dissipate again. This type of movement creates a definite hypnotic effect, particularly in section A. The dynamics develop single ideas and phrases.

Each note entrance on the semi-quaver, triplet-crotchets and quavers should be approached with a different style and should have different shades of tone colours. Dynamic contrast can be intensified and created by using different styles of *vibrato*. Bar 12 displays an example of how this technique may be used. A fast slim *vibrato* may be increased to become more agitated. It should not be neatly tapered, but cut off in an abrupt manner on the A. The low C at bar 28 can be set off with an 'abdominal kick'. The F that follows should sound hollow but with good air support. The very soft low C should be played with a weakened airstream before an increase in dynamics is made. No *vibrato* should be used. As the section decreases in volume, the *vibrato* can be increased gradually. The effect is tied up with a temperate *vibrato* effect on the short D.¹⁵⁶

As of the upbeat to bar 7, the pulsating in the *vibrato* also increases. The ends of the phrases tend not to have *vibrato* on the tapered notes. The B in bar 11 is clipped quite short, not with the tongue but just stopped. The *portamento* produced on the various notes is achieved by venting the keys on an open-holed flute, or if it is a closed-hole flute *portamento* is produced by carefully lifting the fingers and letting the

¹⁵⁴ Vinci, p. 14.

¹⁵⁵ Vinci, p. 14.

¹⁵⁶ Vinci, p. 14.

key slowly lift off the hole. Moving in a downward *portamento* passage the key is very slowly covered by the fingers until completely covered. The B flat in bar 12 has a quivering *vibrato* which disappears into the A of that phrase. The silence at the fermata at the end of the first section should be just long enough to keep the intensity going. The quartertones may be played by using alternate fingering, which will change the timbre, or the holes may be opened partially. On closed-hole flutes alternate fingerings would be used. Turning the flute inwards and outwards may also produce microtones, though they may not be exact, but this will not have an effect on the timbre in the same way as alternate fingerings will.¹⁵⁷

4.7.2 Tempo, meter and rhythm

There are many examples of Asian music that are monophonic, where the melody consists of a single melodic line or a melody with a percussion accompaniment. It is also possible for all parts to perform the same melody, but with variations in ornamentation and rhythm. There are a variety of different scales. These scales may consist of five, six or seven tones. Microtones, intervals smaller than a semitone, are also quite common.

Fukushima makes use of a technique in which different pitches fall on the downbeat, creating different intensity levels and driving the piece towards certain climax points. These entrances of different note values and tone colours need to be exact in order to create the energy that needs to flow from one idea to the next. The tempo indication is solemn and this includes the freedom to adapt the pulse when the music requires this.

The tempo indication is '*Lento e rubato*', indicating that in order to achieve sufficient expression, the music should be performed flexibly, rather than rigidly and strictly in time. It allows for lingering on certain notes and possibly pushing forward on others.

4.7.3 Articulation

The piece is in ternary form (ABA). In the middle section the accents should receive great emphasis. Various forms of articulation are used, such as single tonguing (clear

¹⁵⁷ Vinci, pp. 14-15.

and precise or abrupt attack) and no tonguing. These different forms of articulation create the different timbral effects. Articulation may be used as a form of expression.

Fukushima starts the entry of each new idea at different points just before the downbeat to create different levels of intensity. These entrances should be adhered to in the strictest of time as this keeps the energy moving from one idea to the next.

4.7.4 Pitch and tonality

The entire range of the flute is completely exploited. Even though a B foot joint is not necessary to perform this piece, the lowest note is Middle C. The A section starts and ends with pitches from the lowest range on the flute. However, in between these two parts the middle register of the flute uses the pitches very sparingly. Section B exploits the high registers of the flute, but also occasionally employs pitches from the lower registers, frequently alternating between the two.

One pitch is used at different points to create different levels of intensity. The use of chromaticism is very evident as the piece begins on E-flat¹ and steadily climbs up the scale, peaking at B². No key signature is given and the 'tonality' remains elusive. Certain pitches are constantly referred back to, so as to create a sense of stability.

The range of Section A is from Middle C to B². This is a range of nearly two octaves, but in the largest part of this section, the melody lingers around the pitches of D² and G², with B² being the climax point. This range seems fairly small, but even so, Fukushima used other techniques to keep the energy flowing and the piece interesting.

The piece begins on E flat in the low register. The note seems to appear out of nothingness, grows bigger and then disappears, all whilst maintaining the same pitch. Very little *vibrato* is used on the first bar and the entrance of the next phrase. The attack on both these phrases is precise, but not harsh. With each entrance of a new phrase the starting dynamic level is increased. At bar 5 more *vibrato* is used on the E than before. Along with the 'ebb and flow' dynamic variations, there is also a steady pitch increase within each phrase, until the climax point is reached at bar 10.

Care should be taken to keep the notes in tune towards the end of the phrases that call for a diminished dynamic level.

Section A is characterised by a number of long pitches. These pitches are integral to creating an almost wave-like motion. The piece begins with no articulation and appears as a distant sound rising out of nothing, becoming more intense, through the use of warm *vibrato*. In the same way the note appeared out of nothingness, it should dissipate into nothingness again. The dynamics appear to be crucial to the development of the phrases, sections and the entire work. The differences in the value of the starting note of each of the offbeat phrases can be made to stand out by using different articulation techniques.¹⁵⁸

Section C starts with the same low E flat that started the piece. In this instance the E flat continues a little longer possibly to rekindle the opening mood. It does not take long for the section to intensify rhythmically. The conclusion is very low key and slightly longer than the first section in A. Natural breathing is encouraged as well as a slight sigh and tapering on the last note. The silence may be prolonged by holding the flute in the playing position for a little while longer to dramatise the silence.¹⁵⁹

4.7.5 Conclusion

Fukushima uses quite a number of extended techniques very effectively. These techniques are quartertones, harmonics, and glissando and/or *portamento*. When learning *Mei*, one has to be prepared to use unusual embouchures and breath regulation, as well as learning the fingering for multiphonics, which are only some of the techniques used in *Mei* that emulate the sounds of traditional *shakuhachi*¹⁶⁰ music.

In traditional *shakuhachi* music, temporal and spatial qualities depend heavily upon tone, colo[u]r, intensity of breath, duration, and the use of 'non-tonal' breath sounds and finger trills.¹⁶¹

¹⁵⁸ Vinci, p. 14.

¹⁵⁹ Vinci, pp. 14-15.

¹⁶⁰ 'The '*Shakuhachi*' is also sometimes referred to as '*syakuhati*'. Komoda Haruko and Nogawa Mihoko, 'Theory and notation in Japan'. *The Garland encyclopaedia of world music: East Asia-China, Japan and Korea*. Vol. 7, 2002, New York: Routledge, p. 578.

¹⁶¹ Elda Tate, *Music of Japan today: tradition and innovation*.

<<http://home.sprintmail.com/~emrichards/etate1.html>> Retrieved 13 October 2007.

Alternative fingerings may be used to vary the shades between soft and loud playing. In conjunction with that, *vibrato* is also a useful tool to create different effects. Nuances, timbre, precision entrances and silence appear to be an important aspect of *shakuhachi* tradition.¹⁶²

Liesl Stoltz had the following to say about the piece:

'*Mei*' was one of the first well-known contemporary pieces for flute containing novel techniques such as key-claps, portamentos and glissandos. The composer also took the flute to its very limit of which concerns intensity of volume and use of register. He wanted to show that the flute was capable of more than merely beautiful melodies...that this instrument can also create different feelings such as anger, hate etc. It is written in an extremely atmospheric way. The melodic line is at times mystical, eerie and far-off, but change character frequently by becoming vivid, aggressive and insisting.¹⁶³

4.8 Summary

There are some elements or musical characteristics that are uniquely African and Asian when compared to other types of music across the world. These would include structures such as call and response, cyclical structure, rhythmic complexity, relative pitch and tuning.¹⁶⁴ This chapter showed that cross-cultural works came into existence because of the mutual interests of composers and ethnomusicologists. John Blacking shares his experiences of his exposure to African music by saying that he arrived at his perceptions and appreciation of African music through actively immersing himself in it. But he also points out that many Western musicians could arrive at the same conclusions and experiences that he did without even attempting to analyse or perform African music. He points out an important connection between musical performance, experience and perception by highlighting the following:

In the Sub-Saharan African music I learnt, performance constitutes a scientific testing of one of the fundamental truths of life: all matter is a manifestation of spirit; in the process of playing, the process of allowing your body to submit to the musical act, you experience a sense of fellow-being with other humans and the world of nature. This is a mystical truth. In a sense, the experience reinforces all you have learnt. The idea of possession has some relevance - playing Chopin and experiencing the spirit of Chopin [...]. I am sure that many Western composers understand this without involving themselves in African or Asian music. Such was my block-headedness, my training, however, that I needed to find

¹⁶² Vinci, p. 14.

¹⁶³ Liesl Stoltz (liesls@hotmail.com), Private e-mail communication, received on 25 January 2004.

¹⁶⁴ Carol Muller, *South African music: a century of traditions and transforming*. Santa Barbara, California: ABC-CLIO, 2004, p. xxv.

the key of African music to unlock enlightenment. And so, to me, thanks to my experience of African music, performance of Western music is a supreme joy.¹⁶⁵

Analysing the use of extended techniques in the three pieces has shown that these techniques need not be exclusive to only one particular type of music and genre. All the extended techniques used in the pieces had an effect on the tone colour and in some instances the texture of the piece. Hofmeyr was not only interested in a particular tone colour, but also in a certain mood. His idea of awakening an apparition is successfully portrayed through the use of the quartertone segment. Mwongolo, on the other hand, may not have had a particular intention in mind, other than liking the effect of the sound produced when using techniques such as throat tonguing and singing whilst playing. These sounds could, however, also have been culturally determined by his environment and his own sense of aesthetics.

The Japanese inspired composition, *Mei*, which is notated in Western staff notation, use effects of quartertones, *vibrato* and harmonics to mimic a particular Japanese flute sound. However, if the piece was notated in tablature or taught by rote on the *shakuhachi* and *noh-kan*, these techniques might not have been perceived in the same way as they would be by a Western transverse flute player.

Sound possibilities are endless and can be joined in different combinations through the use of extended techniques. The use of these techniques does not have to be limited to only a certain aspect of flute playing, but can be incorporated into daily flute practice, so that perhaps these techniques can become almost inherent to playing the instrument as it certainly has become in *shakuhachi* and *noh-kan* playing.

¹⁶⁵ Keith Howard, *John Blacking interview*.
<<http://www.lib.umd.edu/ETC/ReadingRoom/Newsletters/EthnoMusicology/Archive/Blacking/interview>> Retrieved 13 January 2008.

Chapter Five

Findings, conclusions and recommendations

5.1 Introduction

As illustrated in this study, changes in music traditions brought about changes in most aspects of music making, including that of flute playing. The influence and fusion of different cultural musical elements is hard to deny when examining the works of composers over different periods across the world.

While extended flute techniques are associated with 20th- and 21st-century Western contemporary schools of performance and composition, non-Western cultures, such as those of indigenous Asian and African societies, have also incorporated some of these techniques into their performance practices over centuries. This observation led to the formulation of the following research question:

What is the significance of the use of extended flute techniques in three solo flute works from three culturally different settings?

The following sub-questions were then derived from the primary research question:

- What is the purpose of extended flute techniques within the compositional context of three culturally different compositions?
- What comparisons may be drawn with regards to the execution of these techniques on the different flutes?
- What is the socio-cultural environment and musical background of the composer and/or performer and how is this reflected in the composition?
- Are extended techniques regarded as an integral part of flute playing on the four different flutes?

The three compositions that have been selected for comparative analysis of the use of extended techniques are: *Incantesimo* by Hendrik Hofmeyr (South Africa): a solo for transverse flute notated in Western notation, reflecting the style of a Western-trained composer who was born and has been living in South Africa; *Four Flute Pieces* by Katsuba Mwongolo (Congo): a collection of four short indigenous *nyamulera* flute pieces, transcribed by John Blacking and Meki Nzewi; and *Mei* for transverse flute by Kazuo Fukushima (Japan): a work in Western music notation, reflecting the Japanese *noh-kan* and *shakuhachi* music traditions.

Apart from an extensive literature review on the three selected works and their cultural influences, the research design also includes a comparative analysis of extended flute techniques through aural analyses as well as analyses of the scores or transcriptions in Western staff notation. The analytical discussion is complemented with data collected via interviews with selected flute players, composers and ethnomusicologists.

Chapter Two provides a classification of flutes in general, with specific reference to the Western transverse flute, the Congolese *nyamulera*, and the Japanese *noh-kan* and *shakuhachi* flutes. Chapter Three introduces the concept of Western extended techniques for the flute, discussing 15 different commonly used techniques. Chapter Four provides a discussion on the three compositions, focusing on the use of extended techniques as they display texture and tone colour, tempo, meter and rhythm, articulation, as well as pitch and tonality. This discussion is embedded in a consideration of the social value of music within the three different cultural settings.

5.2 Summary and findings

A study of the classification and historical development of the Western transverse flute, *nyamulera*, *noh-kan* and *shakuhachi* flutes reveals that the flutes share certain commonalities but also have differences.

The Western transverse flute underwent numerous changes, with the changes implemented by Boehm as the most significant. Hotteterre's one-keyed wooden flute was transformed by Boehm into a metal flute with key mechanisms that enables it to play in all keys and with a good tone and improved intonation. While the Kingma system flute is based on the model by Boehm, it has added keys that enables it to play a full quartertone scale.

The *nyamulera* and *noh-kan* have remained relatively unchanged through the years, with the instruments serving almost the same function as they did many centuries ago. The *shakuhachi* was able to retain its ancient musical traditions, while also adopting Western musical traditions. Flute makers also created a type of hybrid instrument playable by both Western and Eastern flute players in the *shakulute*.

The *noh-kan* has remained unaltered through the centuries, and has retained its original ancient tone quality. Its playing techniques evolved through time and have been adapted by the limitations and possibilities of the instruments.

The *nyamulera* flute is not manufactured en masse and is a personalised instrument, unlike the metal or wooden Western transverse flute and to a certain extent the bamboo *shakuhachi*. The *nyamulera* is a four-hole notched flute made of bamboo. While the *noh-kan* flute can be manufactured en masse, it is also hand-made in certain areas.

An investigation into the functionality of music in the three different cultural contexts indicates that all three works communicated some special mood to their listeners. Certain instruments have specific cultural purposes. For example, while the Japanese *shakuhachi* may highlight the fact that the *shakuhachi* is an instrument of meditation and 'self-' and religious expression, the Western transverse flute may be used for such purposes, but is not defined by them. The *noh-kan* flute plays an important role in the Noh theatre. It is the only melodic instrument in a percussive music ensemble consisting of a few drums used in Noh theatre. It is also responsible for accompanying the singer, albeit with its own individual melody. The unique construction of the *noh-kan* is responsible for its unusually high-pitched notes. The unique sound may be directly attributed to the way in which it is constructed, through a process whereby the bamboo is split and put back together again, but with the rough outer parts now facing inwards. Another important aspect that gives the *noh-kan* its unique sound is the 'nodo' which is inserted on the inside of the flute. The *nyamulera* flute took on a pastoral role in Mwangolo's *Flute Poems 1-4*, as they are performed by Mwangolo, himself a herdsman, and create images of him looking after his cattle, while performing and improvising in the call-and-response style characteristic of music from sub-Saharan Africa.

The analysis of the use of extended techniques reveals that all the selected flutes share at least one of the following techniques: quartertones, multiphonics, flutter tonguing, harmonics, playing and singing and glissando. The same sonic result is achieved but through different techniques or playing methods. All three compositions indicate that extended techniques contribute to the mood of the different pieces and

were used, amongst other things, to enrich the timbre and to contribute to variation in dynamics. The role of extended flute techniques was to enhance the compositions and transcend the merely decorative level. While Western composers sometimes include extended techniques as novelties in their compositions, this study shows that these techniques have been in existence as integral part of a composition in non-Western cultures for many centuries. The *nyamulera*, *noh-kan* and *shakuhachi* flutes have, in comparison to the Western transverse flute, fewer holes and no key system, but they are capable of producing quite an extensive range of notes and playing techniques. This requires performers to be creative in extending the range and tone colours of the instruments. The non-Western flutes in this study included harmonics as a way of extending the range, whereas harmonics are regarded as an extended technique in Western flute playing. While all chromatic notes can be played on a Western flute without the use of harmonics or over-blowing, the non-Western flutes have to incorporate techniques such as over-blowing and cross-fingering to extend the scale without added keys.

The three cultures and flutes discussed have influenced and affected each other in a number of different ways. The fact that the *shakuhachi* has caught the interest of a number of Western musicians seems quite remarkable and this may be attributed to the way in which the instrument is associated with Buddhism and because of its suitability to the jazz idiom. The work by Mwangolo caught the interest of Chats Devroop¹ and Lindsey James, for example, who played the *Four Flute Poems* as transcribed by Meki Nzewi on the recorder and transverse flute respectively.

Whilst it appears that not all flute players and teachers have embraced extended flute techniques, this study has highlighted the fact that extended techniques do not have to be used frivolously, or include a lot of gymnastics or even create fear. Extended playing techniques add to the overall structure and mood of compositions and can be an exciting part of learning a new repertoire.

¹ Devroop is Deputy director (professional) of music at UNISA. He performed the *Four flute tunes* on the recorder in Heppenheim, Germany in 2002. He indicated that 'the recorder is the closest resemblance to the African flute in terms of its technique, sonority, dynamic range and open-holed structure'. He also indicates that he made use of several extended techniques on the recorder in order to emulate Mwangolo's nuances. Chatradari Devroop, (devroc@unisa.ac.za), Private e-mail correspondence, received on 9 February 2010.

5.3 Recommendations

This study hopes to have illustrated that extended techniques have benefits and, if introduced at an early enough age, will have a musical purpose for the player and not sound alien, as they might do if neglected. The use of extended techniques does not necessarily have to be a specialised field of flute playing and hopefully in the future it may be viewed as being as important and as beneficial as scales and technical studies.

While this study did not focus on South Africa per se, it is situated in this country. There are few South African compositions that make use of extended flute techniques, and this could also be true for many other international composers. This situation could be explained as follows:

- Composers are struggling to have their works performed;
- There are frequently prescriptions as what they need to include in their compositions;
- There is no demand for compositions employing extended techniques;
- Commissioned pieces (with extended techniques) from UNISA/SAMRO/ATKV² are rare.

It seems as if the problem is not limited to composers including extended techniques in their works, but that it is difficult in general to get pieces performed. If it were easier to have pieces performed, composers might have more scope to experiment with extended techniques. It also seems as if audiences in South Africa are not receptive to the use of extended flute techniques. From informal interviews it became apparent that players generally shy away from works with extended techniques, because there is not an 'extended flute technique' culture in South Africa. Compositions containing extended techniques are not required or prescribed by universities as part of practical examinations. The Trinity and Associated Board of the Royal Schools of Music are active in the entire continent of Africa and Asia. These syllabi too have few pieces using extended flute techniques. The UNISA flute syllabus does not appear to be promoting pieces with extended techniques either.³

² University of South Africa (UNISA), South African Music Rights Organisation (SAMRO) and the Afrikaanse Taal en Kultuurvereniging (ATKV) are platforms through which composers and performers alike are able to display their talents and gain recognition as well as receive various monetary awards through competitions and musical events hosted by these bodies.

³ Refer to Appendix E for an investigation into the flute syllabi of the examining bodies of UNISA, ABRSM and Trinity Guildhall.

Against the background of this study, the following recommendations are made:

- More research should be done on the use of extended flute techniques in the African and Asian indigenous and contemporary contexts;
- Other non-Western flutes and compositions should be analysed with respect to their use of extended flute techniques;
- Performers are encouraged to explore compositions from different cultures to enhance their knowledge about music for solo flute from these other cultures;
- Receptions studies can be undertaken to test audiences' responses to compositions that include extended flute techniques;
- Spectrographic analysis of the sonic worlds created by extended flute techniques in various cultural settings could be used to provide more specific scientific results regarding sound waves, concentrating on timbre and amplitude.

Extended techniques have always been, and will remain, an integral part of the Western transverse flute, the African *nyamulera*, and the Japanese *shakuhachi* and *noh-kan* flute tradition. It is the responsibility of the players of each type of flute to keep this specialised and not so specialised area of flute playing alive.

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Appendix A
Hendrik Hofmeyr
Incantesimo

University of Cape Town

INCANTESIMO

Hendrick Hofmeyr

Amoroso $\text{♩} = 60$ con rubato
sornolante, sensuale

Flauto 1 *fp* *cresc.*

Flauto 2 *f* *pp cresc.* *mp più ardente cresc.*

Flauto 3 *f* *simply f*

Flauto 4 *a tempo* *P in sensuale (molto rit. - a tempo)*

Flauto 5 *f*

Flauto 6 *f*

Flauto 7 *f*

Flauto 8 *f*

Flauto 9 *f* *cresc.*

Flauto 10 *f*

Flauto

24 *frullato* *ard.*

f *staccato* *rit.* *rit.*

Flauto

26

Flauto

27

Flauto

28

Flauto

29

Flauto

30 *meno f*

Flauto

31 *f*

Flauto

32 *meno f*

Flauto

33 *accel.*

Appendix B
Katsuba Mwongolo
Four Flute Tunes (Flute Poems 1-4)
Transcribed by Meki Nzewi¹

¹ Meki Nzewi, *A contemporary study of musical arts-Informed by African indigenous knowledge systems. Vol. 4: Illuminations, reflections and explorations*. Pretoria: CIIMDA, 2007

Flauto 44

Flauto 45

Flauto 46 *a tempo frullato ff*

Flauto 47

Flauto 49

Flauto 42 *rall a tempo f*

Flauto 43

Flauto 44 *p*

Flauto 51 *pp dim mp a tempo frullato*

Appendix B
Katsuba Mwangolo
Four Flute Tunes (Flute Poems I-4)

Transcribed by Meki Nzewi¹

University of Cape Town

¹ Meki Nzewi, *A contemporary study of musical arts-Informed by African indigenous knowledge systems. Vol. 4: Illuminations, reflections and explorations*. Pretoria: CIIMDA, 2007

Flute Poem I

by Karolyi Szilagyi
arranged by MIMI NIZORA

Flute

The musical score for Flute Poem I consists of ten staves of music in treble clef with a key signature of one flat (B-flat). The piece is divided into four sections labeled A, B, C, and D. Section A (measures 1-12) features a melodic line with a trill in measure 1 and a fermata in measure 12. Section B (measures 13-22) continues the melodic development with a trill in measure 13 and a fermata in measure 22. Section C (measures 23-26) is a short section with a trill in measure 23 and a fermata in measure 26. Section D (measures 27-44) is the longest section, featuring a trill in measure 27 and a fermata in measure 44. The score includes various musical notations such as slurs, trills, and fermatas. A watermark 'University of Cape Town' is visible across the page.

Flute Poem 2

By Kazuo Saito
Transcribed by SIEK SONG

Flute

The image shows a musical score for a flute part, titled "Flute Poem 2". The score is written in treble clef with a key signature of one flat (B-flat) and a 3/4 time signature. It consists of 26 measures, numbered 1 through 26. The music features a melodic line with various articulations, including slurs, accents, and dynamic markings such as *pp*, *mf*, and *ff*. There are also performance instructions like "cresc. 1" and "cresc. 2". The score is presented on a single page with a large, semi-transparent watermark reading "University of Cape Town" overlaid diagonally across the center.

No marked rests, decora.
Tempo = Adagio

Flute Poem 3

By Ritsko Nuvogila
Transcribed by M&A Score

1 **A**

Flute

5 **B**

9 **C**

13 **D**

17 **E**

21 **F**

25

29

calento

33

Flute Poem 4

by Kazuo Saito
Transcribed by M. K. N. S.

Flute

The musical score consists of 18 staves of music, each beginning with a measure number. The notation includes treble clefs, a key signature of one flat (B-flat), and a 12/8 time signature. The music is characterized by flowing eighth-note patterns, often grouped with slurs and breath marks. Fingerings and articulation are indicated by numbers and dots above the notes. A large, semi-transparent watermark reading 'University of Cap Town' is overlaid diagonally across the center of the page.

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Transcribed by John...

University of Cape Town

John Blacking, *White Man's Boy* (1962), in *Blacking: The Musical Context*, an anthology of his work, compiled and edited by Allan Sandberg, Vol. 1, no. 4, 1982, pp. 34-35. This transcription is based on the original score and is intended to provide an accurate representation of the original work. It is not intended to be a performance of the original work. The original work is available on CD and is available on YouTube. The original work is available on YouTube. The original work is available on YouTube.

Appendix C
Katsuba Mwongolo
Four Flute Tunes

Transcribed by John Blacking¹

¹ John Blacking, 'Eight flute tunes from Butembo, East Belgian Congo: An analysis in two parts, musical and physical.' *African Music*. Vol. 1, no. 2, 1955, pp. 24-52. The handwritten format (transcribed by Blacking) is included to highlight the differences between Blacking and Nzewi's transcriptions as detailed in the dissertation. Blacking's transcriptions were of eight flute tunes, four of which are not included in this example but precede numbers 5-8, hence the different numbering in comparison to Nzewi's numbering.

no. 14 (J. V. CHA.) V

1st Time
2nd Time

14
[1' 20"]

* The dotted half note and the dot quarter are carefully accented, and in both cases the ear catches the lip movement of the reed covers.

(J. V. CHA.) VI

p

Musical score for the first system, consisting of ten staves of music. The notation includes various rhythmic values, accidentals, and dynamic markings. Measure numbers are indicated at the beginning of several staves: 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50. The score concludes with a double bar line and the number 50.

Musical score for the second system, consisting of four staves of music. The notation includes various rhythmic values, accidentals, and dynamic markings. Measure numbers are indicated at the beginning of several staves: 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. The score concludes with a double bar line and the number 100.

Handwritten musical score for a single system, measures 25-50. The score is written on ten staves. It includes various musical notations such as notes, rests, and slurs. Performance instructions like "crescendo", "ritardando", and "pizzicato" are present. Measure numbers 25 through 50 are clearly marked above the staves.

(J. 144 H. 11) VIII.

Handwritten musical score for a single system, measures 51-82. The score is written on ten staves. It includes various musical notations such as notes, rests, and slurs. Measure numbers 51 through 82 are clearly marked above the staves.

Appendix D
Kazuo Fukushima
Mei

University of Cape Town

M E I

PER FLAUTO SOLO

KAZUO FUKUSHIMA

(1962)

Flute

Lento e rubato

11 *rall.*

Più mosso

pp

pp

mp

pp

mp

mf

f

f

sf

sf

ff

mp

mp

pp

p

ff

sf

f

ff

sf

f

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mf

f

mf

ppp

ppp

mp

sf

p

ppp

sf

ppp

p

pp

sf

mp

mp

sf

ff

ff

Appendix E

A discussion of flute performance syllabi of UNISA, ABRSM and Trinity Guildhall, with particular reference to works using extended flute techniques

University of Cape Town

It was necessary to look into the repertoire lists of the flute syllabi of UNISA (University of South Africa), the Associated Board of the Royal School of Music (ABRSM) and Trinity Guildhall (previously known as Trinity College of London),¹ as these three examination institutions are represented in South Africa. Students in other parts of Africa and Asia also prepare their students for the ABRSM and Trinity Guildhall examinations. Many South African flute players and teachers use these syllabi as a reference guide for selecting performance pieces. They often form part of the repertoire covered by flute players throughout the year as they progress and they sets technical proficiency standards across the globe. Successful completion of music grade levels via one of these examining bodies is also a point of reference when music applicants apply for admission to music degrees offered by universities in South Africa.

UNISA, ABRSM and Trinity Guildhall list a small number of prescribed pieces employing extended techniques.²

In the ABRSM (2008-2013) Examination Grade List 1-8 there are no flute compositions specifically employing extended techniques. There are, however, compositions by contemporary composers such as Ian Clarke and Richard Rodney Bennett, both of whom have previously composed pieces employing extended techniques.³ The DipABRSM (Diploma of the Associated Board of the Royal School of Music) includes *Density 21.5* by Varèse as the only piece employing extended

¹ These examining bodies were faced with some criticism in the past. In 1987 J.D. Drury criticised the British examination bodies as sidelining non-notated or partially notated music, such as Jazz, popular music and African music. He felt they were too restrictive and did not expose young music learners to music other than art music. J.D. Drury, 'Musicology at University level in South Africa'. *South African Journal of Musicology*, Vol. 7, 1987, pp. 66-67. Of course, at present such styles have been incorporated into their syllabi with compositions by composers such as Mike Mower and James Rae, who both include aspects of jazz and contemporary styles in their compositions. The syllabi have adapted their repertoire lists to match changing styles in music and include a number of pieces by contemporary composers, but with reference to the current inclusion of pieces with extended flute techniques, growth has been minimal.

² The complete lists of prescribed pieces for each examining body can be found at the following websites: Unisa: <<http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=11538>> Trinity Guildhall: <<http://www.trinitycollege.co.uk/site/?id=1052>> Associated Board of the Royal School of Music: <<http://www.abrsm.org/?page=home>>. Retrieved 14 August 2010.

³ A search of the following websites revealed this. Phyllis Avidan Louke, *Extended techniques*. <<http://palouke.home.comcast.net/~palouke/RepExtendedTechniques.htm>>, Helen Bledsoe, *Graded repertoire with extended techniques for unaccompanied flute, piccolo, alto and bass flute*. <<http://www.helenbledsoe.com/erep.html>>, No author, *Flute solos*. <<http://www.nsbma.org/Pages/Solo.Ensemble/PiccoloSolo.htm>> Retrieved 9 February 2010.

techniques. The LRSM (Licentiate of the Royal school of Music) list contains no pieces employing extended techniques. The FRSM (Fellowship of the Royal School of Music) list contains two pieces employing extended techniques, namely Berio's *Sequenza for solo flute* and Robert Dick's *Afterlight for solo flute*. The lists do include contemporary composers such as Anne Boyd, Mike Mower and Dave Heath.

The Trinity Guildhall (2007-2011)⁴ examination syllabus contains one composition entitled *The great train race for solo flute* by Ian Clarke. *The great train race* is subtitled 'The flute as you don't normally hear it' and has a version for the B and C foot flutes. It has been received well by players and audiences alike and contains techniques such as 'residual/breathy fast tonguing, multiphonics, singing & playing, lip bending, explosive harmonics and an optional circular breathing section'.⁵ The syllabus also gives candidates the option of performing certain prescribed pieces on the piccolo or alto flute, or their own composition. The option for performance on the piccolo and alto flute starts at Grade Six level.

In comparison, the UNISA syllabus⁶ contains a few flute pieces using extended techniques. Among the prescribed pieces for the UNISA Grade VIII syllabus (2001 until further notice), one was found to employ extended techniques, namely *Density 21.5* by Varèse. Even though the syllabus includes flute compositions by South African composers such as S. Grove, P. Loeb van Zuilenberg and M. Marais, these works do not contain extended techniques. UNISA does extend the option of selecting a candidate's own choice work and the only specification is that it is of a suitable technical standard. Whether or not pieces with extended techniques are to be included is certainly not prescribed or mentioned. The personal choice piece option presents a good opportunity for performers to include pieces employing

⁴ *Trinity Guildhall: woodwind syllabus- including jazz: flute, clarinet and saxophone 2007-2011*. London: Trinity College of London, 2007, pp. 20-36.

⁵ Ian Clarke. *The great train race*. <<http://www.ianclarke.net/the%20great%20train%20race.html>> Retrieved 19 March 2010.

⁶ Hendrik Hofmeyr has indicated that the UNISA examining syllabus is one of the best platforms for South African composers to gain recognition and for flute players to gain exposure to extended techniques and South African flute music, but lists a number of reasons why there is a lack of inclusion of more works by South African composers. According to Hofmeyr, it boils down to personal preference on the part of the individuals selecting the pieces for the syllabus and the people they know. He also indicates that two of his piano pieces and two cello pieces have been included in the UNISA syllabus, but he has not applied for anything else to be included. Personal interview with Hofmeyr, November 2003.

extended techniques, but if players have not been exposed to extended techniques or are not inclined to playing pieces with extended techniques, it is highly improbable that players will select a piece containing extended techniques, based on discussions with flute players in the preliminary study.

There may be several reasons why such a small number of pieces utilising extended techniques has been included in the UNISA syllabus:

- Usually, rendering a flawless performance of some extended techniques often requires many years' experience in flute playing. Flexibility in the embouchure, moving between registers with ease, controlled dynamic levels and generally a good sense of intonation are only a few of the things needed in order to attempt and then successfully execute many of the extended techniques;
- Extended techniques could place unnecessary demands on otherwise good flute players;
- Extended flute techniques could be seen as frivolous by many conservative musicians, such as composers, performers and concert goers who regard any music beyond the historical Classical and Romantic periods as frivolous and possibly even foreign;
- From a South African perspective, South African composers rarely, if ever, include these techniques in their works because of they are financially risky and there is a lack of demand.⁷

The lack of the inclusion of extended flute techniques is not the only problem in the South African UNISA flute examination syllabus. Another factor to consider is the number of specially commissioned flute works with the specific purpose of being included in the examination syllabus. In 1981 Stefans Grove was commissioned to write 13 compositions for selected wind instruments, of which the flute was one. These pieces were to be included in the UNISA wind syllabus. Certain restrictions were imposed, such as the fact that the compositions were to be purely for educational and evaluation purposes, and even though there might not have been a specification to include extended techniques, there was certainly no directive to exclude such techniques. This confirmed by the use of a timbral trill/timbral tremolo, which is considered an extended technique, in Grove's composition for bassoon, *Vir 'n winterdag*.⁸

⁷ Formulated from data gathered through interviews.

⁸ John Hinch, 'Stefans Grove: Winds of change'. *Journal of the Musical Arts in Africa*. Vol. 1, 2004, pp. 24-27.

Peter Klatzow indicated in an interview with Stephanus Muller that there is an important gap in the promotion of, and exposure to, the works of South African composers. This has special bearing on young and upcoming composers who still need to break into the market and establish themselves. In support of promoting new composers and their music, he says that the South African College of Music, University of Cape Town, presents a few composers' concerts each year to give a platform to budding student-composers. He indicates that the problem in South Africa is not that composers are not composing, but rather that they are not heard. And when something is not heard, it's as if it doesn't exist. He adds:

If we had a greater culture of *promoting* South African music, *recording* South African music, then I think that these things would become much more visible and we would know who really is working. By the same token the fact that the performances do not materialise is very discouraging to a younger composer. They have to then create situations in which their music is played and performed and those may not have great public visibility either.⁹

Hendrik Hofmeyr supports Klatzow's observation about South African compositions and highlights the problem with reference to non-exposure of South African music abroad: 'Overseas people don't know that there is South African "art music". It only exists when it is being played. If they can't see, hear and play it, then it does not exist'.¹⁰ Including South African flute pieces in the abovementioned syllabi would result in greater exposure for South African composers.

⁹ Stephanus Muller, 'Interview with Peter Klatzow'. *Muziki*. Vol. 3, No. 2, 2006, p. 59.

¹⁰ Personal interview with Hendrik Hofmeyr, 21 November 2003.